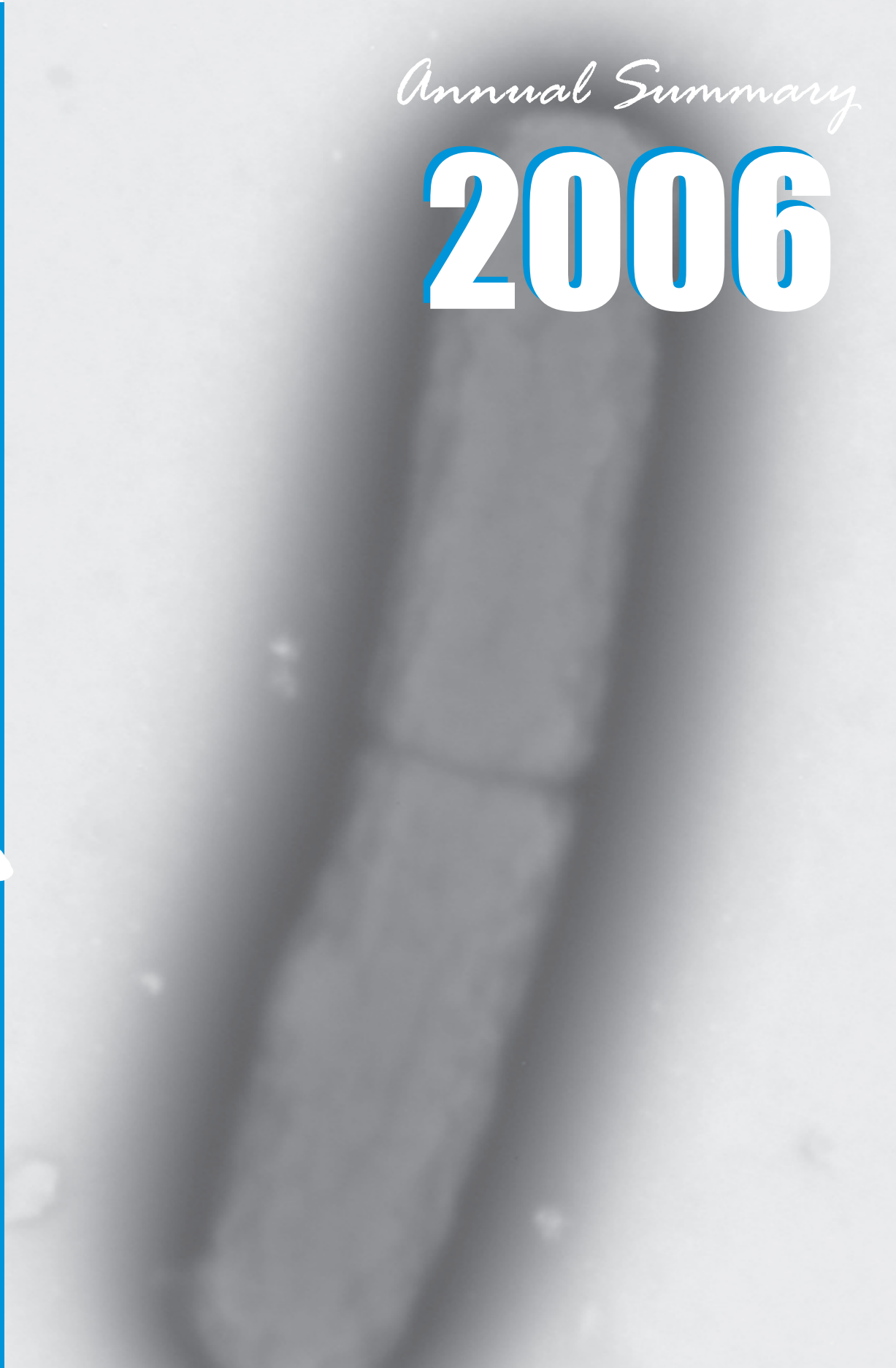
Shiga

Annual Summary

2006



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The Adobe Acrobat (PDF) version of this document can be viewed on the world-wide web at http://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 at telephone number (404) 639-2206. For further information concerning PHLIS please contact the Biostatistics Office at telephone number (404) 639-1364.

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Laboratory-Confirmed *Shigella* Surveillance Annual Summary, 2006

The Annual Summary of the National *Shigella* Surveillance System contains surveillance data on reported laboratory-confirmed *Shigella* infections in the United States. The National *Shigella* Surveillance System collects reports of isolates of *Shigella* from every state in the United States. This information was reported electronically through the Public Health Laboratory Information System (PHLIS) by the State Public Health Laboratory Directors and State and Territorial Epidemiologists to the Enteric Diseases Epidemiology Branch (EDEB) and the Biostatistics Office of the Division of Foodborne, Bacterial and Mycotic Diseases in the National Center for Zoonotic, Vectorborne and Enteric Diseases at the Centers for Disease Control and Prevention (CDC).

The National *Shigella* Surveillance System is based on data reported 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 to CDC. Unusual or untypable isolates may be forwarded to the National *Shigella* Reference Laboratory at the Enterics Diseases Laboratory Branch (EDLB) at CDC for further characterization or confirmation. These results are then reported back to the state laboratory by CDC.

The capture of the data concerning isolates in the National *Shigella* Surveillance System is considered to be fairly consistent. However, data on some *Shigella* isolates may not be forwarded or reported to state public health laboratories and therefore are not ascertained. 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 *Shigella* infections.

The National *Shigella* Surveillance System database is dynamic; the number of isolates reported for previous years may change according to the addition or correction of isolate reports.

The number of isolates reported by geographical area (e.g. 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 were deleted. All isolates reported herein were from infected humans.

There are 4 major subgroups of *Shigella*, designated A, B, C and D, and 43 recognized serotypes (Table A). Subgroups A, B, C and D have historically been treated as species: subgroup A for *Shigella* dysenteriae; subgroup B for *Shigella* flexneri; subgroup C for *Shigella* boydii and subgroup D for *Shigella* sonnei. These subgroups and serotypes are differentiated from one another by their biochemical traits (ability to ferment D-mannitol) and antigenic properties. The most recently recognized serotype belongs to subgroup C (S. boydii) (1).

Table A. Classification of *Shigella* Subgroups

Subgroup	Species	Number of serotypes	Fermentation of D-mannitol	Subgroup B group antigens
A	*S. dysenteriae*	15	-	-
B	*S. flexneri*	8[a]	+	+
C	*S. boydii*	19[b]	+	-
D	*S. sonnei*	1	+	-

[a] = Serotypes 1-5 are subdivided into 11 subserotypes.

[b] = Although the numbering scheme for serotypes extends to serotype 20, there are only 19 serotypes because *S. boydii* 13 (now reclassified as *Escherichia albertii*) has been removed from the scheme.

The Statistical Outbreak Detection Algorithm (SODA), developed by BSO and EDEB, is a statistical algorithm performed on the National Surveillance Data to detect unusual clusters of Shigella infection. SODA compares current *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 at (404) 639-3365.

Challenges for the Public Health Laboratory Information System (PHLIS)

Integrated surveillance system software development in several states and at the CDC has interrupted the normal use of the Public Health Laboratory Information System (PHLIS) system such that some *Shigella* surveillance reports are delayed and obtained in a variety of formats outside of the PHLIS system.

PHLIS is the public health laboratory-based, national surveillance system for infectious diseases. Reports of *Salmonella*, *Shigella*, Campylobacter, and Shiga toxin-producing E. coli isolates are transmitted electronically through PHLIS to CDC, with accompanying basic epidemiologic data, and serotype data where appropriate. PHLIS is the only national source of critically useful serotype information for these pathogens. PHLIS has been experiencing challenges during the past several years. Since 1998, PHLIS software has not been updated, and it remains a legacy DOS-based system that is increasingly difficult to use. The number of participating states has dramatically decreased over the last 3 years and will continue to decline as states seek alternatives to PHLIS.

A replacement for the current system has been developed by CDC and is currently being implemented. The new system will transfer the same surveillance data currently collected in PHLIS via the Public Health Information Network Messaging System (PHIN MS), which is a secure internet pipeline for data transmission to CDC. Each reporting site will be responsible for exporting current disease data to a delimited ascii file then transmitting the data to CDC using the PHINMS administrative tool. We hope that all reporting sites will transmit their data using this simplified system over the next several months.

We encourage reporting partners to use the PHLIS reporting system if serotype specific *Shigella* reports cannot be transmitted to CDC through new integrated surveillance systems. If PHLIS reporting is impossible, please contact the PHLIS Help Desk (404-639-3365) to arrange alternative data submission pathways.

Annual Highlights for 2006

A total of 10,336 *Shigella* isolates were reported from public health laboratories in 50 states in 2006 (Table 1). This represents a stabilization in the incidence of laboratory- confirmed *Shigella* from the sharp decreases that occurred in 2004. The national incidence of laboratory-confirmed *Shigella* in 2006 was 3.5 per 100,000 population. Similar to previous years, *Shigella* was isolated frequently from children < 5 years of age, who accounted for 32% of all isolates. About 32% of all isolates came from persons aged 5-19 years, and 27% from persons aged 20-59, with smaller percentages in older age groups. The median age of patients by species is shown in Table 4. Among patients for whom gender was reported, 53% were female. Females accounted for more cases than males in all age groups except < 5 years (49% female) and 40-49 years (45% female). Among patients 20-29 years of age, a female predominance was particularly evident at 68% of isolates. These gender differences were most striking among patients infected with *Shigella* sonnei, where females accounted for 72% of patients 20-29 years of age, 64% of patients 30-39 years of age, 54% of patients 40-49 years of age, and 62% of patients 50-59 years of age. Among patients infected with *Shigella* flexneri, a male predominance was seen, particularly in the age groups 30-39 (67%), 40-49 (76%), and 50-59 (60%) years of age. Patient gender was not reported for 9.1% of all isolates and patient age was not reported for 6.1% of isolates.

The frequency of subgroups and the frequency of serotypes within these subgroups for all *Shigella* isolates are shown in Tables 1 and 2. Of the 10,336 isolates, 9,108 (88%) were subgrouped. The proportion of *Shigella* isolates that were subgroup D (S. sonnei) was 72%, followed by subgroup B (S. flexneri) 14%, subgroup C (S. boydii) 1.1%, and subgroup A (S. dysenteriae) 0.5%. *Shigella* isolate subgroup and serotype trends by year are shown in Table 5 and in Figure 2. Over the past decade, the numbers of *Shigella* isolates in subgroups A, B, and C, and the proportions of all *Shigella* isolates due to these three subgroups have declined. The number (1,228) and the proportion (12%) of *Shigella* isolates that were not identified as belonging to a specific subgroup increased slightly. The highest numbers of reported *Shigella* isolates that were not identified as belonging to a specific subgroup were reported by Texas (520), Illinois (289), and California (231). The highest proportions of reported *Shigella* isolates that were not identified as belonging to a specific subgroup within each state where 5 or more total isolates were submitted were Ohio (28/30, 93%), Illinois (289/370, 78%) and Texas (520/1,591, 33%).

Incidence by region for subgroup D (S. sonnei) isolates from 1991 to 2006 are illustrated in Figure 3. Several regions showed increases in subgroup D (S. sonnei) isolates from 2005 to 2006: the South Atlantic region, Mountain, and West North Central. *Shigella* transmission occurs via the fecal-oral route. Most subgroup D (S. sonnei) infections in the United States occur in young children and in association with crowding and poor personal hygiene. Daycare centers have been implicated in many large S. sonnei outbreaks, that can last many months and affect many persons (2,3,4). In 2005, a strain of S. sonnei resistant to ampicillin and trimethoprim-sulfamethoxazole emerged as a cause of prolonged, community-wide outbreaks of shigellosis associated with child care centers in three States (2). Antimicrobial treatment options for children infected with this strain are few, and include oral azithromycin, “off-label” use of fluoroquinolones, or intramuscular agents such as ceftriaxone (2, 14). S. sonnei has also been transmitted through unchlorinated wading pools (6), interactive water fountains (7), food items such as parsley (8) and bean dip (9), and men who have sex with men (MSM) (10). Until recently, the dominant subgroup causing illness among MSM was subgroup B (S. flexneri) (11, 12). However, in large outbreaks

among MSM in San Francisco, the dominant serotype was subgroup D (S. sonnei) (10).

Recent trends in shigellosis in the United States are reviewed in publications by Amita Gupta, Sumathi Sivapalasingam and their co-authors (13,14).

Note about removal of S. boydii 13 from the *Shigella* scheme for *Shigella* Surveillance Summary:

Bacterial isolates initially identified by traditional biochemical and serologic methods as *Shigella* boydii serotype 13 are no longer included within the *Shigella* scheme. Isolates of this serotype were added to the *Shigella* scheme in 1958 (15), but subsequent findings from DNA-DNA reassociation studies reported by Brenner et al. in 1973 raised questions about their inclusion within the genus *Shigella* (16). In these studies, Brenner and colleagues observed that S. boydii 13 strains showed a high level of interrelatedness (92 to 98%) but only averaged 65% relatedness to strains of the other *Shigella* species, E. coli and other Escherichieae. Recent findings from phylogenetic studies support those from the DNA relatedness studies and show that organisms formerly classified as S. boydii serotype 13, some of which can produce gas from glucose, are more appropriately regarded as Escherichia albertii (17, 18).

Acknowledgements

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TABLE 1

Laboratory confirmed Shigella isolates reported to the CDC by species in 2006

Rank	Species	Reported	Percent
1	*S. sonnei*	7471	72.3
2	*S. flexneri*	1477	14.3
3	*S. boydii*	114	1.1
4	*S. dysenteriae*	46	0.5
	Sub Total	**9108**	**88.1**
	Unknown	1228	11.9
	Sub Total	**1228**	**11.9**
	Total	**10336**	**100**

TABLE 2

Laboratory confirmed Shigella isolates reported to the CDC by serotype in 2006

Rank	Serotype	Reported	Percent
1	*S. sonnei*	7471	72.3
2	*S. flexneri* unspecified	746	7.2
3	*S. flexneri* 2 unspecified	152	1.5
4	*S. flexneri* 2a	107	1.0
5	*S. flexneri* 1 unspecified	102	1.0
6	*S. boydii* unspecified	75	0.7
7	*S. flexneri* 3 unspecified	67	0.7
8	*S. flexneri* 6	61	0.6
9	*S. flexneri* 4 unspecified	54	0.5
10	*S. flexneri* 1b	38	0.4
11	*S. flexneri* 3a	38	0.4
12	*S. flexneri* 4a	37	0.4
13	*S. dysenteriae* unspecified	31	0.3
14	*S. flexneri* 2b	22	0.2
15	*S. flexneri* variant y	22	0.2
16	*S. boydii* 2	15	0.2
17	*S. flexneri* 1a	12	0.1
18	*S. boydii* 1	9	0.1
19	*S. flexneri* 3b	7	0.1
20	*S. boydii* 14	6	0.1
21	*S. flexneri* 4b	5	0.1
22	*S. dysenteriae* 2	4	0.0
23	*S. boydii* 4	3	0.0
24	*S. dysenteriae* 4	3	0.0
25	*S. flexneri* variant x	3	0.0
26	*S. boydii* 12	2	0.0
27	*S. boydii* 18	2	0.0
28	*S. dysenteriae* 1	2	0.0
29	*S. dysenteriae* 12	2	0.0
30	*S. dysenteriae* 3	2	0.0
31	*S. flexneri* 5 unspecified	2	0.0
32	*S. boydii* 10	1	0.0
33	*S. boydii* 8	1	0.0
34	*S. dysenteriae* 13	1	0.0
35	*S. dysenteriae* 7	1	0.0
36	*S. flexneri* 5b	1	0.0
37	*S. flexneri* 88-893	1	0.0
	Sub Total	**9108**	**88.2**
	Unknown	1228	11.9
	Sub Total	**1228**	**11.9**
	Total	**10336**	**100.0**

TABLE 3

Laboratory confirmed Shigella isolates reported to the CDC by species, age group and sex, 2006

		Sex			
Species	**Age Group**	**Female**	**Male**	**Unknown**	**Total**
All *Shigella*	< 1 Year	95	97	18	210
	1 to 4 Years	1390	1444	173	3007
	5 to 9 Years	1128	1109	137	2374
	10 to 19 Years	517	395	44	956
	20 to 29 Years	633	298	46	977
	30 to 39 Years	423	343	40	806
	40 to 49 Years	253	308	19	580
	50 to 59 Years	225	177	19	421
	60 to 69 Years	126	86	6	218
	70 to 79 Years	52	41	4	97
	80+ Years	32	23	7	62
	Unknown Age	102	95	431	628
	Total	**4976**	**4416**	**944**	**10336**
S. boydii	< 1 Year	2	1		3
	1 to 4 Years	18	9	2	29
	5 to 9 Years	13	4		17
	10 to 19 Years	8	4		12
	20 to 29 Years	8	3		11
	30 to 39 Years	2	7		9
	40 to 49 Years	3	4		7
	50 to 59 Years	5	1	3	9
	60 to 69 Years	6			6
	70 to 79 Years		1		1
	80+ Years	2			2
	Unknown Age	4	1	3	8
	Total	**71**	**35**	**8**	**114**
S. dysenteriae	< 1 Year		1		1
	1 to 4 Years	5	6		11
	5 to 9 Years		2		2
	10 to 19 Years	1	6		7
	20 to 29 Years	4	1	1	6
	30 to 39 Years	5	2	1	8
	40 to 49 Years	1	1		2
	50 to 59 Years	1	1		2
	60 to 69 Years	1	2		3
	70 to 79 Years		2		2
	Unknown Age	1		1	2
	Total	**19**	**24**	**3**	**46**
S. flexneri	< 1 Year	11	17	1	29
	1 to 4 Years	184	176	16	376
	5 to 9 Years	93	89	10	192
	10 to 19 Years	59	61		120
	20 to 29 Years	78	88	9	175
	30 to 39 Years	59	119	9	187
	40 to 49 Years	35	109	4	148
	50 to 59 Years	34	53	3	90

TABLE 3

Laboratory confirmed Shigella isolates reported to the CDC by species, age group and sex, 2006

		Sex			
Species	**Age Group**	**Female**	**Male**	**Unknown**	**Total**
	60 to 69 Years	17	29		46
	70 to 79 Years	5	12		17
	80+ Years	7	4	1	12
	Unknown Age	15	21	49	85
	Total	**597**	**778**	**102**	**1477**
S. sonnei	< 1 Year	77	69	16	162
	1 to 4 Years	1025	1063	147	2235
	5 to 9 Years	874	887	112	1873
	10 to 19 Years	386	281	37	704
	20 to 29 Years	447	170	32	649
	30 to 39 Years	308	176	25	509
	40 to 49 Years	184	157	14	355
	50 to 59 Years	157	98	12	267
	60 to 69 Years	78	44	5	127
	70 to 79 Years	35	22	4	61
	80+ Years	16	14	5	35
	Unknown Age	67	62	365	494
	Total	**3654**	**3043**	**774**	**7471**
Unknown	< 1 Year	5	9	1	15
	1 to 4 Years	158	190	8	356
	5 to 9 Years	148	127	15	290
	10 to 19 Years	63	43	7	113
	20 to 29 Years	96	36	4	136
	30 to 39 Years	49	39	5	93
	40 to 49 Years	30	37	1	68
	50 to 59 Years	28	24	1	53
	60 to 69 Years	24	11	1	36
	70 to 79 Years	12	4		16
	80+ Years	7	5	1	13
	Unknown Age	15	11	13	39
	Total	**635**	**536**	**57**	**1228**

TABLE 4

Median age of persons from whom laboratory confirmed Shigella isolates reported to the CDC by species and year for 1992-2006

	Year														
Species	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
S. boydii	21	21	22	14	9	19	21	8	25	25	21	17	21	25	10
S. dysenteriae	26	29	25	30	25	18	35	28	10	28	29	22	9	25	20
S. flexneri	20	18	20	18	22	16	17	10	10	15	21	23	20	20	18
S. sonnei	7	7	7	7	7	7	7	7	8	8	7	7	7	7	7
Unknown	10	7	7	6	7	25	6	7	13	23	6	6	7	8	8

NOTE:

** Median Calculation excludes California isolates. Age information unavailable for California prior to 2000

FIGURE 1

Median age of persons from whom laboratory confirmed Shigella isolates reported to CDC by species and year for 1992-2006

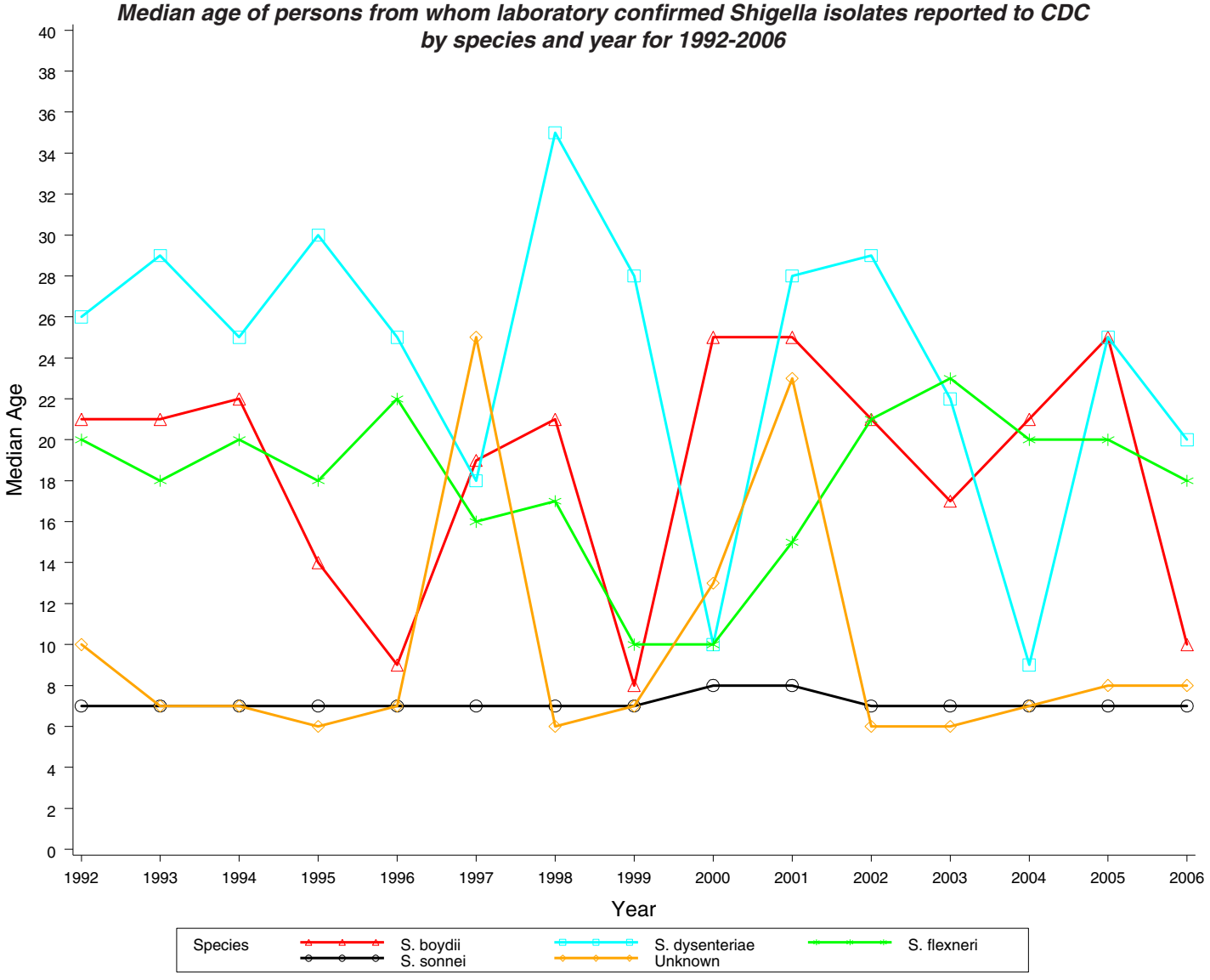

TABLE 5

Laboratory confirmed Shigella isolates reported to the CDC by species and year for 1992-2006

	Year															
Species	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
S. boydii	224	221	207	229	274	253	208	156	180	126	104	148	169	124	114	2737
S. dysenteriae	126	105	94	90	103	79	87	49	57	48	43	43	37	53	46	1060
S. flexneri	3250	3061	3101	3019	2704	2573	2207	2025	1821	1668	1549	1745	1603	1435	1477	33238
S. sonnei	10106	14339	12446	14811	10262	8807	9387	7366	10803	8193	11201	10621	6433	7809	7471	150055
Unknown	1217	1785	2935	1181	727	602	596	489	639	564	2171	3394	1101	1082	1228	19711
Total	**14923**	**19511**	**18783**	**19330**	**14070**	**12314**	**12485**	**10085**	**13500**	**10599**	**15068**	**15951**	**9343**	**10503**	**10336**	**206801**

FIGURE 2

Laboratory confirmed Shigella isolates reported to the CDC by species and year for 1992-2006

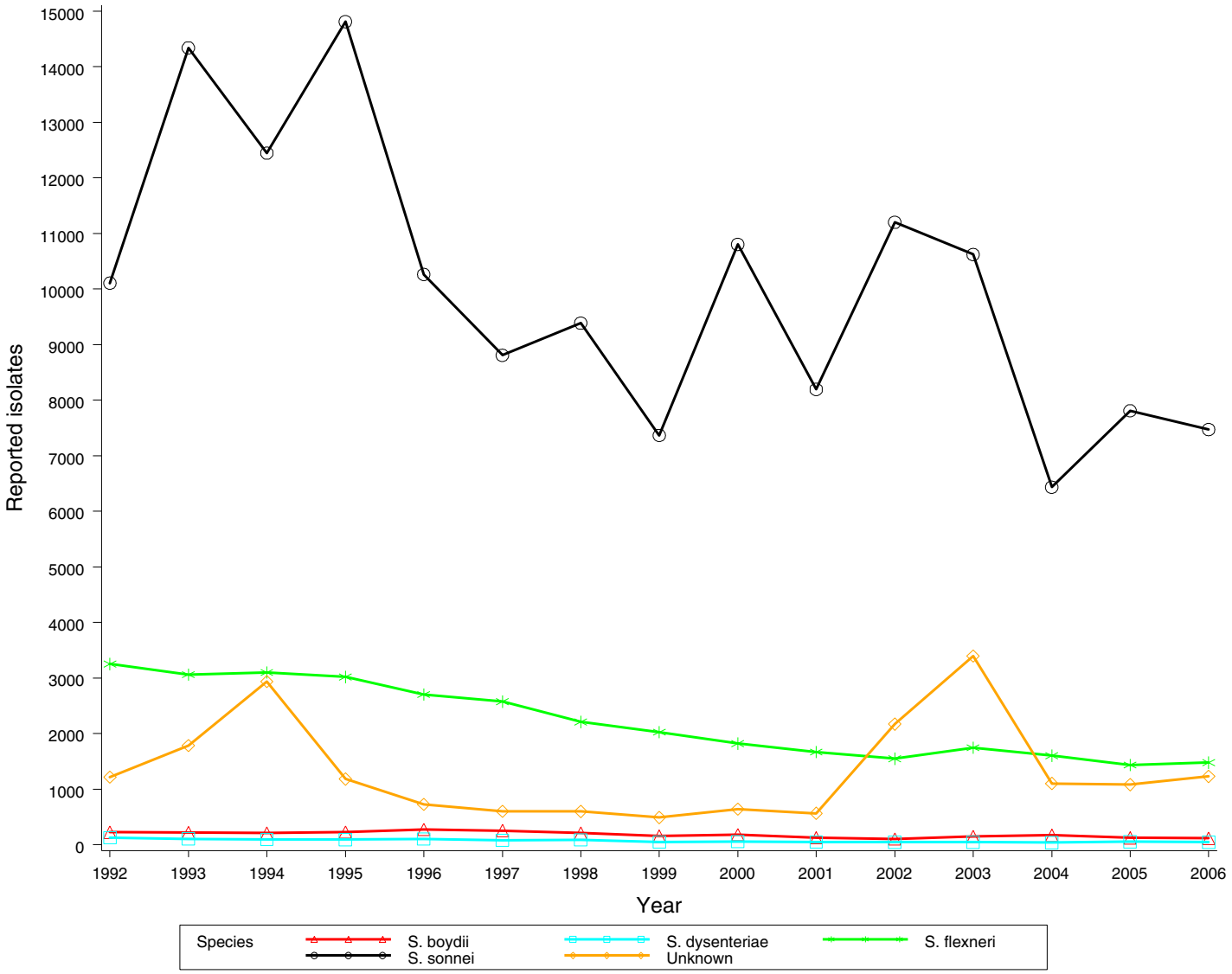

TABLE 6

Laboratory confirmed Shigella isolates reported to the CDC by species, serotype and year for 1992-2006

		Year															
Species	**Serotype**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
S. boydii	*boydii* 1	7	14	9	15	22	12	12	13	13	11	7	10	10	8	9	172
	boydii 2	19	54	49	60	82	54	43	28	38	26	22	29	20	11	15	550
	boydii 3				2		2	2	2	2	3						13
	boydii 4	10	12	16	21	14	20	12	16	15	4	10	9	15	4	3	181
	boydii 5	2	2	1	1	1	3		2	7	2		1	3			25
	boydii 6					1		2	5	4	1	2					15
	boydii 7			1													1
	boydii 8	1			1		4	1		2	2		2	2	1	1	17
	boydii 9				1		1				1						3
	boydii 10	5	2	3	7	10	9	5	5		1	2	2	3	2	1	57
	boydii 11	2	2			2		1	2	2							11
	boydii 12		1			2	2	2	3	2	6	2	1	1		2	24
	boydii 14	6	10	7	12	13	11	5	8	5	3	1	1	3	3	6	94
	boydii 15						1			2	4		1		2		10
	boydii 17				1												1
	boydii 18			1			2	2	1			1				2	9
	boydii 19						2	4	1								7
	boydii 20												1	1	2		4
	boydii unspecified	172	124	120	108	127	130	117	70	88	62	57	91	111	91	75	1543
	Sub Total	**224**	**221**	**207**	**229**	**274**	**253**	**208**	**156**	**180**	**126**	**104**	**148**	**169**	**124**	**114**	**2737**
S. dysenteriae	*dysenteriae* 1	2	9	7	7	4	6	3	6	9	1	1	5	4	3	2	69
	dysenteriae 2	21	11	8	10	16	17	37	12	5	8	5	10	4	5	4	173
	dysenteriae 3	8	6	10	17	17	10	9	4	3	4	1	2	4	4	2	101
	dysenteriae 4	3	1			3		1		3		5	2	1	4	3	26
	dysenteriae 5					1						1					2
	dysenteriae 6			1			1								1		3
	dysenteriae 7								1							1	2
	dysenteriae 8								1			2					3
	dysenteriae 9	3		2	1	5	5		1	1	3	3	1				25
	dysenteriae 10									1		2					3
	dysenteriae 11					2	2										4
	dysenteriae 12		1		1									2	1	2	7
	dysenteriae 13															1	1
	dysenteriae 14												1				1
	dysenteriae unspecified	89	77	66	54	55	38	37	24	35	32	23	22	22	34	31	639
	dysenteriae 3162-96														1		1
	Sub Total	**126**	**105**	**94**	**90**	**103**	**79**	**87**	**49**	**57**	**48**	**43**	**43**	**37**	**53**	**46**	**1060**
S. flexneri	*flexneri* 1 unspecified	294	294	310	412	303	238	200	169	145	136	110	100	98	88	102	2999
	flexneri 1a	5	2	8	4	4	6	9	7	5	11	9	6	1	3	12	92
	flexneri 1b	26	12	54	17	7	18	26	25	13	19	26	33	27	34	38	375
	flexneri 2 unspecified	393	394	367	382	401	423	395	361	293	226	183	186	185	109	152	4450
	flexneri 2a	85	88	84	71	31	85	102	134	100	147	103	95	89	88	107	1409
	flexneri 2b	10	17	10	17	7	11	20	13	33	17	14	17	10	17	22	235
	flexneri 3 unspecified	158	165	131	246	255	248	155	93	96	95	70	113	112	53	67	2057
	flexneri 3a	22	11	13	11	26	26	28	65	55	34	51	79	53	31	38	543
	flexneri 3b	5	4	1	7	18	11	12	9	12	12	16	12	13	17	7	156
	flexneri 4 unspecified	126	91	116	139	124	108	116	75	72	67	74	61	69	50	54	1342

TABLE 6

Laboratory confirmed Shigella isolates reported to the CDC by species, serotype and year for 1992-2006

		Year															
Species	**Serotype**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	flexneri 4a	11	19	7	12	17	13	13	34	35	55	53	49	53	47	37	455
	flexneri 4b	2	2	1		1		4				5	6		1	5	27
	flexneri 4c												1				1
	flexneri 5 unspecified	14	28	43	62	39	47	56	28	23	17	9	10	3	2	2	383
	flexneri 5a												1	2	1		4
	flexneri 6	72	67	141	107	119	118	78	79	68	71	59	58	42	28	61	1168
	flexneri unspecified	2027	1867	1815	1528	1350	1214	985	916	853	738	755	892	814	838	746	17338
	flexneri variant x						3	6	2	2	2	4	6	5	1	3	34
	flexneri variant y				4	2	4	2	15	16	21	8	15	26	26	22	161
	flexneri 88-893 (Provisional)												5	1	1	1	8
	Sub Total	**3250**	**3061**	**3101**	**3019**	**2704**	**2573**	**2207**	**2025**	**1821**	**1668**	**1549**	**1745**	**1603**	**1435**	**1476**	**33237**
S. sonnei	*sonnei*	10106	14339	12446	14811	10262	8807	9387	7366	10803	8193	11201	10621	6433	7809	7471	150055
	Sub Total	**10106**	**14339**	**12446**	**14811**	**10262**	**8807**	**9387**	**7366**	**10803**	**8193**	**11201**	**10621**	**6433**	**7809**	**7471**	**150055**
Unknown	Unknown	1217	1785	2935	1181	727	602	596	489	639	564	2171	3394	1101	1082	1228	19711
	Sub Total	**1217**	**1785**	**2935**	**1181**	**727**	**602**	**596**	**489**	**639**	**564**	**2171**	**3394**	**1101**	**1082**	**1228**	**19711**
	Total	**14923**	**19511**	**18783**	**19330**	**14070**	**12314**	**12485**	**10085**	**13500**	**10599**	**15068**	**15951**	**9343**	**10503**	**10335**	**206800**

TABLE 7

Laboratory confirmed Shigella isolates reported to the CDC by species, serotype and month for 2006

		Month												
Species	**Serotype**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
S. boydii	*boydii* 1		1	1	2				1	2			2	9
	boydii 2	2			1	4	1	2	2	1	2			15
	boydii 4			1	1		1							3
	boydii 8								1					1
	boydii 10						1							1
	boydii 12				1				1					2
	boydii 14					3	2			1				6
	boydii 18		1								1			2
	boydii unspecified	4	1	4	8	4	7	8	5	14	8	4	8	75
	Sub Total	**6**	**3**	**6**	**13**	**11**	**12**	**10**	**10**	**18**	**11**	**4**	**10**	**114**
S. dysenteriae	*dysenteriae* 1				1				1					2
	dysenteriae 2		1				2			1				4
	dysenteriae 3										1		1	2
	dysenteriae 4					2				1				3
	dysenteriae 7										1			1
	dysenteriae 12					1				1				2
	dysenteriae 13				1									1
	dysenteriae unspecified	3			7	3	2	1	4	2	2	4	3	31
	Sub Total	**3**	**1**		**9**	**6**	**4**	**1**	**5**	**5**	**4**	**4**	**4**	**46**
S. flexneri	*flexneri* 1 unspecified	2	2	3	5	11	8	18	12	6	20	8	7	102
	flexneri 1a		1			1		1	4		1	3	1	12
	flexneri 1b	3		3	3	5	3	1	5	7	4	3	1	38
	flexneri 2 unspecified	11	10	5	8	15	13	11	20	22	14	14	9	152
	flexneri 2a	7	6	8	12	15	5	10	5	7	13	9	10	107
	flexneri 2b		3		3	1		3	4	2	5	1		22
	flexneri 3 unspecified	9	7	4	4	5	9	5	7	8	2	5	2	67
	flexneri 3a	4	1	2	1	6		4	3	1	5	3	8	38
	flexneri 3b							2	1	1	1	1	1	7
	flexneri 4 unspecified	3	1	4	4	5	6	5	5	9	6	5	1	54
	flexneri 4a	4	2	3	4	4	4	2	8	2	1	3		37
	flexneri 4b								3		1	1		5
	flexneri 5 unspecified										1	1		2
	flexneri 6	2		6	4	4	6	3	13	8	8	2	5	61
	flexneri unspecified	43	53	67	59	50	61	75	70	62	79	66	61	746
	flexneri variant x				1				1		1			3
	flexneri variant y	2	2		3				3	3	3	5	1	22
	flexneri 88-893 (Provisional)							1						1
	Sub Total	**90**	**88**	**105**	**111**	**122**	**115**	**141**	**164**	**138**	**165**	**130**	**107**	**1476**
S. sonnei	*sonnei*	435	335	299	279	591	543	622	920	1016	1153	716	562	7471
	Sub Total	**435**	**335**	**299**	**279**	**591**	**543**	**622**	**920**	**1016**	**1153**	**716**	**562**	**7471**
Unknown	Unknown	84	70	65	65	73	70	95	122	202	149	107	126	1228
	Sub Total	**84**	**70**	**65**	**65**	**73**	**70**	**95**	**122**	**202**	**149**	**107**	**126**	**1228**
	Total	**618**	**497**	**475**	**477**	**803**	**744**	**869**	**1221**	**1379**	**1482**	**961**	**809**	**10335**

TABLE 8

Laboratory confirmed Shigella isolates reported to the CDC by species, serotype and month for 1992-2006

		Month												
Species	**Serotype**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
S. boydii	*boydii* 1	9	5	12	11	13	11	19	22	29	18	7	16	172
	boydii 2	30	28	31	41	44	51	62	82	65	64	34	18	550
	boydii 3	1	2		2	2	4			2				13
	boydii 4	14	9	8	11	9	9	25	28	27	15	16	10	181
	boydii 5	1	2		3	2	4	2		2	4	5		25
	boydii 6	1	1				2	3	2	2	4			15
	boydii 7								1					1
	boydii 8		2	2	1	1	1	1	6	1			2	17
	boydii 9	1									2			3
	boydii 10	1	2	2	4	4	5	7	13	8	3	4	4	57
	boydii 11	1		2	1			3	1	1		1	1	11
	boydii 12	2	2	3	1	1	3	2	6	2	2			24
	boydii 14	2	1	3	7	13	5	20	11	8	13	7	4	94
	boydii 15				1	4		1	1	1	1		1	10
	boydii 17						1							1
	boydii 18		2			3			2		1		1	9
	boydii 19	2		1		1			1	1	1			7
	boydii 20	1				1			1				1	4
	boydii unspecified	91	96	77	71	119	116	166	194	169	201	130	113	1543
	Sub Total	**157**	**152**	**141**	**154**	**217**	**212**	**311**	**371**	**318**	**329**	**204**	**171**	**2737**
S. dysenteriae	*dysenteriae* 1	7	4	2	5	4	4	6	12	7	10	1	7	69
	dysenteriae 2	6	19	21	13	4	16	25	28	13	14	9	5	173
	dysenteriae 3	4	3	9	5	9	6	12	17	14	7	8	7	101
	dysenteriae 4	2	3	2		3	3	2	5	2	1	1	2	26
	dysenteriae 5									2				2
	dysenteriae 6							1	1			1		3
	dysenteriae 7					1					1			2
	dysenteriae 8								1	1		1		3
	dysenteriae 9		4	2	3	6		1	2	3	2	1	1	25
	dysenteriae 10							1		2				3
	dysenteriae 11					1	1	1			1			4
	dysenteriae 12	1				1		1	1	1	1	1		7
	dysenteriae 13				1									1
	dysenteriae 14										1			1
	dysenteriae unspecified	41	36	59	49	40	42	46	94	70	67	52	43	639
	dysenteriae 3162-96											1		1
	Sub Total	**61**	**69**	**95**	**76**	**69**	**72**	**96**	**161**	**115**	**105**	**76**	**65**	**1060**
S. flexneri	*flexneri* 1 unspecified	231	181	208	211	242	250	304	329	299	352	194	198	2999
	flexneri 1a	8	5	7	5	7	5	13	10	6	10	10	6	92
	flexneri 1b	43	20	15	24	20	70	34	52	41	22	24	10	375
	flexneri 2 unspecified	399	302	279	336	393	357	441	575	378	394	299	297	4450
	flexneri 2a	115	96	98	117	106	133	136	157	123	131	101	96	1409
	flexneri 2b	16	14	23	20	12	12	39	32	17	26	12	12	235
	flexneri 3 unspecified	185	157	140	174	159	128	234	191	214	166	162	147	2057
	flexneri 3a	34	40	37	32	37	41	63	75	47	59	36	42	543
	flexneri 3b	15	12	23	14	13	12	13	7	8	12	12	15	156

TABLE 8

Laboratory confirmed Shigella isolates reported to the CDC by species, serotype and month for 1992-2006

		Month												
Species	**Serotype**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
	flexneri 4 unspecified	109	76	101	103	101	113	142	154	142	118	95	88	1342
	flexneri 4a	38	38	33	43	38	51	49	41	36	38	30	20	455
	flexneri 4b				1	3	2	2	6	4	2	5	2	27
	flexneri 4c											1		1
	flexneri 5 unspecified	31	19	25	19	26	41	49	41	46	32	35	19	383
	flexneri 5a		1			1	1		1					4
	flexneri 6	63	53	60	80	78	87	171	175	154	109	66	72	1168
	flexneri unspecified	1285	1236	1290	1286	1320	1277	1612	1716	1743	1681	1456	1436	17338
	flexneri variant x		2	1	3	3	2	4	6	4	2	5	2	34
	flexneri variant y	15	11	14	15	6	13	5	17	18	11	24	12	161
	flexneri 88-893 (Provisional)	1	1			1	1	3	1					8
	Sub Total	**2588**	**2264**	**2354**	**2483**	**2566**	**2596**	**3314**	**3586**	**3280**	**3165**	**2567**	**2474**	**33237**
S. sonnei	*sonnei*	9138	7746	8536	8537	11504	12879	14881	16992	16343	17244	14069	12186	150055
	Sub Total	**9138**	**7746**	**8536**	**8537**	**11504**	**12879**	**14881**	**16992**	**16343**	**17244**	**14069**	**12186**	**150055**
Unknown	Unknown	1072	1052	1183	1336	1707	1648	1754	2018	2275	2102	1807	1757	19711
	Sub Total	**1072**	**1052**	**1183**	**1336**	**1707**	**1648**	**1754**	**2018**	**2275**	**2102**	**1807**	**1757**	**19711**
	Total	**13016**	**11283**	**12309**	**12586**	**16063**	**17407**	**20356**	**23128**	**22331**	**22945**	**18723**	**16653**	**206800**

TABLE 9

Laboratory confirmed Shigella isolates reported to the CDC by species, geographic region and year for 1992-2006

		Year															
Species	**Region**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
All *Shigella*	New England	555	520	414	586	373	486	366	851	385	288	325	338	273	280	254	6294
	Mid Atlantic	1071	1215	1562	1758	2240	1874	1739	749	1726	967	1214	1678	896	764	701	20154
	East North Central	2154	2816	1970	2105	1190	1457	1580	1853	2096	1897	1461	1462	813	743	733	24330
	West North Central	589	828	1368	1391	699	494	623	806	2064	1332	633	467	410	1290	1543	14537
	South Atlantic	1727	2860	4790	2181	1912	1136	1275	534	1171	1331	3624	2145	1160	840	1536	28222
	East South Central	866	1817	1732	1242	576	576	1230	699	587	647	652	720	834	1049	863	14090
	West South Central	892	1894	1062	1504	983	1388	1469	1212	1169	795	3092	5503	2885	2919	1983	28750
	Mountain	1174	1348	1436	2713	1664	1238	764	775	874	776	935	1042	635	969	1265	17608
	Pacific	5895	6213	4449	5850	4433	3665	3439	2606	3428	2566	3132	2596	1437	1649	1458	52816
	Total	**14923**	**19511**	**18783**	**19330**	**14070**	**12314**	**12485**	**10085**	**13500**	**10599**	**15068**	**15951**	**9343**	**10503**	**10336**	**206801**
S. boydii	New England	4		5	11	6	14	6	8	7	5	6	10	10	12	7	111
	Mid Atlantic	6	11	15	12	5	13	10	11	16	15	11	11	9	5	8	158
	East North Central	16	30	19	31	19	23	25	23	12	12	11	15	12	13	17	278
	West North Central	3		7	6	3	4	4	6	7	7	6	2	11	6	6	78
	South Atlantic	5	10	27	7	10	7	9	9	14	12	7	4	21	6	8	156
	East South Central	1	4	1		2	1	2		1	2		1	1	2	2	20
	West South Central	11	29	23	27	19	26	15	18	12	5	5	24	23	18	10	265
	Mountain	14	14	18	32	90	41	22	22	38	28	18	22	17	21	25	422
	Pacific	164	123	92	103	120	124	115	59	73	40	40	59	65	41	31	1249
	Total	**224**	**221**	**207**	**229**	**274**	**253**	**208**	**156**	**180**	**126**	**104**	**148**	**169**	**124**	**114**	**2737**
S. dysenteriae	New England	6			3	6	6	10	3	2	3	4	4	2	5	3	57
	Mid Atlantic	8	2	6	6	6	8	7	2	11	7	6	8	3	3	7	90
	East North Central	21	4	6	11	8	2	9	9	4		7	7	4	11	10	113
	West North Central	6	1	2	1	2	2	1	2		3	2	1	1	1		25
	South Atlantic	4	4	5	2	8	5	6	2	4	8		1	1	3		53
	East South Central	1	4	3			3	1					1	4	1	2	20
	West South Central	2	6	8	5	7	5	9	1	3	1		2	7	6	1	63
	Mountain	5	12	9	6	18	12	16	7	5	3	5	5	3	9	5	120
	Pacific	73	72	55	56	48	36	28	23	28	23	19	14	12	14	18	519
	Total	**126**	**105**	**94**	**90**	**103**	**79**	**87**	**49**	**57**	**48**	**43**	**43**	**37**	**53**	**46**	**1060**
S. flexneri	New England	107	92	106	115	94	123	102	99	74	88	79	95	84	78	89	1425
	Mid Atlantic	177	211	213	206	179	188	247	176	154	194	106	104	154	105	172	2586
	East North Central	330	287	238	289	267	185	191	223	179	145	153	192	194	128	112	3113
	West North Central	77	67	121	71	105	82	79	95	70	70	77	59	50	71	53	1147
	South Atlantic	137	173	343	196	122	120	136	127	135	164	160	158	177	184	190	2522
	East South Central	16	18	31	28	21	40	18	16	21	26	32	34	41	35	46	423
	West South Central	156	122	128	167	99	164	137	174	121	71	76	128	157	116	112	1928
	Mountain	371	382	353	464	441	484	352	338	313	256	234	287	269	277	291	5112
	Pacific	1879	1709	1568	1483	1376	1187	945	777	754	654	632	688	477	441	412	14982
	Total	**3250**	**3061**	**3101**	**3019**	**2704**	**2573**	**2207**	**2025**	**1821**	**1668**	**1549**	**1745**	**1603**	**1435**	**1477**	**33238**
S. sonnei	New England	435	428	302	456	264	341	248	739	299	185	230	227	176	184	149	4663
	Mid Atlantic	880	985	1325	1527	2048	1664	1470	547	1536	744	1090	1555	709	624	501	17205
	East North Central	1671	2440	1707	1773	896	1242	1354	1592	1896	1726	1288	1245	601	362	277	20070
	West North Central	478	698	1166	1281	575	405	538	696	1971	1216	534	403	306	1161	1449	12877
	South Atlantic	1451	2280	2695	1966	1772	999	1121	396	1003	1141	3454	1976	951	642	1329	23176
	East South Central	699	1369	1341	929	460	532	1209	681	534	608	606	600	721	982	746	12017
	West South Central	721	1737	903	1303	857	1193	1292	986	948	705	1314	2416	1979	2396	1338	20088

TABLE 9

Laboratory confirmed Shigella isolates reported to the CDC by species, geographic region and year for 1992-2006

		Year															
Species	**Region**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Mountain	722	824	920	2180	1115	695	374	408	511	408	647	711	319	602	918	11354
	Pacific	3049	3578	2087	3396	2275	1736	1781	1321	2105	1460	2038	1488	671	856	764	28605
	Total	**10106**	**14339**	**12446**	**14811**	**10262**	**8807**	**9387**	**7366**	**10803**	**8193**	**11201**	**10621**	**6433**	**7809**	**7471**	**150055**
Unknown	New England	3		1	1	3	2		2	3	7	6	2	1	1	6	38
	Mid Atlantic		6	3	7	2	1	5	13	9	7	1		21	27	13	115
	East North Central	116	55		1		5	1	6	5	14	2	3	2	229	317	756
	West North Central	25	62	72	32	14	1	1	7	16	36	14	2	42	51	35	410
	South Atlantic	130	393	1720	10		5	3		15	6	3	6	10	5	9	2315
	East South Central	149	422	356	285	93			2	31	11	14	84	67	29	67	1610
	West South Central	2			2	1		16	33	85	13	1697	2933	719	383	522	6406
	Mountain	62	116	136	31		6			7	81	31	17	27	60	26	600
	Pacific	730	731	647	812	614	582	570	426	468	389	403	347	212	297	233	7461
	Total	**1217**	**1785**	**2935**	**1181**	**727**	**602**	**596**	**489**	**639**	**564**	**2171**	**3394**	**1101**	**1082**	**1228**	**19711**

TABLE 10

Laboratory confirmed Shigella isolates reported to the CDC by species, state and year for 1992-2006

		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
All *Shigella*	Alabama	160	341	479	383	110	193	220	63	79	152	352	183	153	247	396	3511
	Alaska	19	21	14	10	59	3	7	5	3	7	1	6	1	15	7	178
	Arizona	399	369	401	815	694	694	348	412	350	302	439	364	247	387	598	6819
	Arkansas	18	100	61	96	100	60	67	27	63	154		79	61	35	75	996
	California	5217	5175	3757	5347	3879	3222	3033	2358	2865	2149	2742	2253	1180	1408	1253	45838
	Colorado	364	614	529	485	484	199	164	164	221	254	209	327	151	339	249	4753
	Connecticut	131	212	146	148	121	81	66	70	70	60	107	71	68	50	59	1460
	Delaware	7	60	11	125	66	21	38	11	23	16	446	158	11	10	11	1014
	District of Columbia	63	26	19	199	200	8							4	5	7	531
	Florida	263	248	721	319	275	245	539	154	107	44	154	9	16	6	84	3184
	Georgia	560	494	2062	176	173	244	252	83	194	465	895	636	477	473	1123	8307
	Hawaii	119	89	193	102	86	55	51	36	33	61	61	42	46	31	38	1043
	Idaho	13	16	30	74	54	39	15	12	25	15	15	31	13	16	12	380
	Illinois	910	1142	1030	1215	525	842	1308	1018	941	374	771	876	313	314	370	11949
	Indiana	209	173	181	103	71	30	43	118	157	66	38	43	50	46	41	1369
	Iowa	42	45	323	240	115	72	46	62	350	291	67	57	68	58	68	1904
	Kansas	83	110	57	106	32	80	62	57	147	42	62	101	57	114	96	1206
	Kentucky	28	45	83	86	45	40	45	149	121	336	79	70	75	284	183	1669
	Louisiana	87	303	314	378	344	114	288	137	200	238	546	399	284	97	224	3953
	Maine	9	2	4		6				11	3	1	7	6	15	4	68
	Maryland	276	262	201	226	447	176	69	58	115	104	918	463	112	78	93	3598
	Massachusetts	240	256	209	288	169	299	260	731	262	190	184	221	171	173	161	3814
	Michigan	494	645	329	454	341	249	5	489	610	232	174	217	184	124	137	4684
	Minnesota	90	236	467	166	164	141	334	254	926	500	226	106	57	96	263	4026
	Mississippi	117	382	461	333	179		7	11	7	32	32	19	16	35	59	1690
	Missouri	273	336	292	609	272	161	136	353	466	215	226	186	158	851	554	5088
	Montana	120	12	2	203	28	5	3	3	6	1	1	2	4	4	64	458
	Nebraska	6	1	2	4	4	17	19	68	117				47	79	93	457
	Nevada	6	3	2	19	13	13	20	6	66	50	47	44	57	51	97	494
	New Hampshire	6	10	10	79	26	21	22	17	8	4	14	13	7	10	5	252
	New Jersey	220	274	388	675	342	480	652	236	440	227	364	208	199	195	274	5174
	New Mexico	164	272	235	408	177	192	177	109	119	87	185	209	109	123	163	2729
	New York	451	453	697	548	305	790	828	330	840	511	487	616	588	430	349	8223
	North Carolina	307	1089	1130	593	186	173	183	93	271	186	527	334	133	90	57	5352
	North Dakota	13	13	59	126	58	3	3	2	52	41	7	6	10	2	203	598
	Ohio	77	585	276	260	221	307	153	150	332	1197	429	241	117	111	30	4486
	Oklahoma	97	214	85	132	157	134	213	171	45	75	376	626	379	559	93	3356
	Oregon	144	108	87	113	125	173	156	91	113	113	102	104	78	85	94	1686
	Pennsylvania	400	488	477	535	1593	604	259	183	446	229	363	854	109	139	78	6757
	Rhode Island	163	32	43	65	43	83	13	29	34	25	18	22	16	21	21	628
	South Carolina	68	113	180	115	78	30	99	64	94	124	81	290	286	75	48	1745
	South Dakota	82	87	168	140	54	20	23	10	6	243	45	11	13	90	266	1258
	Tennessee	561	1049	709	440	242	343	958	476	380	127	189	448	590	483	225	7220
	Texas	690	1277	602	898	382	1080	901	877	861	328	2170	4399	2161	2228	1591	20445
	Utah	108	54	235	705	212	95	36	68	84	62	37	60	54	44	73	1927
	Vermont	6	8	2	6	8	2	5	4		6	1	4	5	11	4	72
	Virginia	165	530	466	401	456	226	87	66	350	382	594	251	113	102	109	4298

TABLE 10

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		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Washington	396	820	398	278	284	212	192	116	414	236	226	191	132	110	66	4071
	West Virginia	18	38		27	31	13	8	5	17	10	9	4	8	1	4	193
	Wisconsin	464	271	154	73	32	29	71	78	56	28	49	85	149	148	155	1842
	Wyoming		8	2	4	2	1	1	1	3	5	2	5		5	9	48
	Total	**14923**	**19511**	**18783**	**19330**	**14070**	**12314**	**12485**	**10085**	**13500**	**10599**	**15068**	**15951**	**9343**	**10503**	**10336**	**206801**
S. boydii	Alabama														2		2
	Alaska		1														1
	Arizona	6	5	5	22	72	26	9	12	20	11	14	10	6	7	9	234
	Arkansas													1			1
	California	151	105	81	91	102	105	103	54	65	31	38	55	61	41	26	1109
	Colorado	3	3	3	5	6	10	5	3	8	1	1	3	8	7	10	76
	Connecticut	2		3	3	1	1	3		1				1	2	1	18
	Delaware		1	1							1				1		4
	District of Columbia				2												2
	Florida					1	1	1									3
	Georgia	1	2	19		1	1		4	6	3	2		12	1	3	55
	Hawaii	1			1	1		2			2						7
	Idaho							1		1	4	1	3	2			12
	Illinois	9	26	10	18	15	16	22	16	7	5	3	6	7	8	13	181
	Indiana			2	1			1	1	1		1	1	1			9
	Iowa	1		1		1				4	4	2		3		1	17
	Kansas			1	1		1	1		1		2					7
	Kentucky	1				2							1	1			5
	Louisiana		2		1	1	1		2		2				2	1	12
	Maine										1						1
	Maryland	2	4	3		2	2	2	1	2	2	1		5		2	28
	Massachusetts	2			6	4	10	3	7	6	4	4	9	7	6	4	72
	Michigan	2	3	2	7	1	4		3	3	3	5	4	4	3	2	46
	Minnesota	1		3	4	2	3	3	5	1	2	2	2	3	1	4	36
	Missouri	1		2	1						1						5
	Montana						1					1					2
	Nebraska								1	1				1			3
	Nevada				1	4	1	2		1	1				1	1	12
	New Hampshire											1		1	3		5
	New Jersey		3	5	3	3	4	2	3	7	4		5	3	4	3	49
	New Mexico	4	6	6	3	3	1	4	2	5	6	1	6	1	5	3	56
	New York	6	6	7	7	2	8	8	8	8	7	10	4	5		3	89
	North Carolina			2	1	1	1	5	1	3		1	3				18
	Ohio		1	4	4	1		2	2		3	1	1		1		20
	Oklahoma		1	3	1			1	2	2		1	1				12
	Oregon	6	7	3	2	3	4	5	3	3	4	2	4	1		1	48
	Pennsylvania		2	3	2		1			1	4	1	2	1	1	2	20
	Rhode Island			2	1	1	3		1			1	1			2	12
	South Carolina	1	1						1	1	1			1			6
	South Dakota													4	5	1	10
	Tennessee		4	1			1	2		1	2					2	13
	Texas	11	26	20	25	18	25	14	14	10	3	4	23	22	16	9	240

TABLE 10

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		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Utah	1		3	1	5	2	1	5	3	5				1	2	29
	Vermont				1									1	1		3
	Virginia	1	2	2	4	5	2	1	2	2	5	2	1	2	4	3	38
	Washington	6	10	8	9	14	15	5	2	5	3			3		4	84
	West Virginia											1		1			2
	Wisconsin	5		1	1	2	3		1	1	1	1	3		1	2	22
	Wyoming			1													1
	Total	**224**	**221**	**207**	**229**	**274**	**253**	**208**	**156**	**180**	**126**	**104**	**148**	**169**	**124**	**114**	**2737**
S. dysenteriae	Alabama	1	1				2								1		5
	Alaska		1														1
	Arizona	2	3	3	4	16	8	11	5	4	1	1	3	1	5	4	71
	Arkansas			1		1											2
	California	69	65	51	50	40	27	25	20	23	21	18	12	9	13	16	459
	Colorado	2	7	2	2	1	2	3	2			1	2	2	4		30
	Connecticut	2				1		5				1	2		1	1	13
	District of Columbia					2											2
	Florida	2	1			3		1		1	2						10
	Georgia		2	3		1	1	1	1		3						12
	Hawaii					1	1										2
	Idaho										1						1
	Illinois	18	2	3	10	4		7	5	1		3	2	2	7	7	71
	Indiana	2	1	1				2				3	1				10
	Kansas	3				1											4
	Kentucky			1				1						2			4
	Louisiana									1				1	1		3
	Maine														2		2
	Maryland	2					1			2	1		1		1		8
	Massachusetts	2			2	5	3	5	2	2	2	3	2	2	2	1	33
	Michigan		1	1	1	1	2		3	2			3			3	17
	Minnesota		1	2	1	1	2	1	2		3	1	1	1			16
	Missouri											1			1		2
	Montana	1														1	2
	Nebraska	1															1
	Nevada		1														1
	New Hampshire						1										1
	New Jersey	1	2	1		5	2	5	1	3	3		2	1		1	27
	New Mexico		1	2		1	2	2				2					10
	New York	5		4	4	1	3	2	1	7		3	4		2	5	41
	North Carolina					1	2	1	1					1			6
	North Dakota	2															2
	Ohio			1		1			1	1		1	1				6
	Oklahoma	1				1	1										3
	Oregon	1	1	2	1	2	4	2	1	1	1			1	1		18
	Pennsylvania	2		1	2		3			1	4	3	2	2	1	1	22
	Rhode Island	2					2		1		1					1	7
	Tennessee		3	2			1						1	2		2	11
	Texas	1	6	7	5	5	4	9	1	2	1		2	6	5	1	55

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		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Utah			1						1	1	1					4
	Vermont				1												1
	Virginia		1	2	2	1	1	3		1	2				2		15
	Washington	3	5	2	5	5	4	1	2	4	1	1	2	2		2	39
	Wisconsin	1				2								2	4		9
	Wyoming			1													1
	Total	**126**	**105**	**94**	**90**	**103**	**79**	**87**	**49**	**57**	**48**	**43**	**43**	**37**	**53**	**46**	**1060**
S. flexneri	Alabama		2	11	5	7	7	5	5	8	8	7	10	7	10	19	111
	Alaska	2	6	4		6	1		4		3		4	1	4	4	39
	Arizona	225	212	197	263	279	287	202	192	158	140	112	134	136	103	148	2788
	Arkansas	2	1	2		2		4	2	4	2		7	28	11	12	77
	California	1689	1478	1323	1269	1130	1000	767	631	610	477	511	548	365	349	343	12490
	Colorado	52	44	61	87	83	58	57	64	55	40	57	65	50	94	60	927
	Connecticut	26	13	25	18	15	23	15	20	15	21	17	18	24	17	25	292
	Delaware	1	1	2	3		5	1	5	11	4	3	7	6	3	4	56
	District of Columbia	18	13	15	28	10	4							3	4	3	98
	Florida	8	9	5	12	10	11	8	10	7	9	8		6		1	104
	Georgia	32	44	198	41	30	26	43	47	53	51	57	61	75	76	78	912
	Hawaii	72	63	68	57	67	31	25	25	17	39	32	33	34	21	27	611
	Idaho	3	7	13	2	4	9	9	6	8	3	3	8	7	7	3	92
	Illinois	208	204	157	192	167	124	163	159	110	65	81	103	111	44	36	1924
	Indiana	8	12	17	17	14	8	11	13	15	11	11	12	12	11	17	189
	Iowa	7	5	11	9	13	15	6	9	10	6	11	4	9	13	9	137
	Kansas	7	6	9	5	9	4	12	11	7	7	5	9	8	8	4	111
	Kentucky		2	6	2		13	2		2	2	2	11	11	9	8	70
	Louisiana	8	13	10	12	14	11	15	5	5	3	27	26	21	13	8	191
	Maine	4		1		6				1			3	2	6		23
	Maryland	31	45	61	32	32	18	29	21	19	34	26	43	33	32	34	490
	Massachusetts	60	69	66	73	50	90	81	60	43	53	49	61	47	48	53	903
	Michigan	82	51	39	59	54	34		37	30	42	43	41	27	22	40	601
	Minnesota	20	16	75	28	53	40	39	37	22	30	34	28	19	26	24	491
	Mississippi	2		1				2		1	4	6	3	3		1	23
	Missouri	8	7	10	8	11	11	11	14	18	17	23	11	10	22	11	192
	Montana	1	1	1	6	1		2		1			1	2	1	2	19
	Nebraska					1		1	15	10				4	1	3	35
	Nevada	2			5		6	8	6	14	17	9	9	16	12	34	138
	New Hampshire	3	3	2	3	3	2	2	7	3	1	5	5	2	2	1	44
	New Jersey	42	42	49	69	49	46	85	59	44	38	16	22	56	18	51	686
	New Mexico	75	89	52	78	65	74	53	48	38	29	35	52	39	40	27	794
	New York	93	125	128	107	81	101	126	93	86	139	58	57	59	49	87	1389
	North Carolina	23	30	22	32	20	34	23	24	22	35	32	25	11	23	24	380
	North Dakota	3	5			1	1	1	1	1	4		5			2	24
	Ohio	9	6	5	9	16	7	13	10	21	20	13	24	33	22		208
	Oklahoma	9	4	5	14	8	4	3	6	4	6	8	10	7	7	3	98
	Oregon	19	47	32	37	61	54	60	51	38	56	25	42	24	21	26	593
	Pennsylvania	42	44	36	30	49	41	36	24	24	17	32	25	39	38	34	511
	Rhode Island	13	5	12	19	18	8	4	10	12	9	7	5	8	4	7	141

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Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	South Carolina	9	1	7	5	3	7	5	1	3	7	7	5	6	14	7	87
	South Dakota	32	28	16	21	17	11	9	8	2	6	4	2		1		157
	Tennessee	14	14	13	21	14	20	9	11	10	12	17	10	20	16	18	219
	Texas	137	104	111	141	75	149	115	161	108	60	41	85	101	85	89	1562
	Utah	13	24	29	23	8	50	21	21	38	27	16	18	19	20	17	344
	Vermont	1	2		2	2			2		4	1	3	1	1	3	22
	Virginia	15	28	33	43	15	15	27	19	19	22	26	16	37	31	36	382
	Washington	97	115	141	120	112	101	93	66	89	79	64	61	53	46	12	1249
	West Virginia		2			2				1	2	1	1		1	3	13
	Wisconsin	23	14	20	12	16	12	4	4	3	7	5	12	11	29	19	191
	Wyoming		5			1			1	1		2					10
	Total	**3250**	**3061**	**3101**	**3019**	**2704**	**2573**	**2207**	**2025**	**1821**	**1668**	**1549**	**1745**	**1603**	**1435**	**1477**	**33238**
S. sonnei	Alabama	111	200	356	281	103	184	215	58	71	144	345	173	146	234	359	2980
	Alaska	17	13	10	10	53	2	7	1	3	4	1	2		11	3	137
	Arizona	166	149	196	523	327	373	126	203	168	140	308	216	104	271	435	3705
	Arkansas	16	99	58	96	97	60	63	25	59	152		72	32	24	63	916
	California	2580	2806	1657	3126	1993	1508	1568	1227	1700	1237	1779	1291	533	708	637	24350
	Colorado	245	444	329	365	394	129	99	95	151	144	129	243	88	184	155	3194
	Connecticut	101	199	117	127	104	57	43	48	53	38	87	50	42	29	30	1125
	Delaware	6	58	8	122	66	16	37	6	12	11	443	151	5	6	7	954
	District of Columbia	45	12	4	166	188	4							1	1	4	425
	Florida	252	237	694	305	261	233	529	144	99	32	146	9	10	6	82	3039
	Georgia	404	68	149	131	141	213	205	31	123	407	835	571	387	395	1041	5101
	Hawaii	46	26	125	44	17	23	24	11	16	20	29	9	12	10	11	423
	Idaho	10	9	17	72	50	30	5	6	16	6	10	20	4	9	9	273
	Illinois	674	910	860	995	339	702	1116	835	820	303	683	764	192	33	25	9251
	Indiana	168	160	161	85	57	22	29	104	141	52	23	27	37	35	24	1125
	Iowa	27	34	263	231	101	57	40	53	336	279	54	53	56	45	58	1687
	Kansas	73	104	47	100	22	75	49	46	139	35	55	92	49	106	92	1084
	Kentucky	27	43	76	84	43	27	42	149	119	334	77	58	61	275	175	1590
	Louisiana	78	288	304	365	329	102	273	130	194	233	519	373	259	81	214	3742
	Maine	5	2	3						8		1	4	4	7		34
	Maryland	239	213	134	194	413	154	38	36	91	66	891	417	68	43	53	3050
	Massachusetts	176	187	143	206	109	194	171	662	211	127	124	148	115	117	103	2793
	Michigan	408	590	287	387	285	209	5	445	575	185	125	169	153	99	92	4014
	Minnesota	54	166	385	133	105	95	290	204	887	455	181	73	34	69	231	3362
	Mississippi	14	98	217	146	86		5	11	6	28	26	16	13	35	58	759
	Missouri	264	329	280	599	260	150	125	339	448	197	199	175	148	828	543	4884
	Montana	118	11	1	196	27	4	1	3	5	1		1	2	3	61	434
	Nebraska	5	1	2	4	3	17	18	51	106				10	27	60	304
	Nevada	4	2	2	13	9	4	10		51	32	36	33	17	29	62	304
	New Hampshire	3	7	8	76	21	18	20	10	5	3	8	8	4	5	4	200
	New Jersey	177	222	331	599	285	428	558	171	385	181	348	179	138	173	219	4394
	New Mexico	85	176	175	327	108	111	118	59	76	52	144	151	69	78	133	1862
	New York	347	321	557	427	219	677	689	219	735	359	415	551	505	352	241	6614
	North Carolina	284	1059	1105	560	164	136	154	67	246	151	494	306	121	67	33	4947
	North Dakota	5	5	37	95	47	2	2	1	51	13	4	1		2	200	465

TABLE 10

Laboratory confirmed Shigella isolates reported to the CDC by species, state and year for 1992-2006

		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Ohio	68	575	266	246	203	295	137	135	308	1166	414	215	83	82	2	4195
	Oklahoma	87	209	77	116	147	129	208	163	39	69	366	613	371	551	89	3234
	Oregon	116	53	50	73	59	111	89	36	70	48	70	58	52	63	66	1014
	Pennsylvania	356	442	437	501	1544	559	223	157	416	204	327	825	66	99	41	6197
	Rhode Island	147	27	29	45	24	70	9	17	22	15	10	16	8	17	11	467
	South Carolina	58	111	172	110	75	23	94	62	90	115	74	285	279	60	41	1649
	South Dakota	50	59	152	119	37	9	14	2	4	237	41	9	9	84	265	1091
	Tennessee	547	1028	692	418	228	321	947	463	338	102	158	353	501	438	154	6688
	Texas	540	1141	464	726	284	902	748	668	656	251	429	1358	1317	1740	972	12196
	Utah	94	30	200	680	199	43	14	42	42	29	20	42	35	23	54	1547
	Vermont	3	6	2	2	6	2	5	2		2		1	3	9	1	44
	Virginia	148	498	429	351	435	207	56	45	326	351	564	234	73	64	67	3848
	Washington	290	680	245	143	153	92	93	46	316	151	159	128	74	64	47	2681
	West Virginia	15	24		27	29	13	8	5	16	8	7	3	7		1	163
	Wisconsin	353	205	133	60	12	14	67	73	52	20	43	70	136	113	134	1485
	Wyoming		3		4	1	1	1		2	4		5		5	9	35
	Total	**10106**	**14339**	**12446**	**14811**	**10262**	**8807**	**9387**	**7366**	**10803**	**8193**	**11201**	**10621**	**6433**	**7809**	**7471**	**150055**
Unknown	Alabama	48	138	112	97											18	413
	Arizona				3						10	4	1		1	2	21
	California	728	721	645	811	614	582	570	426	467	383	396	347	212	297	231	7430
	Colorado	62	116	134	26					7	69	21	14	3	50	24	526
	Connecticut			1					2	1	1	2	1	1	1	2	12
	District of Columbia		1		3												4
	Florida	1	1	22	2						1					1	28
	Georgia	123	378	1693	4		3	3		12	1	1	4	3	1	1	2227
	Idaho										1	1					2
	Illinois	1							3	3	1	1	1	1	222	289	522
	Indiana	31									3		2				36
	Iowa	7	6	48							2						63
	Louisiana	1												3		1	5
	Maine									2	2					4	8
	Maryland	2		3			1			1	1		2	6	2	4	22
	Massachusetts				1	1	2				4	4	1				13
	Michigan	2							1		2	1					6
	Minnesota	15	53	2		3	1	1	6	16	10	8	2			4	121
	Mississippi	101	284	243	187	93											908
	Missouri				1	1						3					5
	Montana				1												1
	Nebraska								1					32	51	30	114
	Nevada						2					2	2	24	9		39
	New Hampshire					2											2
	New Jersey		5	2	4			2	2	1	1			1			18
	New Mexico						4					3					7
	New York		1	1	3	2	1	3	9	4	6	1		19	27	13	90
	North Carolina			1													1
	North Dakota	3	3	22	31	10					24	3		10		1	107
	Ohio		3		1		5	1	2	2	8			1	6	28	57

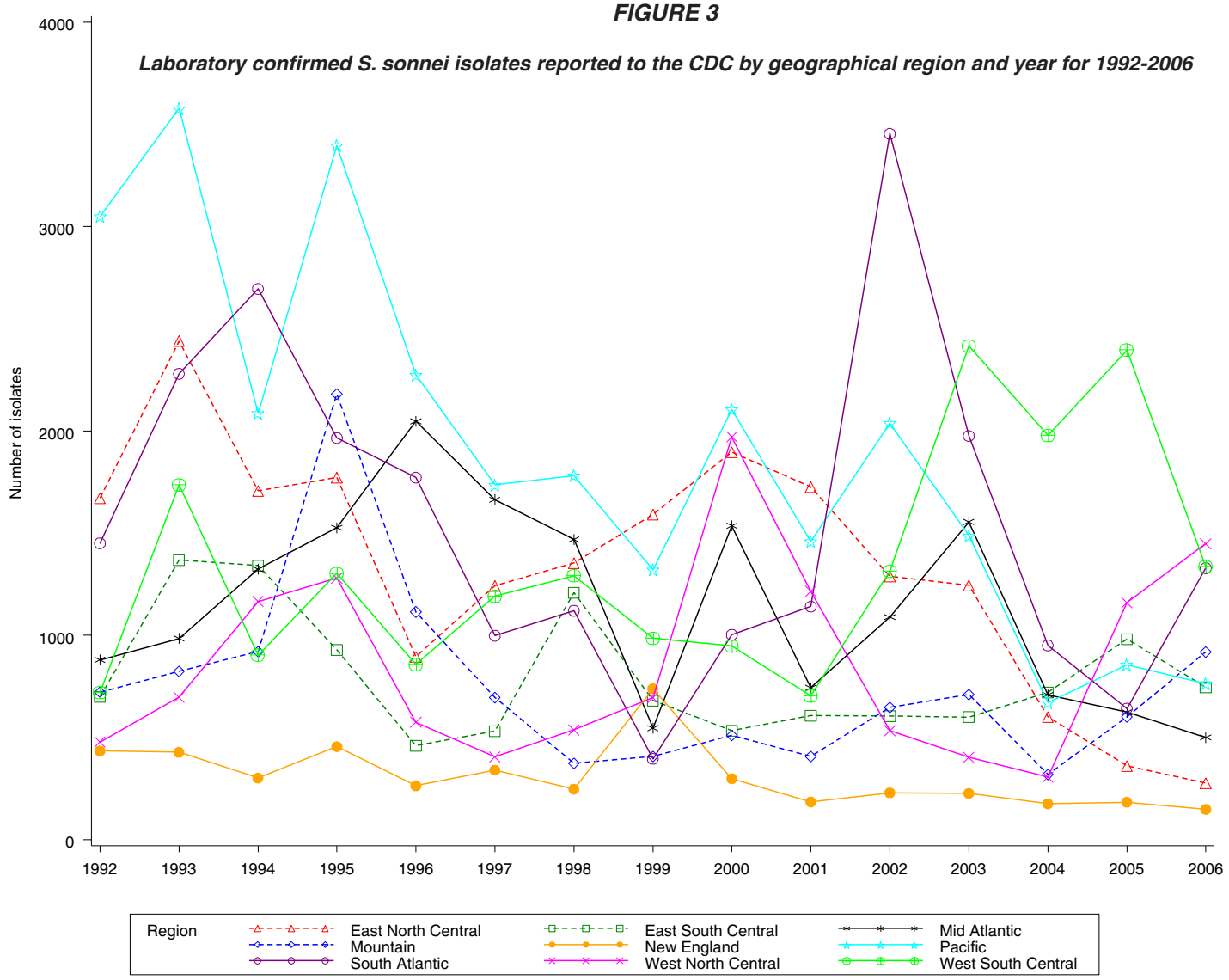
TABLE 10

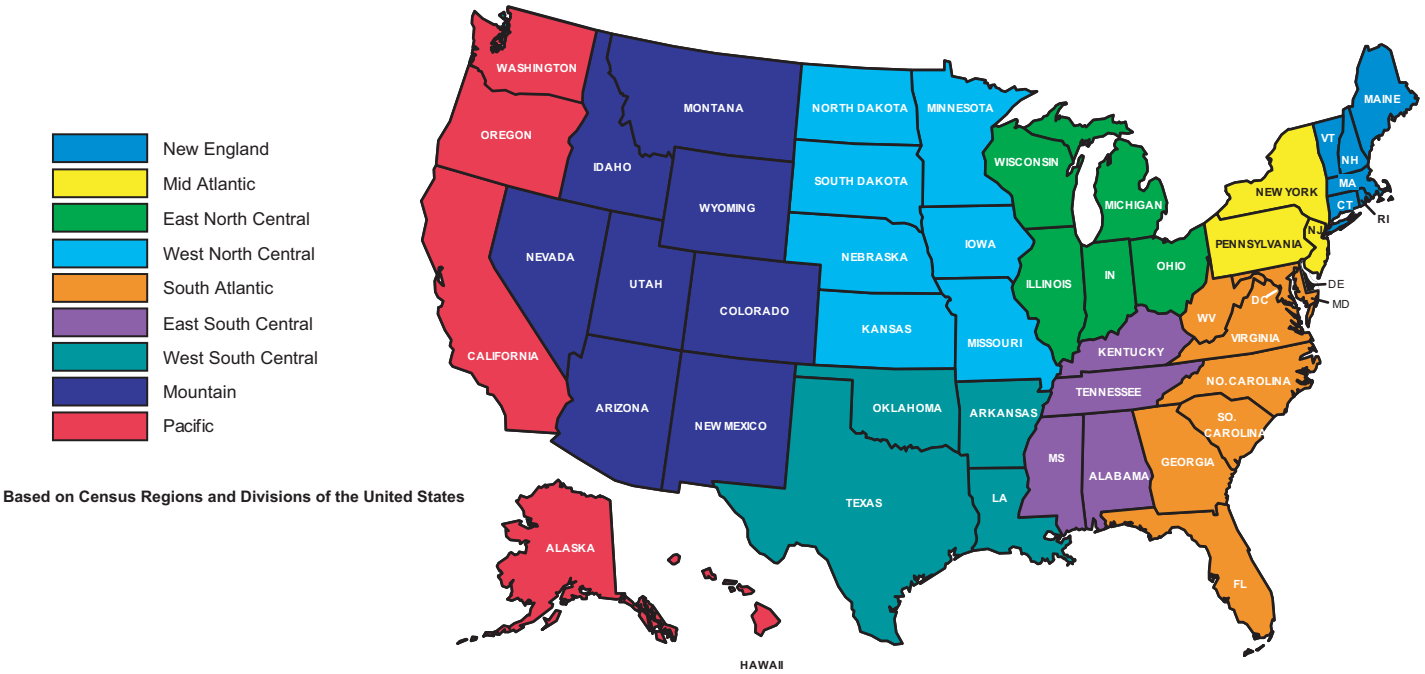
Laboratory confirmed Shigella isolates reported to the CDC by species, state and year for 1992-2006

		Year															
Species	**State**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
	Oklahoma				1	1		1				1	2	1	1	1	9
	Oregon	2								1	4	5				1	13
	Pennsylvania								2	4				1			7
	Rhode Island	1															1
	South Carolina			1							1				1		3
	Tennessee			1	1				2	31	11	14	84	67	29	49	289
	Texas	1			1			15	33	85	13	1696	2931	715	382	520	6392
	Utah			2	1												3
	Vermont	2															2
	Virginia	1	1		1		1			2	2	2		1	1	3	15
	Washington		10	2	1						2	2				1	18
	West Virginia	3	12														15
	Wisconsin	82	52												1		135
	Wyoming										1						1
	Total	**1217**	**1785**	**2935**	**1181**	**727**	**602**	**596**	**489**	**639**	**564**	**2171**	**3394**	**1101**	**1082**	**1228**	**19711**

FIGURE 3

Laboratory confirmed S. sonnei isolates reported to the CDC by geographical region and year for 1992-2006





Based on Census Regions and Divisions of the United States