REPORT NO. 36
Issued February 1975

center for disease control

SHIGELLA

surveillance

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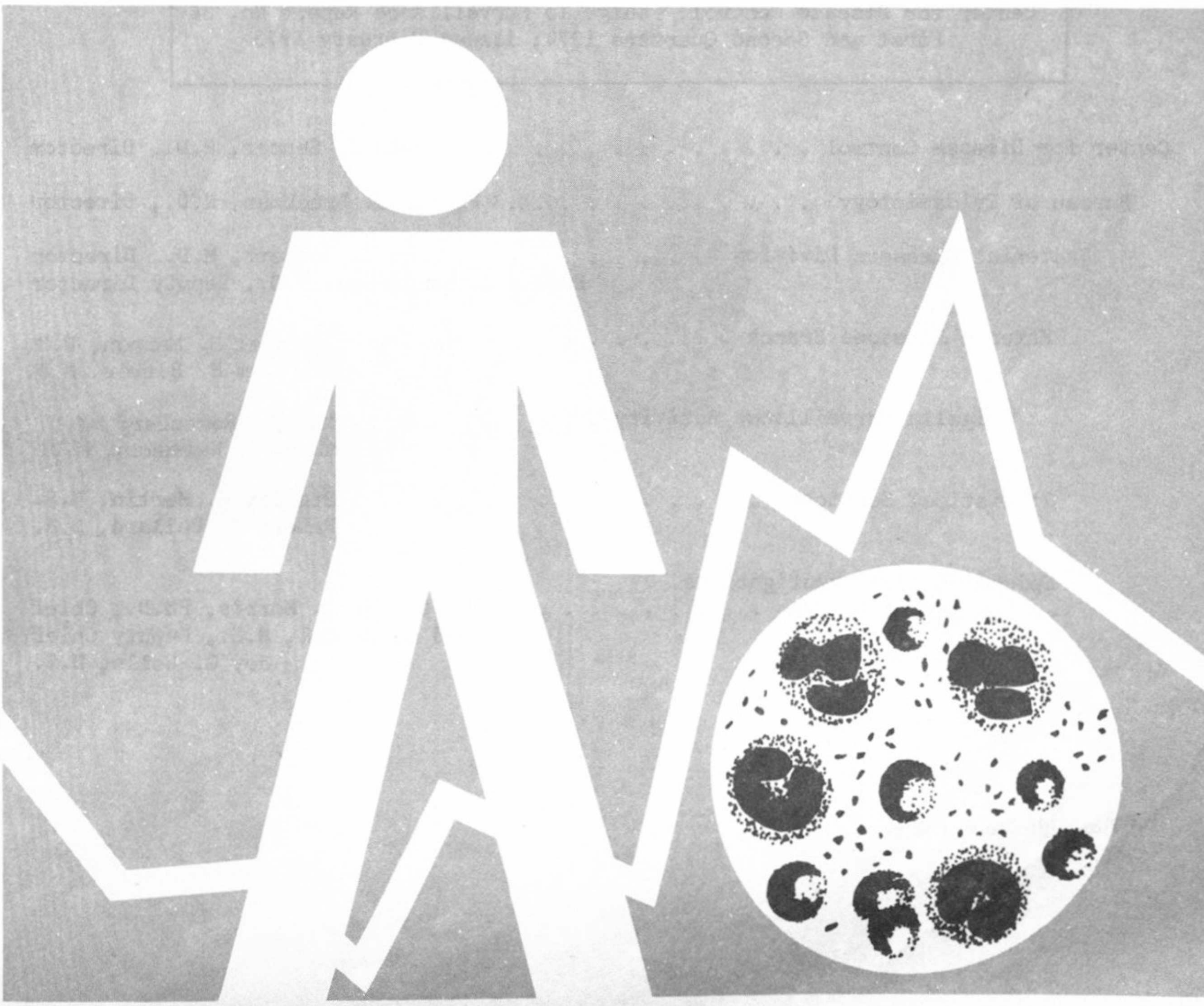
for the
First and Second Quarters 1974



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

PREFACE

This report summarizes data voluntarily reported from participating states, territorial, and city health departments. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

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

Center for Disease Control
Attn: Shigella Surveillance Activity
Bureau of Epidemiology
Atlanta, Georgia 30333

SUGGESTED CITATION

Center for Disease Control: Shigella Surveillance Report No. 36
First and Second Quarters 1974; issued February 1975

*Through June 1974

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DHEW Publication No. (CDC) 75-8225

I. SUMMARY

For the period January through June 1974, 9,212 shigella isolatons from humans were reported. This represents a decrease of 1,004 (9.8%) from the 10,216 isolations reported for the preceding 6 months and an increase of 2,631 (40.0%) over the 6,581 isolations reported for the corresponding months of 1973 (Table I-A - I-B). Part of the increase is related to the fact that California did not report its shigella isolates to CDC in 1973, but for the first half of 1974 reported 1,170 isolates.

Approximately 38.6 isolations per million population were reported for the first half of 1974, an increase of 10.3% from the 35.0 isolations per million for the first half of 1973.

II. REPORTED ISOLATIONS

A. Human

1. General Incidence

For the first half of 1974, 66.8% of reported isolations were from children under 10 years of age (Table 1); this is consistent with previous experience. More isolates were obtained from 1-4 year olds than from any other age group.

Table 1

Cases of Shigellosis by Age and Sex, First and Second Quarters 1974*

Age (Years)	Male	Female	Unknown	Total	Percent	Cumulative Percent
Under 1	136	128	3	267	4.6	4.6
1 - 4	1187	1116	2	2305	39.6	44.2
5 - 9	670	642		1312	22.6	66.8
10 - 19	306	372		678	11.7	78.4
20 - 29	205	431	1	637	11.0	89.4
30 - 39	125	212		337	5.8	95.2
40 - 49	46	59		105	1.8	97.0
50 - 59	21	50		71	1.2	98.2
60 - 69	15	31		46	.8	99.0
70 - 79	11	21	1	33	.6	99.6
80 or over	12	13		25	.4	100.0
Subtotal	2734	3075	7	5816		
Child (Unspec)	34	28	5	67		
Adult (Unspec)	18	32		50		
Unknown	1025	1056	28	2109		
Total	3811	4191	40	8042		
Percent	47.6	52.4				

*California not included

2. Serotype Frequency

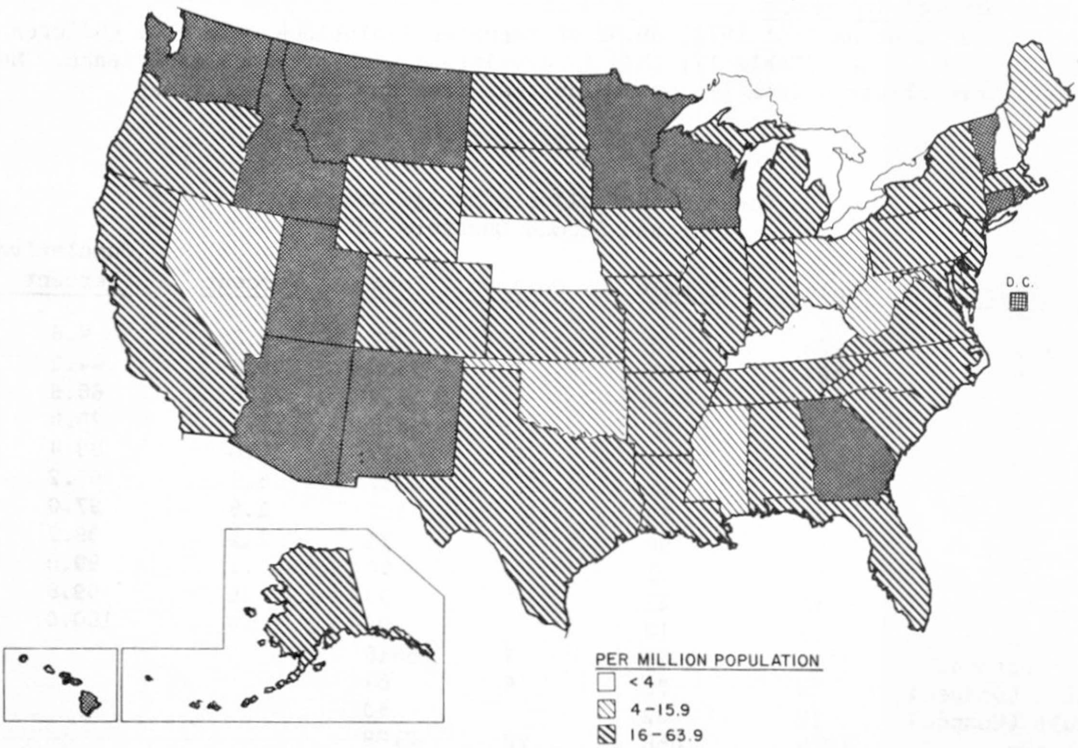
Fifty-two of the 54 centers participating in the Shigella Surveillance Program reported isolations of 25 different shigella serotypes. Isolations not serotyped were distributed among serotypes in the same proportions as the isolations that were serotyped (Table II). The resulting distribution in the tables is called the "calculated number," and from this is derived a "calculated percent" for each serotype. These provide approximate indices of the relative frequency of reporting of the shigella serotypes in the United States. S. sonnei accounted for approximately 79.5% of all reported isolations. The next most common serotypes were S. flexneri 2a (6.51%), S. flexneri 6 (3.31%), and S. flexneri 3a (3.27%).

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

3. Geographical and Seasonal Observations

Figure 1 shows the number of reported isolations (per million population by 1970 census data) by state for the period January through June 1974. There were more reported isolations of S. sonnei than S. flexneri in all but the following 11 states: Arizona (84:141)*, California (43:57), Hawaii (28:35), Mississippi (15:15), Nebraska (1:2), Nevada (1:2), New Mexico (33:75), North Dakota (9:14), South Dakato (9:18), Utah (78:98), Wyoming (2:7) (Figure 2). This is consistent with previous observations that the reported incidence of S. flexneri is decreasing, while the reported incidence of S. sonnei is increasing. The seasonal distribution, peaking in fall and winter, is depicted in Figure 3. Table 2 shows the general type of residence of patients from whom shigella was isolated and reported.

Fig. 1 ATTACK RATES OF SHIGELLOSIS, BY STATE, JANUARY — JUNE, 1974



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

Figure 2 PERCENTAGE *S. flexneri* AND *S. sonnei* OF TOTAL SHIGELLA ISOLATIONS REPORTED FROM INDICATED REGIONS UNITED STATES, JANUARY – JUNE 1974

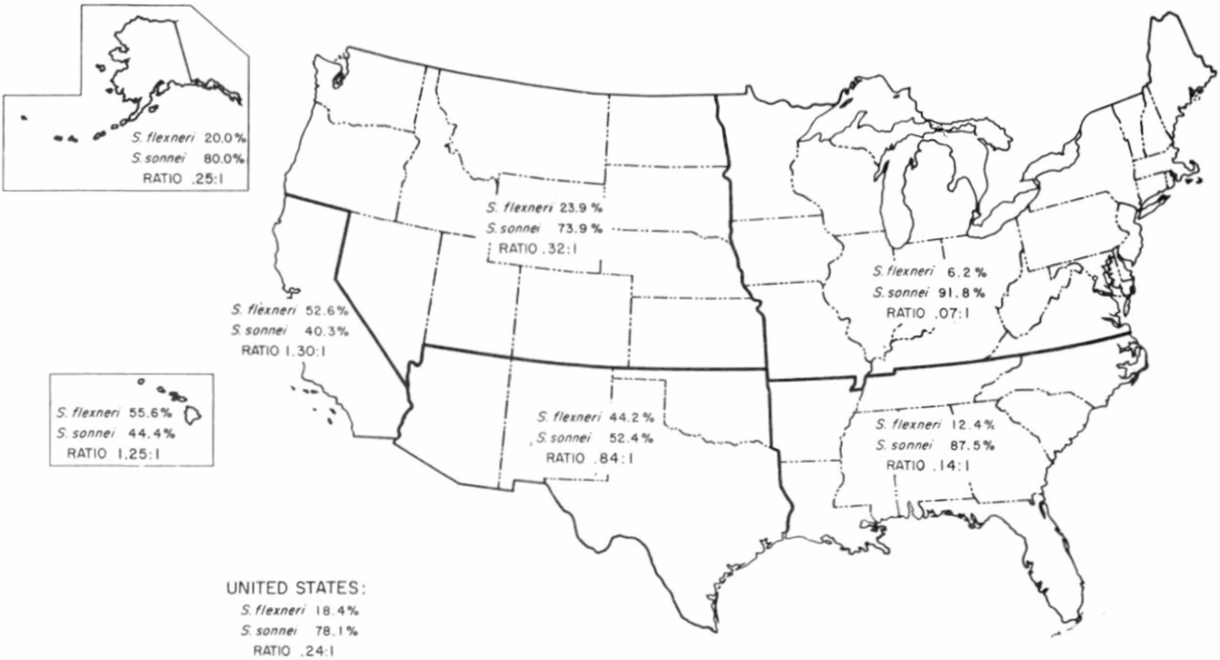
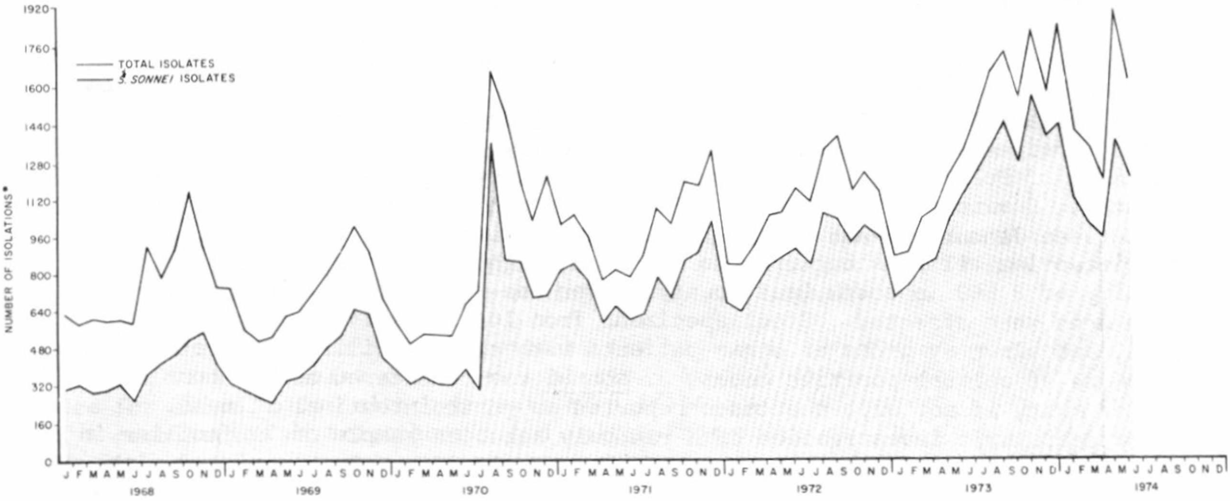


Fig. 3 REPORTED ISOLATIONS OF SHIGELLA IN THE UNITED STATES



*ADJUSTED TO 4-WEEK MONTH

Table 2

Reported Isolations by Residence at Time of Onset of Shigella, First and Second Quarters 1974*

	Jan	Feb	Mar	Apr	May	Jun	Total	Percent of Subtotal
Mental Institutions	35	64	61	26	67	28	314	6.8
Indian Reservations	12	9	1	6	19	5	58	1.3
Other Residencies	871	548	494	572	796	652	4214	91.0
Subtotal	918	621	556	604	882	685	4586	100.0
Unknown Residencies	701	481	494	436	708	562	3471	
Total	1619	1102	1050	1040	1590	1247	8057	

*California not included

B. Nonhuman

For the period January through June 1974, 41 isolations from nonhuman sources were reported; all were from primates (Table IV), and all except 1 S. dysenteriae and 1 S. sonnei were S. flexneri.

III. REPORTS FROM THE STATES

A. Waterborne Gastrointestinal Illness, Richmond Heights, Florida

Reported by Janice Burr, M.D., Head, Disease Control Section, Margaret Pearson, R.N., Associate Chief, Office of Consumer Care [Nursing], Robert Quick, Head, Sanitary Engineering Section, and Milton S. Saslaw, M.D., Director, Dade County Department of Public Health; Gunther Craun, Sanitary Engineer Supply Research Laboratory, Environmental Protection Agency, Cincinnati, Ohio; and 2 EIS Officers.

Between January 17 and March 15, 1974, approximately 1,200 cases of acute gastrointestinal illness occurred in Richmond Heights, Florida, a residential community of 6,500 in south Dade County. Over one-third of all families living in the area were affected. Stool specimens from 10 ill individuals yielded Shigella sonnei, and since symptoms of other patients with clinical illness correlated closely with those of culture-positive cases, S. sonnei was considered as the most likely cause of most, if not all, the cases reported as gastrointestinal illness.

Epidemiologic investigation of a randomly selected sample of 75 families in the area disclosed that consumption of tap water was significantly associated with illness in the initial cases of affected families ($p < .05$). Inspection of the Richmond Heights public water supply showed that 1 of 2 wells providing water to the community was continuously contaminated with excessive levels of fecal coliforms, which were traced to the septic tank of a church (that also served as a day-care center) approximately 150 ft from the well. A breakdown in the plant's chlorination mechanism on January 15 had resulted in the distribution of approximately 1 million gallons of unchlorinated or insufficiently chlorinated water from the contaminated well to the community 48 hours before the outbreak. Contaminated water in the system at the time of the breakdown may have remained in distribution pipelines for several days.

IV. RECENT ARTICLE FROM THE LITERATURE

Shigellosis: To treat or not to treat?

Weissman JB, Gangarosa EJ, DuPont HL, Nelson JD, Haltalin KL. JAMA 229(9): 1215-16, 1973

Opinions differ on the most appropriate course of therapy for shigellosis because of conflicting evidence in the literature concerning the efficacy and possible hazards of specific antibiotic therapy. Proponents of specific chemotherapy note that the efficacy of antimicrobial agents in shigellosis is well established (1). Moreover, several studies have shown that antibiotics will notably decrease the excretion of shigellae in the stools and abbreviate the clinical course of both mild and severe disease (2,3). Those opposed to specific therapy argue that except in certain special cases the disease is self-limited and usually mild, that strains have repeatedly emerged resistant to whatever antibiotic happened to be in vogue at the time, and that this resistance has frequently been R factor-mediated, resulting in organisms resistant to multiple antibiotics (4).

The clinician responsible for deciding whether to prescribe or withhold antimicrobial therapy in an individual case (Table 3) must consider the following:

1. Does the clinical status of the patient warrant specific therapy? Severe or uncomfortably symptomatic shigellosis requires therapy.

2. Would withholding antibiotics substantially increase the likelihood of secondary spread? An excretor in a household where personal hygiene is unsatisfactory is likely to be the source of intrafamilial spread. Small children, food handlers (including mothers), and residents of custodial institutions are likely to transmit disease while they are excreting the organisms.

3. Is the patient's isolate sensitive to safe and effective antibiotics? If the organism is multiply resistant, the patient should not be treated if the morbidity from the use of the only available drugs might likely exceed the morbidity of the disease.

4. Would the treatment of an individual patient constitute a considerable public health risk by increasing the selective pressure for the emergence of resistant shigellae in the public at large? After exposure to antibiotics, shigellae can rapidly acquire R factors from normal gut flora and become resistant to antibiotic (5). Cases have been reported in which antibiotic treatment of a sensitive gram-negative pathogen was followed by multiple drug resistance by the organism (6).

A decision to treat should be followed by the choice of the most efficacious antibiotic with the least potential toxicity. Ampicillin is currently the drug of choice for shigellosis, although resistance is becoming widespread. Two new drugs, one, a combination of trimethoprim and sulfamethoxazole, and the other, oxalinic acid, have shown promise in experimental studies, but they have not been approved for general use in treating shigellosis. Tetracycline and sulfonamides have been used with success, but, as with ampicillin, widespread resistance of shigellae to these and other drugs makes it advisable to test any shigella isolate for antibiotic sensitivities. A further consideration is that certain drugs that appear sensitive _in vitro_ may not be effective _in vivo_, notably non-absorbable antibiotics administered orally, such as neomycin sulfate and kanamycin sulfate. In general, if the patient is not severely ill and if continued excretion of shigellae would not constitute a major public health hazard, specific therapy should be withheld pending results of antimicrobial sensitivity testing.

Table 3

Guidelines to Chemotherapy for Shigellosis

Clinical Status of Patient	Shigella Sensitivity to Antimicrobial	Sanitary Control: Feasible	Sanitary Control: Not Feasible
Severe disease (patient hospitalized)	Sensitive	Treat	Treat
	Resistant*	Treat	Treat
Moderate to mild disease	Sensitive	Treat	Treat
	Resistant*	Probably treat	Treat
Asymptomatic infection	Sensitive	Possibly treat	Treat
	Resistant*	No therapy	Possibly treat

*Resistant to ampicillin and tetracycline

The following examples illustrate ways in which the guidelines in Table 3 may be applied to specific cases:

Hypothetical Cases

Case 1 - A 6-year-old boy is hospitalized with fever, bloody diarrhea, and seizures. *Shigella sonnei*, resistant to ampicillin, tetracycline, and sulfonamides, is cultured from a rectal swab specimen obtained on admission.

Decision - Treatment with the least toxic available drug is indicated, despite multiple antibiotic resistance; chloramphenicol would be a good choice. The child is seriously ill and despite precautions taken against fecal transmission of the organism may transmit infection to other patients.

Case 2 - A 32-year-old male business executive develops mild diarrhea while traveling abroad. Stool cultures are obtained from the patient and his family when they return home. He and his 8-year-old daughter (who is not ill) have positive cultures for *S. sonnei*.

Decision - If the father remains symptomatic, treatment with ampicillin should be started, pending culture results. Discontinue therapy if the organism proves to be resistant to several antibiotics. Since there are no other children at home and the daughter is old enough to maintain satisfactory hygienic practices at home, withhold treatment from her until her antibiogram discloses a sensitive organism, consider therapy, particularly if she becomes symptomatic.

Case 3 - A 26-year-old woman, the mother of 4 children, complains of fever and abdominal pain. Her 5-year-old son, who attends a day-care center, has been at home for 2 days because of diarrhea. His infant sister and a 2-year-old sibling are both well. The stools of the mother and the 5-year-old boy are cultured. The mother's culture is positive for *S. sonnei* resistant only to tetracycline; the son's culture is negative.

Decision - Treat the mother and her son with ampicillin; obtain cultures from the asymptomatic children and treat them if cultures are positive. Adequate sanitary control is difficult to achieve in this household, and shigellosis in the infant might be especially serious. By far the most likely source of introduction of the infection, from an epidemiologic point of view, is the 5-year-old; he should be regarded as a carrier of the same Shigella strain as his mother, despite his 1 negative culture.

Comment: It is not possible to formulate any blanket rule on therapy that is universally applicable at all times. The clinician, therefore, must decide between alternatives, and in making this judgement must take into account the clinical status of his patient, the drug resistance of the organism, and his patient's social and physical environment.

References:
1. Cheevers FS: Treatment of shigellosis with antibiotics. Ann NY Acad Sci 55: 1063-1069, 1952
2. Haltalin KC, *et al*: Double-blind treatment study of shigellosis comparing ampicillin, sulfadiazine, and placebo. Pediatr Pharm Ther 70: 970-981, 1967
3. Haltalin KC, *et al*: Treatment of acute diarrhea in outpatients. Am J Dis Child 124:554-561, 1972
4. Weissman, JB, Gangarosa EJ, DuPont HL: Changing needs in the antimicrobial therapy of shigellosis. J Infect Dis 127:611-613, 1973
5. Ross S, Controni G, Khan W: Resistance of shigellae to ampicillin and other antibiotics. JAMA 221:45-47, 1972
6. Seldin R, *et al*: Nosocomial klebsiella infections: Intestinal colonization as a reservoir. Ann Intern Med 74:657-664, 1971

TABLE I-A

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

FIRST QUARTER, 1974

SEROTYPE	NORTHEAST																										NORTHWEST													
	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLINOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK–A	NEW YORK–BI	NEW YORK–C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINIA	WISCONSIN	NORTHEAST TOTAL	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	NORTH TOTAL
S. DYSENTERIAE																																								
Unspecified																				1			1			2											1		1	3
1										1	1	2														4													0	4
2	1			4								2					1									8			2										2	10
3	1			2																						3	2												2	5
4				1																						1													0	1
7																										0													0	0
Total	2	0	0	7	0	0	0	0	0	1	1	4	0	0	0	0	1	0	0	1	0	0	1	0	0	18	2	0	2	0	0	0	0	0	0	0	1	0	5	23
S. FLEXNERI																																								
Unspecified			2			2			4	2			2			3	7	9		4	1				3	39	14			5			1	4	5		3	1	33	72
1 Unspecified																									2	2											2		2	4
1A				2						1	2	1														6													0	6
1B																										0													0	0
2 Unspecified									3							1									3	7				1						44	1		46	53
2A				11						10	2	5			3											31			4				6						10	41
2B										2																2													0	2
3 Unspecified													2		1										1	4			3							3			6	10
3A	3			7						1	5															16													0	16
3B																										0													0	0
3C										3																3													0	3
4 Unspecified																										0													0	0
4A	3			3						2		1														9													0	9
4B										4																4										2			2	6
5				3																						3		1											1	4
6				4			2		1	1	2															10		1	1							2			4	14
Variant X																										0													0	0
Variant Y																										0													0	0
Total	6	0	2	30	0	2	2	0	8	26	11	7	4	0	4	4	7	9	0	4	1	0	0	0	9	136	14	2	8	6	0	0	7	4	5	51	6	1	104	240
S. BOYDII																																								
Unspecified											2															2	1												1	3
1																										0													0	0
2	8																									8													0	8
5				1																						1													0	1
10																										0													0	0
Total	8	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	0	0	0	0	0	0	1	12
S. SONNEI	129	9	14	334	64	24	4	3	65	76	122	143	68	2	104	72	12	46	104	205	20	9	65	18	383	2,095	37	41	12	80			2	24	3	61	153	1	414	2,509
Unknown			3			2															10	2			8	25				1						1		1	3	28
TOTAL	145	9	19	372	64	28	6	3	73	103	136	154	72	2	108	76	20	55	104	210	31	11	66	18	400	2,285	54	43	22	87	0	0	9	28	8	113	160	3	527	2,812

TABLE I-A (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS
FIRST QUARTER, 1974

SEROTYPE	SOUTHEAST										SOUTHWEST						OTHER							PREVIOUS QUARTER	
	ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL	SOUTH TOTAL	ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL	TOTAL	PERCENT OF TOTAL	TOTAL	PERCENT OF TOTAL
S. DYSENTERIAE																									
Unspecified										0				2	2	2		16			16	21	0.5	1	0.0
1										0			1		1	1					0	5	0.1	1	0.0
2			1							1					0	1					0	11	0.2	10	0.2
3										0					0	0					0	5	0.1	7	0.1
4										0					0	0					0	1	0.0	1	0.0
7										0		1			1	1					0	1	0.0	0	
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**2**	**4**	**5**	**0**	**16**	**0**	**0**	**16**	**44**	**1.0**	**20**	**0.4**
S. FLEXNERI																									
Unspecified		11				14		1		26		8			8	34		219			219	325	7.1	206	4.0
1 Unspecified	4		1	3						8		3			3	11					0	15	0.3	17	0.3
1A										0	2			4	6	6					0	12	0.3	21	0.4
1B					1					1	8			3	11	12					0	12	0.3	23	0.4
2 Unspecified	8		2	8			3			21		3			3	24					0	77	1.7	74	1.4
2A					4				8	12	5		1	18	24	36			11		11	88	1.9	114	2.2
2B										0	1			7	8	8					0	10	0.2	20	0.4
3 Unspecified			1	1						2		6			6	8			11		11	29	0.6	28	0.5
3A					3				7	10	8			11	19	29					0	45	1.0	44	0.9
3B										0				1	1	1					0	1	0.0	3	0.1
3C					3					3	1				1	4					0	7	0.2	5	0.1
4 Unspecified			1	1						2		1			1	3					0	3	0.1	12	0.2
4A			2							2	7			2	9	11					0	20	0.4	27	0.5
4B										0	1			2	3	3			1		1	10	0.2	15	0.3
5										0		1		1	2	2					0	6	0.1	4	0.1
6			1	1					2	4	26	19		10	55	59					0	73	1.6	70	1.4
Variant X	1									1					0	1					0	1	0.0	1	0.0
Variant Y	1									1					0	1					0	1	0.0	1	0.0
Total	**14**	**11**	**8**	**14**	**11**	**14**	**3**	**1**	**17**	**93**	**59**	**41**	**1**	**59**	**160**	**253**	**0**	**219**	**23**	**0**	**242**	**735**	**16.2**	**685**	**13.4**
S. BOYDII																									
Unspecified										0					0	0		12			12	15	0.3	5	0.1
1										0	1	1			2	2					0	2	0.0	0	
2										0	1			1	2	2					0	10	0.2	5	0.1
5										0					0	0					0	1	0.0	0	
10										0				4	4	4					0	4	0.1	4	0.1
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**2**	**1**	**0**	**5**	**8**	**8**	**0**	**12**	**0**	**0**	**12**	**32**	**0.7**	**16**	**0.3**
S. SONNEI	13	21	83	234	76	11	107	19	130	694	34	19	13	178	244	938	6	202	11		219	3,666	80.6	4,392	85.6
Unknown										0					0	0		41			41	69	1.5	18	0.4
TOTAL	**27**	**32**	**92**	**248**	**87**	**25**	**110**	**20**	**147**	**788**	**95**	**62**	**15**	**244**	**416**	**1,204**	**6**	**490**	**34**	**0**	**530**	**4,546**		**5,131**	

TABLE I-B

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

SECOND QUARTER, 1974

NORTHEAST

SEROTYPE	CONNECTICUT	DELAWARE	DISTRICT OF COLUMBIA	ILLINOIS	INDIANA	IOWA	KENTUCKY	MAINE	MARYLAND	MASSACHUSETTS	MICHIGAN	MINNESOTA	MISSOURI	NEW HAMPSHIRE	NEW JERSEY	NEW YORK – A	NEW YORK – BI	NEW YORK – C	OHIO	PENNSYLVANIA	RHODE ISLAND	VERMONT	VIRGINIA	WEST VIRGINIA	WISCONSIN	NORTHEAST TOTAL
S. DYSENTERIAE																										
Unspecified											2						1									3
1				1						1																2
2				2						1		1														4
3	1																									1
Total	1	0	0	3	0	0	0	0	0	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	10
S. FLEXNERI																										
Unspecified		2	1		2	2				2	1		1			3	7	18		6	1		3			49
1 Unspecified																				1					1	2
1A				1						3	1	1														6
1B				1				1			2															4
2 Unspecified									1				2												3	6
2A	2			7						5	13	5			2											34
2B				1																						1
3 Unspecified													4						1						1	6
3A	1			17						3	7															28
3B				1																						1
3C																										0
4 Unspecified	1																									1
4A				2								1														3
4B																										0
5										1																1
6	2			5							1	1													2	11
Variant Y																										0
Total	6	2	1	35	2	2	0	1	1	14	25	8	7	0	2	3	7	18	1	7	1	0	3	0	7	153
S. BOYDII																										
Unspecified											1															1
1																										0
2				1																						1
3																										0
5																										0
6																										0
10									1	1																2
Total	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
S. SONNEI	96	4	28	282	53	59	3	2	29	105	155	89	63	1	150	174	17	57	45	200	30	49	29	3	454	2177
Unknown			6	2		6					6										3	2				25
TOTAL	103	6	35	323	55	67	3	3	31	122	189	98	70	1	152	177	25	75	46	207	34	51	32	3	461	2369

NORTHWEST

SEROTYPE	COLORADO	IDAHO	KANSAS	MONTANA	NEBRASKA	NEVADA	NORTH DAKOTA	OREGON	SOUTH DAKOTA	UTAH	WASHINGTON	WYOMING	NORTHWEST TOTAL	NORTH TOTAL
S. DYSENTERIAE														
Unspecified													0	3
1													0	2
2	1												1	5
3													0	1
Total	1	0	0	0	0	0	0	0	0	0	0	0	1	11
S. FLEXNERI														
Unspecified	20	1		13	2	2		6	13			6	63	112
1 Unspecified										3	12		15	17
1A													0	6
1B													0	4
2 Unspecified										33	3		36	42
2A							7						7	41
2B													0	1
3 Unspecified			1							7	1		9	15
3A													0	28
3B													0	1
3C													0	0
4 Unspecified											2		2	3
4A										2			2	5
4B										1			1	1
5													0	1
6										1	4		5	16
Variant Y													0	0
Total	20	1	1	13	2	2	7	6	13	47	22	6	140	293
S. BOYDII														
Unspecified													0	1
1													0	0
2													0	1
3													0	0
5										2			1	1
6													0	0
10													0	2
Total	0	0	0	0	0	0	0	0	0	1	0	0	1	5
S. SONNEI	68	19	48	85	1	1	7	7	6	17	80	1	340	2517
Unknown				1			10						11	36
TOTAL	89	20	49	99	3	3	24	13	19	65	102	7	493	2862

TABLE I-B (Continued)

SHIGELLA SEROTYPES ISOLATED FROM HUMANS

SECOND QUARTER, 1974

SOUTHEAST										SOUTHWEST						OTHER							PREVIOUS QUARTER		
ALABAMA	ARKANSAS	FLORIDA	GEORGIA	LOUISIANA	MISSISSIPPI	NORTH CAROLINA	SOUTH CAROLINA	TENNESSEE	SOUTHEAST TOTAL	ARIZONA	NEW MEXICO	OKLAHOMA	TEXAS	SOUTHWEST TOTAL	SOUTH TOTAL	ALASKA	CALIFORNIA	HAWAII	VIRGIN ISLANDS	OTHER TOTAL	TOTAL	PERCENT OF TOTAL	TOTAL	PERCENT OF TOTAL	SEROTYPE
																									S. DYSENTERIAE
									0				1	1	1					0	4	0.1	21	0.5	Unspecified
									0		1		1	2	2					0	4	0.1	5	0.1	1
									0				3	3	3					0	8	0.2	11	0.2	2
									0	1				1	1					0	2	0.0	5	0.1	3
0	0	0	0	0	0	0	0	0	0	1	1	0	5	7	7	0	15	0	0	15	33	0.7	44	1.0	Total
																									S. FLEXNERI
	14				1		7		22		4		4	8	30		347			347	489	10.5	325	7.1	Unspecified
3		2				1			6		8			8	14					0	31	0.7	15	0.3	1 Unspecified
									0	2			6	8	8					0	14	0.3	12	0.3	1A
				1					1	20			13	33	34					0	38	0.8	12	0.3	1B
4		5	1			2			12		6			6	18					0	60	1.3	77	1.7	2 Unspecified
			1	2				4	7	19		2	24	45	52			7		7	100	2.1	88	1.9	1A
									0	6			12	18	18					0	19	0.4	10	0.2	2B
									0	2	5			7	7			3		3	25	0.5	29	0.6	3 Unspecified
				4				2	6	11			16	27	33					0	61	1.3	45	1.0	3A
									0				3	3	3					0	4	0.1	1	0.0	3B
				2					2					0	2					0	2	0.0	7	0.2	3C
		4	2						6		3			3	9					0	12	0.3	3	0.1	4 Unspecified
									0	7			1	8	8			1		1	14	0.3	20	0.4	4A
									0				2	2	2					0	3	0.1	10	0.2	4B
								1	1		1		2	3	4					0	5	0.1	6	0.1	5
		17		2					19	15	7		23	45	64	2		1		3	83	1.8	73	1.6	6
2									2					0	2					0	2	0.0	1	0.0	Variant Y
9	14	28	4	11	1	3	7	7	84	82	34	2	106	224	308	2	347	12	0	361	962	20.6	735	16.2	Total
																									S. BOYDII
									0					0	0		33			33	34	0.7	15	0.3	Unspecified
									0				1	1	1					0	1	0.0	2	0.0	1
									0				3	3	3					0	4	0.1	10	0.2	2
									0				1	1	1					0	1	0.0			3
									0					0	0					0	1	0.0	1	0.0	5
									0				1	1	1					0	1	0.0			6
									0				3	3	3					0	5	0.1	4	0.1	10
0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9	0	33	0	0	33	47	1.0	32	0.7	Total
25	13	90	143	88	4	80	18	93	554	50	14	10	137	211	765	2	232	17		251	3533	75.7	3666	80.6	***S. SONNEI***
									0			1	1	2	2		53			53	83	1.8	69	1.5	Unknown
34	27	118	147	99	5	83	25	100	638	133	49	13	258	453	1091	4	680	29	0	713	4666		4546		TOTAL

Table II

Relative Frequencies of Shigella Serotypes,
First and Second Quarters 1974*

Serotypes	Number Reported	Calculated Number *	Calculated Percent*	Rank
A. *S. dysenteriae*				
Unspecified	40	19	.21	15
1	9	40	.43	9
2	19	15	.16	16
3	7	2	.02	22
4	1	2	.02	22
7	1			
B. *S. flexneri*				
Unspecified	814			
1 Unspecified	46			
1a	26	82	.89	8
1b	50	157	1.70	5
2 Unspecified	137			
2a	188	600	6.51	2
2b	29	93	1.01	6
3 Unspecified	54			
3a	106	301	3.27	4
3b	5	14	.15	17
3c	9	26	.28	12
4 Unspecified	15			
4a	34	88	.95	7
4b	13	34	.37	11
5	11	22	.24	14
6	156	305	3.31	3
Varient X	1	2	.02	22
Varient Y	3	6	.07	19
C. *S. boydii*				
Unspecified	49			
1	3	8	.09	18
2	14	38	.41	10
3	1	3	.03	21
5	2	5	.05	20
6	1	3	.03	21
10	9	24	.26	13
D. *S. sonnei*	7199	7326	79.50	1
Unknown	160			
Total	9212	9215	99.98	

*Calculated number is derived by distributing the isolates not serotyped in the same proportion as the distribution of the serotyped isolates.

Table III

Shigella Serotypes Isolated From Patients in Mental Institutions, by State, First and Second Quarters 1974*

	Unspecified	S. dysenteriae 2	S. flexneri Unspecified	S. flexneri 1 Unspecified	S. flexneri 2 Unspecified	S. flexneri 2a	S. flexneri 3 Unspecified	S. flexneri 3a	S. flexneri 3c	S. flexneri 4a	S. flexneri 4b	S. flexneri 5	S. flexneri 6	S. sonnei	Total
Alabama	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
Florida	0	0	0	0	0	0	0	0	0	0	0	0	17	4	21
Georgia	0	0	0	1	7	0	0	0	0	0	0	0	0	3	11
Illinois	0	3	0	0	0	4	0	3	0	0	0	1	2	7	20
Kansas	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Louisiana	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28
Massachusetts	0	0	0	0	0	0	0	0	2	1	4	0	0	0	7
Michigan	0	0	0	0	0	10	0	7	0	0	0	0	0	2	19
Minnesota	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18
Mississippi	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
New Jersey	0	0	0	0	0	0	1	0	0	0	0	0	0	49	50
North Carolina	0	0	0	0	3	0	0	0	0	0	0	0	0	5	8
Pennsylvania	0	0	0	0	0	0	0	0	0	0	0	0	0	31	31
South Carolina	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Utah	0	0	0	0	72	0	0	0	0	1	0	0	0	0	73
Vermont	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Virginia	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Washington	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
Wisconsin	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18
Total	1	3	1	2	82	14	1	10	2	2	4	1	20	171	314

*California not included

Table IV

Shigella Isolations from Non-human Sources,
First and Second Quarters, 1974

Serotype	Number	Source	State
S. dysenteriae	1	primate	Texas
S. flexneri	1	monkey	Wisconsin
S. flexneri 2	9	monkey	Maryland
	2	primate	Maryland
	1	rhesus monkey	New Mexico
S. flexneri 2a	4	stumptail monkey	Connecticut
	1	monkey	Illinois
	1	gorilla	Texas
S. flexneri 3	1	monkey	Connecticut
	1	monkey	Georgia
	1	monkey	Maryland
S. flexneri 4	10	monkey	Georgia
	1	monkey	Maryland
S. flexneri 4a	1	stumptail monkey	Connecticut
	1	monkey	Illinois
S. flexneri 4b	1	m. mulatta	Hawaii
	1	monkey	Illinois
S. flexneri 5	1	gorilla	Illinois
	1	baboon	Texas
S. sonnei	1	primate	Texas

STATE EPIDEMIOLOGISTS AND STATE LABORATORY DIRECTORS

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

STATE	*STATE EPIDEMIOLOGIST*	*STATE LABORATORY DIRECTOR*
Alabama	Frederick S. Wolf, M.D.	Thomas S. Hosty, Ph.D.
Alaska	Donald K. Freedman, M.D.	Frank P. Pauls, Dr.P.H.
Arizona	Philip M. Hotchkiss, D.V.M.	H. Gilbert Crecelius, Ph.D.
Arkansas	Andrew G. Dean, M.D., Acting	Robert T. Howell, Dr.P.H.
California	James Chin, M.D.	John M. Heslep, Ph.D.
Colorado	Thomas M. Vernon, Jr., M.D.	C.D. McGuire, Ph.D.
Connecticut	James C. Hart, M.D.	William W. Ullmann, Ph.D.
Delaware	Ernest S. Tierkel, V.M.D.	Mahadeo P. Verma, Ph.D.
District of Columbia	John R. Pate, M.D.	Alton Shields, Dr.P.H.
Florida	Chester L. Nayfield, M.D.	Nathan J. Schneider, Ph.D.
Georgia	John E. McCroan, Ph.D.	Earl E. Long, M.S.
Hawaii	Ned Wiebenga, M.D.	Albert I. Oda
Idaho	John A. Mather, M.D.	D. W. Brock, Dr.P.H.
Illinois	Byron J. Francis, M.D.	Richard Morrissey, M.P.H.
Indiana	Richard D. Telle, M.D.	Josephine Van Fleet, M.D.
Iowa	Charles A. Herron, M.D.	W. J. Hausler, Jr., Ph.D.
Kansas	Don E. Wilcox, M.D.	Nicholas D. Duffett, Ph.D.
Kentucky	Calixto Hernandez, M.D.	B. F. Brown, M.D.
Louisiana	Charles T. Caraway, D.V.M.	George H. Hauser, M.D.
Maine	Peter J. Leadley, M.D.	Charles Okey, Ph.D.
Maryland	Lawrence B. Schonberger, M.D., Acting	Robert L. Cavenaugh, M.D.
Massachusetts	Nicholas J. Fiumara, M.D.	Morton A. Madoff, M.D.
Michigan	Norman S. Hayner, M.D.	Kenneth R. Wilcox, Jr., M.D.
Minnesota	Barry S. Levy, M.D., Acting	Henry Bauer, Ph.D.
Mississippi	Durward L. Blakey, M.D.	R. H. Andrews, M.S.
Missouri	H. Denny Donnell, Jr., M.D.	Elmer Spurrier, Dr.P.H.
Montana	Martin D. Skinner, M.D.	David B. Lackman, Ph.D.
Nebraska	Paul A. Stoesz, M.D.	Henry McConnell, Dr.P.H.
Nevada	William M. Edwards, M.D.	Paul Fugazzotto, Ph.D.
New Hampshire	Vladas Kaupas, M.D.	Robert A. Miliner, Dr.P.H.
New Jersey	Ronald Altman, M.D.	Martin Goldfield, M.D.
New Mexico	Charles F. von Reyn, M.D., Acting	Larry Gordon
New York State	Donald O. Lyman, M.D., Acting	Donald J. Dean, D.V.M.
New York City	John S. Marr, M.D.	Paul S. May, Ph.D.
North Carolina	Martin P. Hines, D.V.M.	Mrs. Mildred A. Kerbaugh
North Dakota	Kenneth Mosser	C. Patton Steele, B.S.
Ohio	Thomas Halpin, M.D.	Charles C. Croft, Sc.D.
Oklahoma	Stanley Ferguson, Ph.D.	William R. Schmieding, Ph.D.
Oregon	John A. Googins, M.D.	Gatlin R. Brandon, M.P.H.
Pennsylvania	W. D. Schrack, Jr., M.D.	James E. Prier, Ph.D.
Puerto Rico	Alba, Iris Báez de López	Alba, Iris Báez de López
Rhode Island	Michael P. Hudgins, M.D., Acting	Raymond G. Lundgren, Ph.D.
South Carolina	William B. Gamble, M.D.	Arthur F. DiSalvo, M.D.
South Dakota	Robert S. Westaby, M.D.	B. E. Diamond, M.S.
Tennessee	Robert H. Hutcheson, Jr., M.D.	M. Sam Sudman, Dr.P.H.
Texas	M. S. Dickerson, M.D.	Charles Sweet, Dr.P.H.
Utah	Taira Fukushima, M.D.	Russell S. Fraser, M.S.
Vermont	John Long, D.D.S.	Dymitry Pomar, D.V.M.
Virginia	Robert S. Jackson, M.D.	Frank W. Lambert, Ph.D.
Washington	Thieu Nghiem, M.D.	Jack Allard, Ph.D.
West Virginia	William L. Cooke, M.D.	John W. Brough, Dr.P.H.
Wisconsin	H. Grant Skinner, M.S.	S. L. Inhorn, M.D.
Wyoming	Herman S. Parish, M.D.	Donald T. Lee, Dr.P.H.