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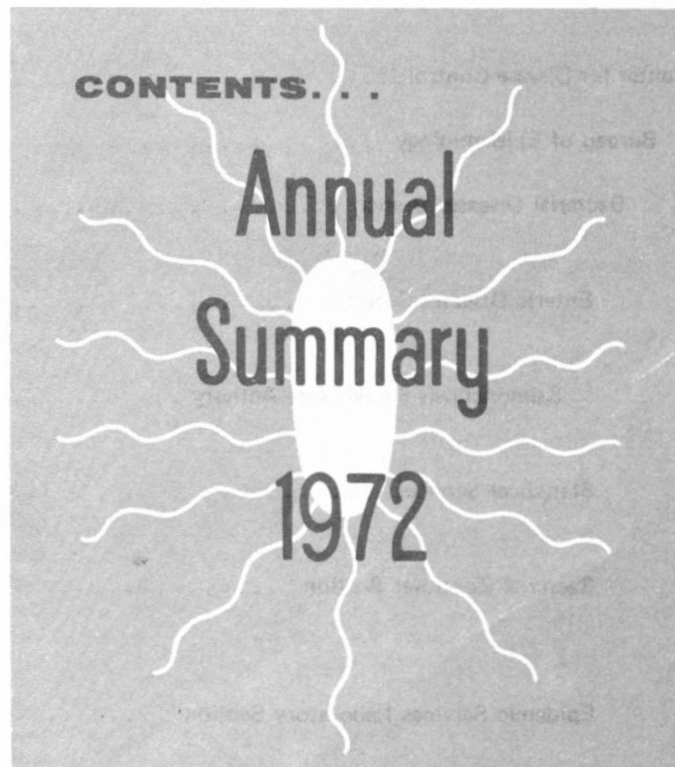
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CENTER FOR DISEASE CONTROL

SALMONELLA

SURVEILLANCE



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

PREFACE

Summarized in this report is information received from state and city health departments, university and hospital laboratories, the U.S. Food and Drug Administration, and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address:

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

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Center for Disease Control	David J. Sencer, M.D., Director
Bureau of Epidemiology	Philip S. Brachman, M.D., Director
Bacterial Diseases Branch	John V. Bennett, M.D., Chief Eugene J. Gangarosa, M.D., Deputy Chief
Enteric Diseases Section	William H. Barker, Jr., M.D., Chief Matthew S. Loewenstein, M.D.*
Salmonellosis Surveillance Activity	William B. Baine, M.D. Peter A. Rice, M.D.*
Statistical Services	Stanley M. Martin, M.S. Robert A. Pollard, Jr., M.S.
Bacterial Zoonoses Section	Arnold F. Kaufmann, D.V.M., Chief Grace W. McConnell, V.M.D. Marshall D. Fox, D.V.M.
Epidemic Services Laboratory Section	George K. Morris, Ph.D., Chief Donald C. Mackel, M.S., Deputy Chief
Office of Veterinary Public Health Services	Richard L. Parker, D.V.M., Chief

*Through June 1972

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I. SUMMARY

In 1972, 26,110 isolations of salmonella from humans were reported, representing a 1.6% increase over the 25,694 reported in 1971, and a 7.8% increase over the 24,216 reported in 1970. Salmonella typhimurium (including S. typhimurium var. copenhagen), as in previous years, was the most common serotype, accounting for 25.8% of all reported isolations.

A total of 2,318 recoveries of salmonella from nonhuman sources were reported in 1971, a decrease of 60.3% from 1971, and a decrease of 80.1% from 1970.

II. INTRODUCTION AND BACKGROUND

This report summarizes the results of the 11th year of the Salmonellosis Surveillance Activity established jointly by the Center for Disease Control and the Association of State and Territorial Epidemiologists and Laboratory Directors.

The Salmonellosis Surveillance Activity began at CDC following a report from Canada concerning S. thompson gastroenteritis associated with commercial cake mixes in November 1961. This report led to investigations of S. thompson isolations referred to the Enteric Bacteriology Laboratory of CDC. Success in associating these isolations with commercially distributed eggs led the Center to initiate surveillance of salmonellosis in a few selected states in April 1962. In January 1963 surveillance was expanded to include the entire United States. The aim of the Salmonellosis Surveillance Activity has been a reporting system that would enable definition of endemic patterns of salmonellosis in this country, detection of epidemics, particularly those with interstate ramifications, and monitoring of control efforts.

III. MATERIALS AND METHODS

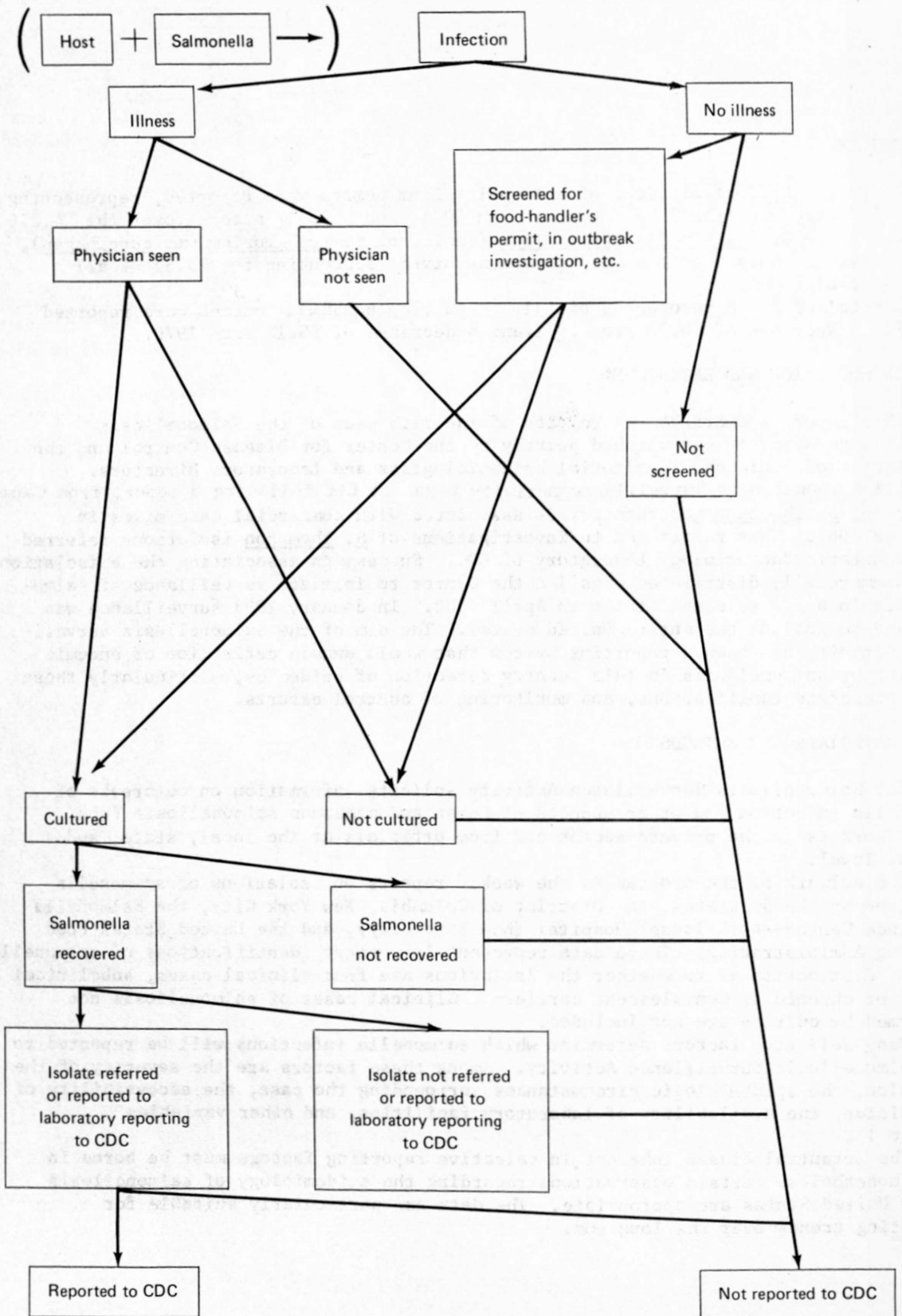
The Salmonellosis Surveillance Activity solicits information on outbreaks of salmonella infection and other aspects of human and nonhuman salmonellosis from health workers in the private sector and from officials at the local, state, and federal level.

The bulwark of the program is the weekly reports on isolations of salmonella submitted by the 50 states, the District of Columbia, New York City, the Salmonella Reference Center--Beth Israel Hospital (New York City), and the United States Food and Drug Administration. These data represent laboratory identifications of salmonella, without distinction as to whether the isolations are from clinical cases, subclinical cases, or chronic or convalescent carriers. Clinical cases of salmonellosis not confirmed by culture are not included.

Many selective factors determine which salmonella infections will be reported to the Salmonellosis Surveillance Activity. Among these factors are the severity of the infection, the epidemiologic circumstances surrounding the case, the accessibility of a physician, the availability of laboratory facilities, and other variables (Figure 1).

The potential biases inherent in selective reporting factors must be borne in mind; nonetheless certain observations regarding the epidemiology of salmonellosis in the United States are appropriate. The data are particularly suitable for evaluating trends over the long run.

figure 1 Selection Factors in Laboratory-Based Salmonella Reporting



IV. REPORTS FROM THE STATES

A. Human

Serotype Frequency

Isolations representing a total of 189 different salmonella serotypes and varieties were reported in 1972, compared with 177 in 1971 (Tables I and II). These 189 represent approximately 11% of the more than 1,700 known salmonella serotypes and variants.

The 10 most frequently reported serotypes appear in the table below. These 10 serotypes accounted for 17,251 (66.1%) of the 26,110 isolations reported in 1972. Of these 10 serotypes, S. oranienburg showed the greatest increase, with a rise of 50.7% in the number of isolations reported since 1971. S. derby, S. oranienburg, and S. javiana were the serotypes new to the list since last year. This table also demonstrates the close correlation between human and nonhuman sources of salmonella, with 5 serotypes appearing in both categories. The similarities reflect the importance of the nonhuman reservoirs of salmonella in the epidemiology of human salmonellosis.

The 10 Most Frequently Isolated Serotypes from Human and Nonhuman Sources--1972

HUMAN				NONHUMAN		
Serotype	Number	Percent	Rank	Serotype	Number	Percent
			Last Year			
1 <u>typhimurium*</u>	6,738	25.8	1	<u>typhimurium*</u>	323	13.9
2 <u>newport</u>	2,201	8.4	3	<u>oranienburg</u>	95	4.1
3 <u>enteritidis</u>	1,690	6.5	2	<u>senftenberg</u>	88	3.8
4 <u>infantis</u>	1,657	6.3	5	<u>saint-paul</u>	80	3.5
5 <u>heidelberg</u>	1,465	5.6	4	<u>newport</u>	78	3.4
6 <u>saint-paul</u>	1,013	3.9	6	<u>anatum</u>	73	3.1
7 <u>thompson</u>	675	2.6	7	<u>montevideo</u>	69	3.0
8 <u>derby</u>	628	2.4	11	<u>eimsbuettel</u>	67	2.9
9 <u>oranienburg</u>	621	2.4	14	<u>derby</u>	65	2.8
10 <u>javiana</u>	563	2.2	12	<u>heidelberg</u>	65	2.8
Total	17,251	66.1		Total	1,003	43.3
Total (all serotypes)	26,110	100.0		Total (all serotypes)	2,318	100.0
*Includes var. <u>copenhagen</u>	278	1.1		*Includes var. <u>copenhagen</u>	18	0.8

Uncommon and Rare Serotypes

In 1972, 1 to 5 isolations were reported of each of 99 uncommon or rare serotypes, for a total of 177 isolations. These 177 represented 0.68% of the 26,110 isolations reported in 1972.

Incidence

The annual incidence of reported isolations of salmonella has remained approximately constant since 1963, the first full year of operation of the present salmonella surveillance system (Figure 2).

The seasonal distribution of salmonella isolations from humans for the period 1966-1972 showed a consistent pattern, with the greatest number of isolations being reported in July through November and the fewest in February through April (Figure 3).

Figure 2 REPORTED HUMAN AND NONHUMAN ISOLATIONS OF SALMONELLAE
UNITED STATES, 1963 - 1972

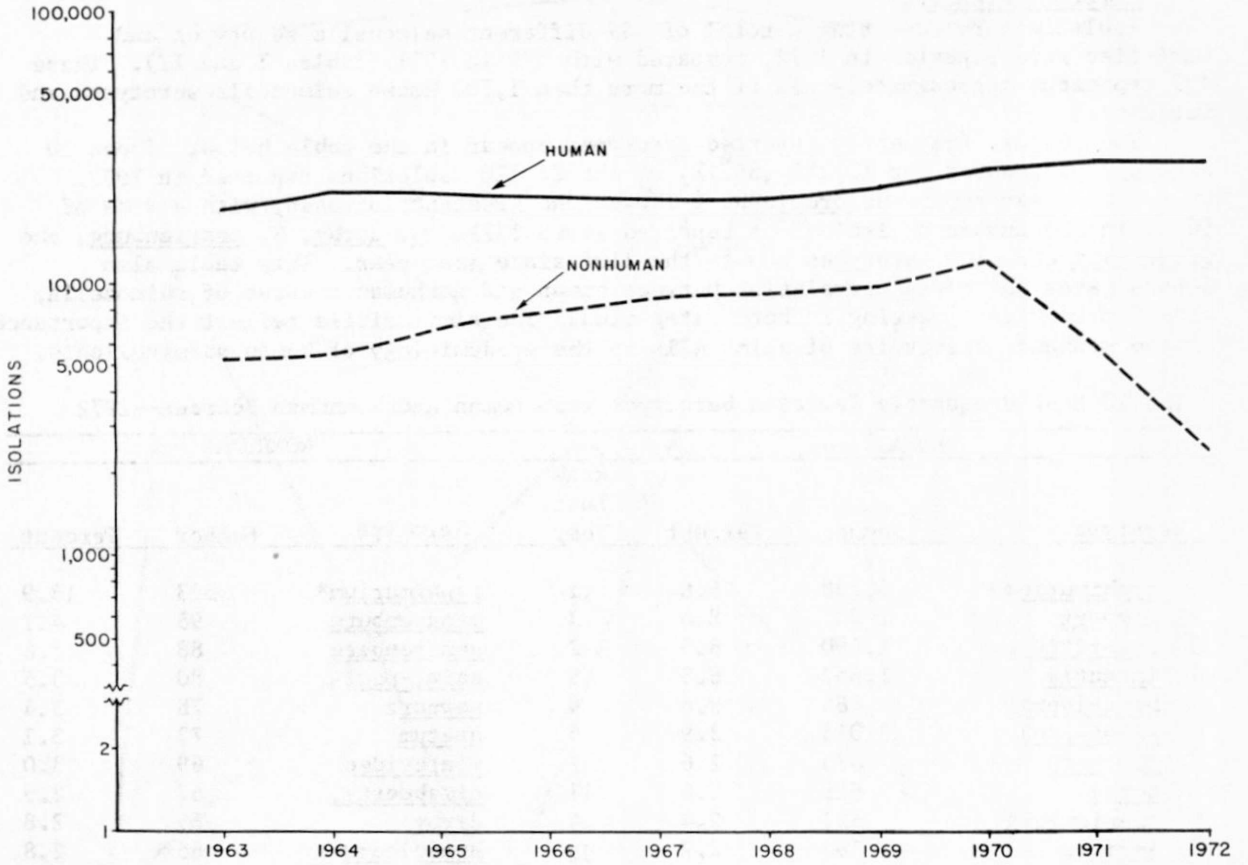
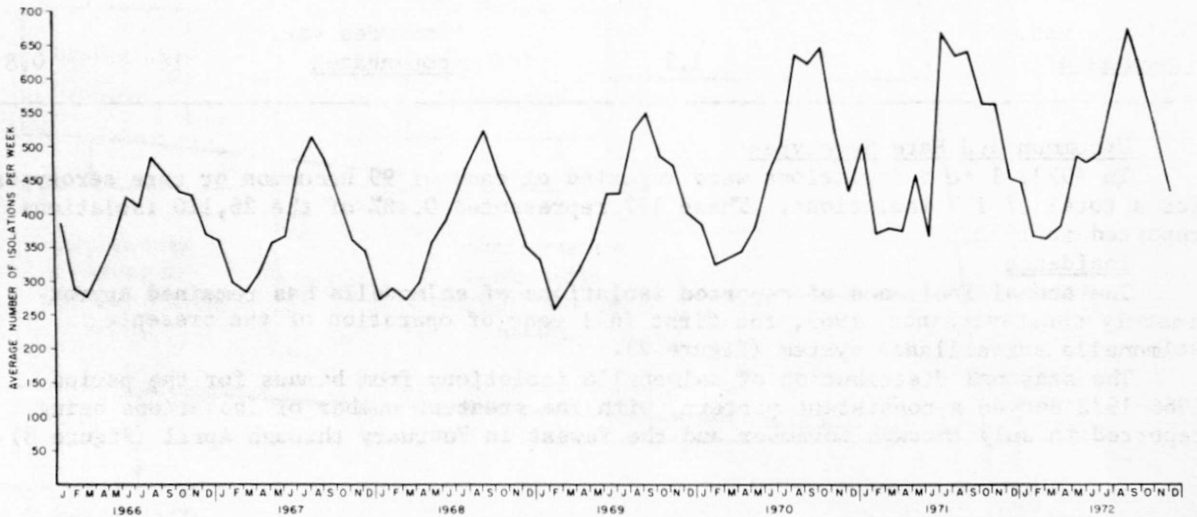


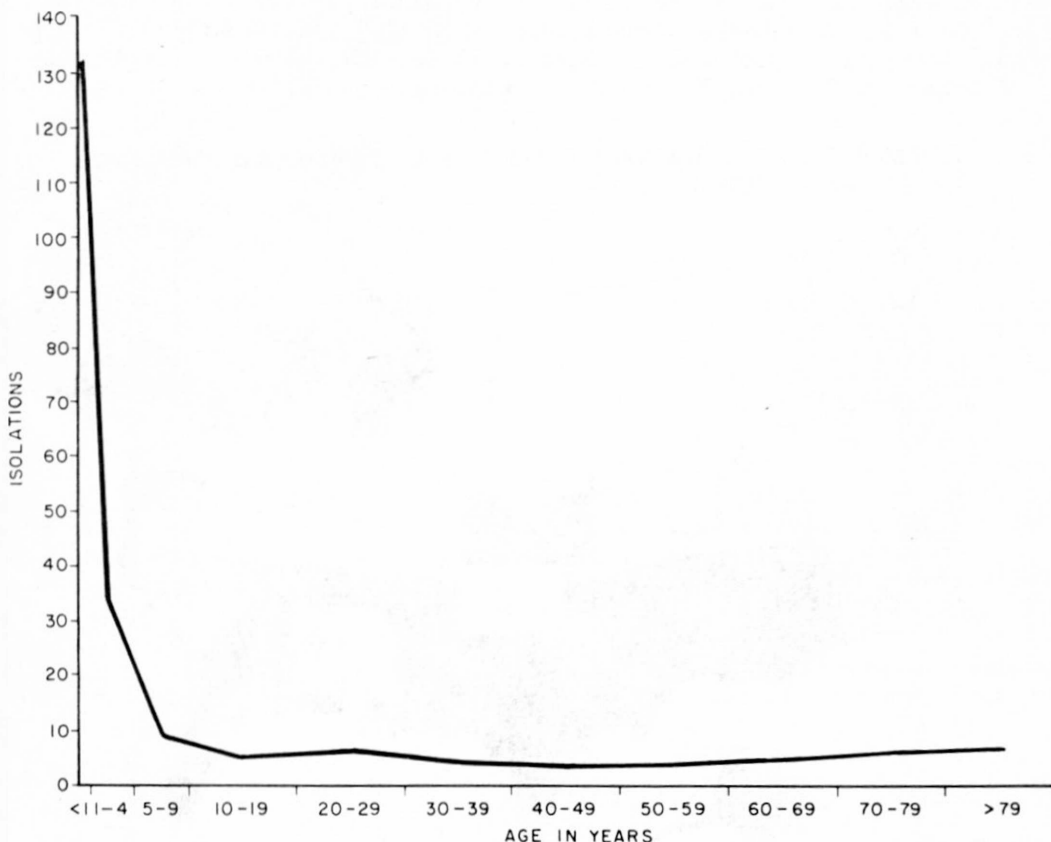
Figure 3 REPORTED HUMAN ISOLATIONS OF SALMONELLAE, UNITED STATES, 1966-1972



Age and Sex Distribution

Age of the infected person was reported for 19,225 isolations in 1972; 13,043 (67.8%) were from persons less than 20 years of age (Figure 4 and Table IV). This was a decrease of 1.1% for this age group compared with 1971. In 1972 the number of isolations per 100,000 population in each age group closely approximated that for the years 1963 through 1972.

Fig. 4 RATE OF HUMAN ISOLATIONS OF SALMONELLAE, BY AGE GROUP, 1972



SOURCE: CURRENT POPULATION REPORTS, SERIES P 25, NO. 490, SEPTEMBER 1972

In 1972 sex was specified for 25,760 persons from whom salmonella was isolated; 12,904 (50.1%) were male, and 12,856 (49.9%) were female. The following table presents the age-sex distribution of the 19,191 persons from whom salmonella was isolated and on whom data indicating sex were reported.

<u>Age (Years)</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	
Less than 20	6,971	53.6	6,041	46.4	13,012
20 and over	2,554	41.3	3,625	58.7	6,179
Total	9,525	49.6	9,666	50.4	19,191

Although there was no significant overall sex predilection, it is interesting to note that males accounted for the greater proportion of persons under 20 years of age, while females accounted for the greater proportion of those 20 and older ($p < 0.00002$).

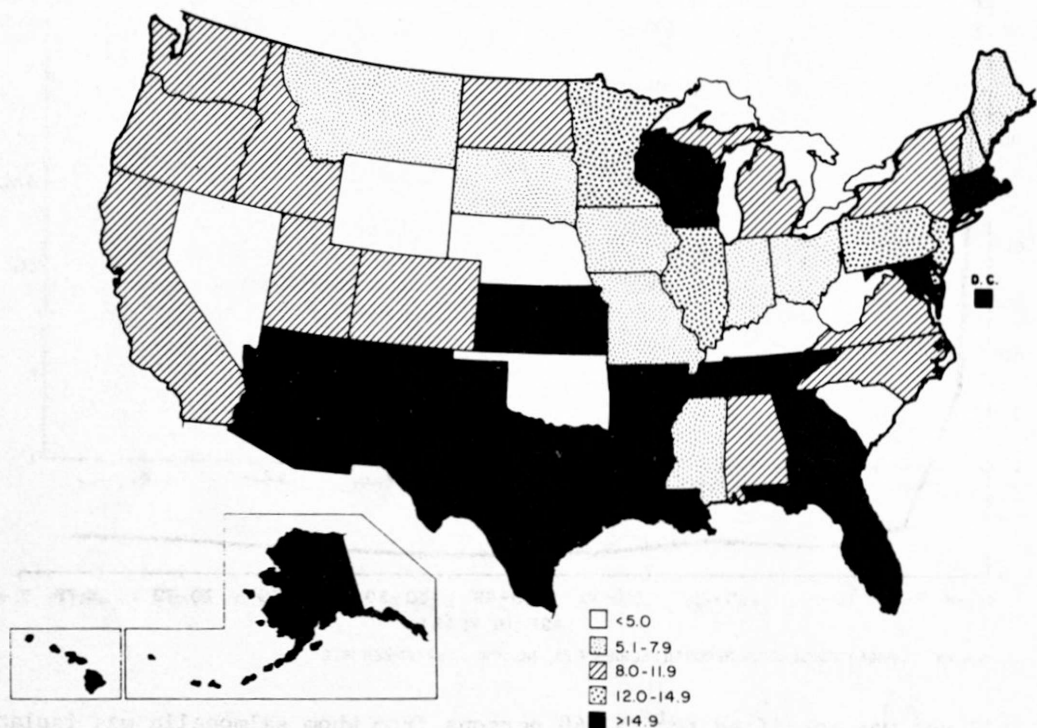
A similar age-sex distribution of persons with reported infections was seen in the previous 9 years and has been noted in other enteric bacterial diseases. This phenomenon is thought to be related to inherently greater susceptibility in males, particularly in infancy, and to disproportionately high exposure of adult females, who are most apt to come into close contact with sick children.

Geographic Patterns

California reported 2,396 salmonella isolations in 1972, more than any other state. New York, Texas, Florida, Illinois, and Pennsylvania also reported over 1,000 isolations each.

A mean of 12.54 salmonella isolations was reported per 100,000 population nationwide. Hawaii reported the highest rate, with 77.9 isolations per 100,000 inhabitants. Other areas with rates exceeding 20 per 100,000 were Alaska, the District of Columbia, Florida, New Mexico, Louisiana, Kansas, and Arkansas (Figure 5).

Fig. 5 NUMBER OF HUMAN ISOLATIONS OF SALMONELLA PER 100,000 POPULATION IN THE UNITED STATES, 1972



Tables I and II show the geographic distribution of serotypes of reported isolations. Several serotypes continued to exhibit regional patterns of distribution that have been remarkably consistent in recent years. For example, Hawaii, which accounted for only 2.4% of the reported isolations in the United States, reported 97.3% (109 of 112) of all S. weltevreden isolations. Four southern states, Florida, Texas, Louisiana, and Georgia, accounted for 75.0% of the total (563) number of S. javiana isolations reported. Twenty-six of 31 reported S. dublin isolations came from California, and Texas was the source of 9 of 11 reported isolations of S. saphra. Appropriately, 61 (69%) of the 88 S. miami isolations and 13 (76%) of the 17 S. tallahassee isolations were reported from Florida, and 16 (94%) of 17 S. atlanta isolations were made in Georgia. Georgia and Louisiana, however, reported the most S. mississippi isolations, 52 (49%) of 107.

Typhoid--Cases and Carriers

A total of 535 isolations of *S. typhi* were reported in 1972, Of 183 for which the clinical status was reported, 85 were from patients with typhoid fever and 98 from asymptomatic carriers; the clinical classification was not reported for the remaining 352. Typhoid fever patients were equally distributed between the sexes (M:F=1.2:1). Females predominated among reported carriers, however (M:F=0.36:1, p<0.0001). Typhoid fever patients were predominately young; 78% of those for whom age data were provided were under 30. In contrast, 80% of the reported carriers of known age were 50 or older.

Although the total number of human isolations of salmonella reported annually to CDC has remained approximately constant since 1963, the number of *S. typhi* isolations has gradually declined, as illustrated by this table:

Salmonella typhi Isolations
Reported to CDC

	Year	Cases	+	Carriers	+	Unknown Status	=	Total
<u>Outbreaks</u>	1963	-	+	-	+	-	=	706
In 1972, 67 outbreaks involving at least 2,043 persons were reported to the Salmonella Surveillance Activity (see table on pages 9-10). Of 31 foodborne outbreak, 26 were traced to specific contaminated foods, including 4 caused by homemade ice cream, 3 caused by beef, 3 caused by baked goods, and 1 each caused by cole slaw cross-contaminated from raw chicken, deviled eggs, head cheese, bread dressing, gravy, hot dogs, salmon, and a proprietary protein supplement. Multiple foods were found contaminated in 3 outbreaks. In the other 10 outbreaks, the specific food vehicle could not be conclusively identified, however, turkey, poultry, a pudding, ham possibly cross-contaminated from chicken and turkey, and pork roast and cornbread dressing were each suspected as the responsible vehicle in 5 outbreaks.	1964	-	+	-	+	-	=	703
	1965	-	+	-	+	-	=	719
	1966	-	+	-	+	-	=	654
	1967	95	+	207	+	388	=	690
	1968	109	+	151	+	349	=	609
	1969	92	+	158	+	299	=	549
	1970	108	+	147	+	278	=	533
	1971	138	+	131	+	314	=	583
	1972	85	+	98	+	352	=	535

1973 680
74 582
75 551
76 529
77 549

Person-to-person transmission was the primary mode of spread in 9 reported outbreaks involving 113 cases; all but 2 such outbreaks occurred in hospitals. The mode of transmission was not established in 19 outbreaks.

Although the etiology of each of the 67 outbreaks was confirmed bacteriologically, many of the 2,043 involved persons were never cultured and are not represented in the national surveillance data. Thus only a very small fraction of the 26,110 reported human isolations of salmonella in 1972 were from outbreaks reported to CDC, an observation compatible with the belief that many outbreaks are never investigated or even recognized.

Reported outbreaks in recent years have shown a tendency to cluster in the summer months (Figure 6). Eighteen of 50 salmonellosis outbreaks occurring in 1970, 19 of 42 in 1971, and 27 of 71 (including 10 not reported until 1973) in 1972 occurred in June, July, or August, a disproportionately high (p<0.001) percentage. It has been hypothesized that the apparent increase in the reported number of outbreaks each summer may reflect an upsurge in salmonellosis attributable to rapid multiplication of the organism in unrefrigerated foods during hot weather.

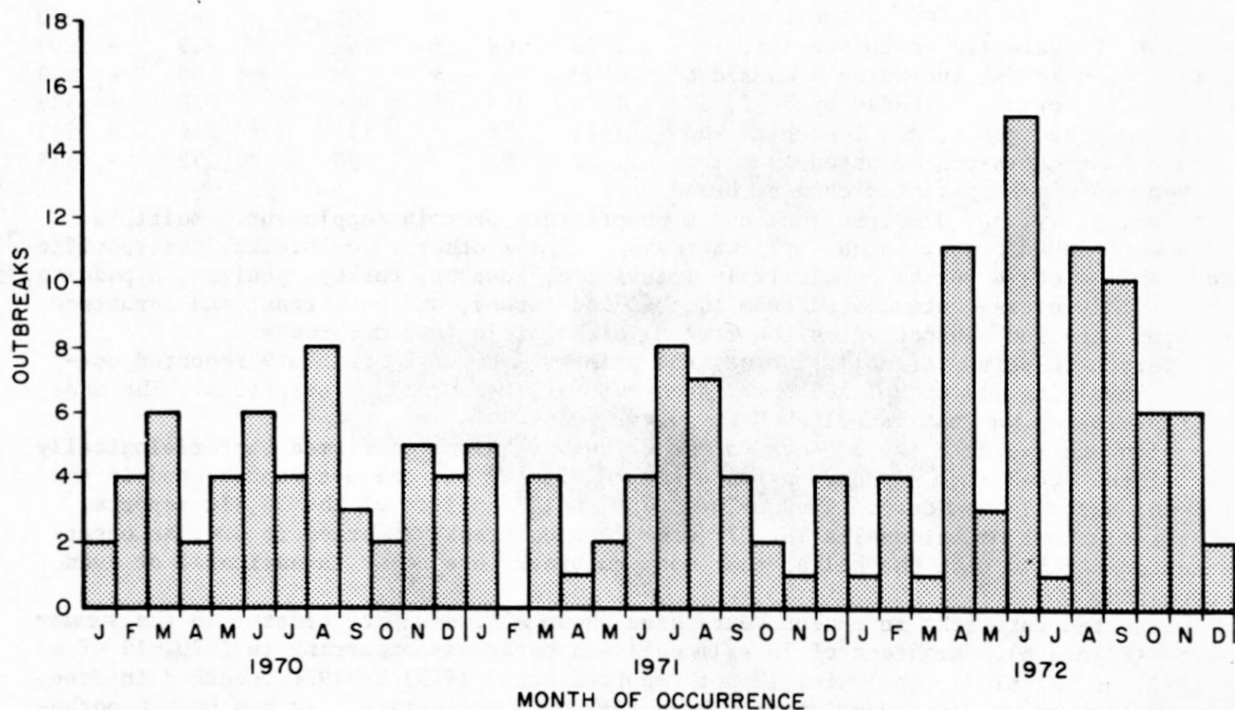
Contaminated well water was incriminated as the vehicle of infection in an outbreak of typhoid fever that involved 4 persons. Six typhoid outbreaks were reported, including 1 outbreak resulting from a laboratory accident. None of the 6 typhoid outbreaks reported to CDC in 1972 was associated with foreign travel.

Mortality

The assessment of mortality rates in salmonellosis is elusive. The Weekly Salmonella Surveillance Report form does not specifically request that isolations from fatal cases be explicitly designated. Furthermore, reporting officials are not provided information concerning the clinical status of everyone from whom salmonella is recovered. In addition, fatalities associated with salmonella infection often

occur in patients with severe underlying illness, and it is difficult to gauge the role of salmonella infection in the final outcome. Finally, cases in which isolates are reported prior to death would not be reported as associated with fatalities. One estimate of the case-fatality ratio of clinical salmonellosis can be obtained by studying investigated outbreaks of salmonellosis. In the 67 outbreaks reported in 1972, 19 deaths occurred in 2,043 patients, representing a case fatality ratio of 0.93%. In the years 1962-1971, 109 deaths were reported in 25,404 persons involved in 331 outbreaks, for a case fatality ratio of 0.43%.

Fig 6 SEASONAL VARIATION IN SALMONELLOSIS OUTBREAKS REPORTED TO CDC, 1970-1972



INCLUDES 1972 OUTBREAKS NOT REPORTED TO CDC UNTIL 1973

Salmonella Outbreaks Reported to CDC in 1972*

This table lists investigated outbreaks of salmonellosis reported to CDC from various sources. Definitions of cases are not uniform from report to report. This listing should be considered neither comprehensive nor representative of all outbreaks in the United States as most outbreaks are probably not reported to CDC.

Mode of transmission	Persons ill	Setting	State	Serotype
Cole slaw cross-contaminated from chicken	4	Drive-in restaurant	Arkansas	<u>S. agona</u>
?Turkey	14	Restaurant	Alaska	<u>S. san-diego</u>
?Poultry	69	Retarded children's home	California	<u>S. typhimurium</u>
Chicken salad, gelatin, salad	44		Pennsylvania	<u>S. enteritidis</u>
Deviled eggs	9	Church dinner	North Carolina	<u>S. newport</u>
Lemon pie made from contaminated eggs	5		Minnesota	<u>S. typhimurium</u>
Bakery cakes	>150	2 parties	New Jersey	<u>S. typhimurium</u>
Homemade coconut cream pie	31		Pennsylvania	<u>S. thompson</u>
Homemade ice cream made from contaminated eggs	12	Party	Kansas	<u>S. infantis</u>
Homemade ice cream made from cracked eggs	7		Pennsylvania	<u>S. braenderup</u>
Homemade ice cream	45	Church supper	Virginia	<u>S. typhimurium</u>
Homemade ice cream	10	Private household	Arkansas	<u>S. montevideo</u>
?Improperly cooked pudding	240	Junior high school	Washington	<u>S. typhimurium</u>
?Ham ?cross-contaminated from chicken and turkey	41	YMCA camp	California	<u>S. enteritidis</u>
?Pork roast, cornbread dressing	168	School	Louisiana	<u>S. anatum</u>
Head cheese	6	Commercially produced sausage	New Jersey	<u>S. agona, S. anatum, S. tennessee, & S. infantis</u>
Filipino food (goat, pork liver, pork, chicken)	42	Luau	Hawaii	<u>S. newport</u>
Bread dressing	>38	Restaurant	Illinois	<u>S. infantis</u>
Beef	58	Luau	Hawaii	<u>S. oranienburg</u>
Beef	~250	Widely scattered cases	Michigan, Minnesota, Wisconsin	<u>S. typhimurium</u>
Roast beef	8	Delicatessen	New Jersey	<u>S. chester</u>
Beef, beans	>191	Football pregame barbecue	Texas	<u>S. newport, S. derby</u>
Gravy for steak	9	Restaurant	Oklahoma	<u>S. blockley</u>
Foot-long hot dogs with chili and onions	11	Restaurant	Kentucky	<u>S. chester</u>
Salmon	47	Funeral, wedding	Kansas	<u>S. newport</u>
Diet-all--proprietary protein supplement	4	School for retarded children	Texas	<u>S. minnesota</u>
Unidentified food	4	School cafeteria	California	<u>S. paratyphi B</u>
?Food	>17	Charter group returning from Mexico	Oregon	<u>S. enteritidis</u>

?Food	16
?Food	8
?Food, carriers	2
Well water contaminated by sewage from carriers house	4
Blood culture specimen	3
Pet ducklings	40-50
Turtle, ? person to person	2
Person to person	8
Person to person	1
Person to person	3
Person to person	12
Person to person	5
Person to person	14
Person to person	57
Person to person	3
Person to person	10
Carrier	7
Carrier	1
Carrier	1
Carrier	3
Not identified	5
Not identified	~ 75
Not identified	?
Not identified	8
Not identified	~ 150
Not identified	3
Not identified	6
Not identified	12
Not identified	2
Not identified	2
Not identified	1
Not identified	2
Not identified	1
Not identified	?
Not identified	10
Not identified	6
Not identified	9
Not identified	10
Not identified	7

*This listing shows outbreaks reported to CDC in outbreaks that were not reported until 1973. It occurring in 1972 reported in Foodborne Outbreak

Drug-abuse rehabilitation center	New Jersey	<u>S. java</u>
Restaurant	Florida	<u>S. infantis</u>
3 municipal institutions	Pennsylvania	<u>S. derby</u>
	Washington	<u>S. typhi</u>
Hospital laboratory	California	<u>S. typhi</u>
Private households	West Virginia	<u>S. enteritidis</u>
Private household	Virginia	<u>S. oranienburg</u>
Hospital	New Jersey	<u>S. typhimurium</u>
Hospital	New York	<u>Salmonella D</u>
Hospital nursery	New Jersey	<u>S. saint-paul</u>
Hospital nursery	New Jersey	<u>S. typhimurium</u>
Hospital nursery	North Carolina	<u>S. muenchen</u>
Hospital pediatric ward	Ohio	<u>S. indiana</u>
Hospital pediatric wards	Puerto Rico	<u>S. heidelberg</u>
Private household	Colorado	<u>S. blockley</u>
Trailer camp	Alaska	<u>Salmonella B</u>
Private household	Alabama	<u>S. typhi</u>
Private household	Florida	<u>S. typhi</u>
Private household	Hawaii	<u>S. typhi</u>
Private household	Massachusetts	<u>S. typhi</u>
Barbecue stand	Wisconsin	<u>S. thompson</u>
Catered dinner	Hawaii	<u>S. derby</u>
Citywide	Pennsylvania	<u>S. virchow</u>
Citywide	Utah	<u>S. derby</u>
Elks' Club meals	New York	<u>S. kottbus</u>
Hospital	Pennsylvania	<u>S. san-diego</u>
Home for babies awaiting adoption	Rhode Island	<u>S. paratyphi B</u>
Nursing home	Arkansas	<u>S. new-brunswick</u>
Private household	Colorado	<u>Salmonella B</u>
Private household	Iowa	<u>S. typhimurium</u>
Private household	Missouri	<u>S. newport</u>
Private household	New York	<u>Salmonella C₂</u>
Private household	Oregon	<u>S. manhattan</u>
Household on Indian reservation	Arizona	<u>S. derby</u>
Resort hotel	Rhode Island	<u>S. enteritidis</u>
Motel	Georgia	<u>S. typhimurium</u>
Nursing home	Maryland	<u>S. typhimurium</u>
	Illinois	<u>S. bareilly</u>
	Michigan	<u>S. infantis</u>

1972; it includes some outbreaks occurring in 1971 and omits some 1972 is thus not completely comparable to the listing of salmonella outbreaks in Annual Summary 1972.

B. Nonhuman

In 1972, 2,318 salmonella isolations from nonhuman sources were reported (Tables V, VI, VII, and VIII). This represents a 60.3% decrease from the 5,832 isolations reported in 1971. The number of nonhuman isolations increased each year from 1963 through 1970. In 1971 the United States Department of Agriculture began to scale down its cooperative state-federal salmonella program. The decreases in reported nonhuman isolations in 1971 and 1972 reflect exclusion of USDA reports from Salmonellosis Surveillance Activity data after October 1971. The sources of the nonhuman isolations are given in Tables VI, VII, and VIII.

Turkeys, chickens, and eggs and egg products accounted for 8.2% of all nonhuman isolations. Swine and cattle accounted for 14.9% of reported recoveries from nonhuman sources. Salmonella isolations from food for human consumption (excluding eggs and egg products) constituted another 11.8%.

Isolations from animal feedstuffs accounted for 32.6% of reported nonhuman isolations in 1972.

The 10 most common salmonella serotypes among reported isolations from nonhuman sources in 1972 are listed in the table on page 3. These 10 serotypes accounted for 43.3% of all nonhuman isolations.

Sources (Table VI)

Domestic Fowl and Their Products

In 1972, 125 isolations from domestic fowl and 64 isolations from eggs and egg products were reported. Eggs soiled by feces, rather than Grade A eggs, have been recognized as sources of salmonella contamination. S. californica was the most commonly reported serotype isolated from chickens, with 11 isolations (18% of the isolations from that source) and was followed by S. worthington with 10 (16%), S. pullorum with 9 (15%), and S. manhattan with 8 (13%).

The 6 serotypes most commonly reported as isolations from turkeys were S. sandiego with 22 isolations (34%), S. heidelberg with 13 isolations (20%), S. saint-paul with 5 isolations (8%), and S. anatum, S. reading, and S. typhimurium with 4 isolations (6%) each.

The 5 most common serotypes among the 64 isolations from eggs and egg products were S. saint-paul with 31 isolations (48%), S. cubana with 14 isolations (22%), and S. heidelberg with 7 isolations (11%), followed by 5 isolations (8%) each of S. braenderup and S. thompson.

Domestic Animals

In 1972 the serotypes most often reported among the 125 isolations from swine were S. cholerae-suis (including var. kunzendorf) with 51 recoveries (41%), S. derby with 37 (30%), S. typhimurium with 8 (6%), S. anatum with 7 (6%), and S. meleagridis with 5 (4%).

The 5 most commonly reported serotypes isolated from cattle in 1972 were S. typhimurium (including var. copenhagen) with 136 isolations (62%), S. dublin with 30 isolations (14%), S. newport with 12 isolations (5%), S. muenchen with 11 isolations (5%), and S. heidelberg with 8 isolations (4%).

Fish, Reptiles, and Their Environment

In 1972, there were 233 reported salmonella isolations from fish and reptiles and their environment. Turtles and turtle water, which accounted for all but 11 of these isolations, constituted a significant source of infection to children keeping these animals as pets. The most commonly isolated serotypes from turtles and their environment were S. java with 30 (14%), S. typhimurium (including var. copenhagen) with 27 (12%), S. newport with 17 (8%), and S. litchfield with 14 (6%).

Animal Feed and Feed Ingredients

In 1972, there were 756 salmonella isolations from animal feed and feed ingredients, compared with 1,081 in 1971. Of the 756 salmonella isolations, none was obtained from vegetable protein supplements. The most commonly reported serotypes isolated from animal feeds were S. eimsbuettel with 64 isolations (8%), S. senftenberg with 58 isolations (8%), S. montevideo with 48 isolations (6%), and S. kentucky with 39 isolations (5%).

V. SPECIAL REPORTS

A. Summary of Salmonella Isolations from Humans, 1965-1972

In the 7-year period 1966-1972, 318 different salmonella serotypes and varieties have been recovered from humans. A list of the reported serotypes with the numbers of isolations in each year is presented in Table IX.

Several interesting patterns are apparent. S. agona has continued to be reported with increasing frequency, with 524 isolations, an increase of 1,090% over the 44 in 1971. There were 29 isolations of S. virchow in 1972 compared with 21 in 1971, 4 in 1970, and not more than 7 in any of the previous 7 years. The decline in isolations of S. enteritidis continued with 1,690 in 1972, after 2,249 in 1971 and a peak of 2,504 in 1970.

Standard Tables I - IX

TABLE 1. COMMON SALMONELLAE REPORTED FROM HUMAN SOURCES DURING 1972

SEROTYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																																	
	NEW ENGLAND					MIDDLE ATLANTIC					EAST N. CENTRAL					WEST NORTH CENTRAL					SOUTH ATLANTIC													
	ME	NH	VI	MAS	RI	CON	NYA	NYB	NYC	NJ	PA	OH	IND	ILL	MIC	WIS	MIN	IOW	MO	ND	SD	NEB	KAN	DEL	MD	DC	VA	WVA	NC	SC	GA	FLA		
<i>anatum</i>	1			19	3	5		8	13	19	19	11	2	24	17	13							2	2	2		4				5	1	12	44
<i>bareilly</i>	1			2		4		3		1	3		3	16	3	3	2		1				1	1	1	3	2						1	6
<i>blockley</i>	4		1	16	3	10	1	19	45	33	39	18	8	36	11	8	4	3	9		2		5	1	13	10					9	4	11	16
<i>braenderup</i>			5	6	1	6		3	8	10	13	3		2	5	1	3	2	1				1		3						1		4	12
<i>bredeney</i>				7	1	3		3	5	9	9	4	1	24	8	12	2	1	4				2		9	1							12	16
<i>chester</i>				41		8			1	26	19		3	5			6		1	1					5	1								
<i>cholerae-suis v kun</i>									1				1	3	3																3	3	6	1
<i>cubana</i>				7	1	2		2		2	6	7		5	2	1			2						1	4					1	1	4	
<i>derby</i>			2	7		6	1	18	35	27	29	30	9	30	17	6	6			2			15	4	38	1	15	2	4		34	72		
<i>enteritidis</i>	7		2	82	16	44	4	89	122	50	145	83	22	242	72	57	19	22	21	3	2		62	4	73	2	37	22	57	7	32	37		
<i>give</i>				2				2		4	8	2	2	3	3	1			1						2					1	1	4		
<i>heidelberg</i>	3		1	35	7	18		25	34	65	76	32	39	123	75	32	13	12	21	2			28	1	78	2	30		31	3	57	98		
<i>indiana</i>						2		4	8	7	16	24	1	8	9	6								1	20	2			3	3	18	12		
<i>infantis</i>	5		6	75	9	36		21	66	57	78	48	26	117	66	29	15	14	28	6	2		107	4	56	2	50	4	43	3	58	109		
<i>java</i>	1			22	12	12		5	20	45	21	3	42	4	15	15	10	4	2				8		3				4		8	25		
<i>javana</i>	2		1	5		5			5	2	5	1	6	7	3		1	2		1			5	1	4					2	35	169		
<i>litchfield</i>	1		7	1	5		9	11	11	5	8	3	11	6					2				2	7		6		3		5	16			
<i>livingstone</i>			1									1		2		8							1			1			1	3				
<i>manhattan</i>			1	4		4		8	17	6	20	21	3	39	19	10		1	2				4	15	4	3	9	4	12	12				
<i>miami</i>					2			1		2		1			1											2				9		61		
<i>mississippi</i>														1	1														3	1	31	12		
<i>montevideo</i>	4		2	19	5	7		11	11	11	19	12	2	16	9	4	3	6	1	1			6	2	15		8		3	2	9	28		
<i>muenchen</i>	1		1	22		4		13	13	17	23			34	11	11	3		9				8	7	17		18		17	2	12	56		
<i>newington</i>				2		1		2	3		5			1	1				4						5	1				1	1			
<i>newport</i>	2		3	29	3	20		50	81	59	75	43	10	110	62	71	38	17	57	3	4		67	25	1	20	7	53	10	83	236			
<i>oranienburg</i>				16		6	1	7	16	18	27	26	5	22	19	18	8		11	2	1		5	3	14	7	10	3	25	33				
<i>panama</i>				6		5		3	7	6	7	3		11		9	2	1						2	3	1	1			4				
<i>paratyphi B</i>			1	13	4	1		5	5	1		36	9	2	30		4		1				1	4	10	3	4	4			1			
<i>reading</i>	3			10	1	4		1	3	4	2		2	5		2		1						1	5	5	1							
<i>saint-paul</i>	2		1	45	2	26		39	50	55	63	36	11	35	37	36	13	2	3	3			9	3	68	14	1	42	6	34	99			
<i>san-diego</i>			1	27				5	5	4	166			6	4	9	1						1	7	2				1	4	1			
<i>schwarzengrund</i>				2				1	1	2	1	1		3	3		3	1		1				1	1		1		2	2	1			
<i>senftenberg</i>				6		1		2	2	11	12	1		8	9	2	2	2	2		1		11	2	13		10		2	4	16			
<i>tennessee</i>						2		2		8	3	1		1	3	1							2									3		
<i>thompson</i>	3	1		52	3	14		22	21	18	37	6	8	53	27	15	12	2	2	2	2		9	17	2	12		4	2	23	37			
<i>typhi</i>				21	2	8	13	14	26	2	6	12	4	17	11	3	1		14			1	6	2	5	3	9	6	9	6	9	34		
<i>typhimurium</i>	14	2	9	217	31	199	1	155	241	294	293	143	125	432	257	356	290	81	124	22	33		98	20	177	12	199	10	129	8	191	264		
<i>typhimurium v cop</i>	2			45		20				34					35			7	2				7						2					
<i>weltevreden</i>																																		
<i>worthington</i>				1		1		1	1	1	2		1	3					2					1	1			4		4				
TOTAL	56	3	37	871	105	491	21	553	871	925	1,249	618	304	1,495	850	742	465	186	337	47	49	1	465	72	686	29	492	71	459	78	755	1,536		
ALL OTHER*	3	41	3	63	50	39	412	38	55	54	228	11	17	146	105	56	27	19	35	4	3	27	15	8	78	150	33	7	62	24	87	133		
TOTAL	59	44	40	934	155	530	433	591	926	979	1,477	629	321	1,641	955	798	492	205	372	51	52	28	480	80	764	179	525	78	521	102	842	1,669		

Note: NYA-New York, Albany; NYB-Beth Israel Hospital; NYC-New York City.

*See Table II.

TABLE I - Continued

GEOGRAPHIC DIVISION AND REPORTING CENTER																				1972 TOTAL	PERCENT OF 1972 TOTAL	1971 TOTAL	PERCENT OF 1971 TOTAL	SEROTYPE	
EAST S. CENTRAL				WEST S. CENTRAL				MOUNTAIN						PACIFIC											
KY	TEN	ALA	MIS	ARK	LA	OKL	TEX	MON	IDA	WYO	COL	NM	ARI	UTA	NEV	WAS	ORE	CAL	ALK	HAW					
1	2		2		25	2	40				2	10	3		5	1	44	2	4	373	1.4	309	1.2	<i>anatum</i>	
1	2		2	4	1	1	1			2	1	1			1		3		2	79	0.3	51	0.2	<i>bareilly</i>	
7	1	13	1	3	19		11				12		1		3		40		2	452	1.7	586	2.3	<i>blockley</i>	
1		4			4	1	12				1				1		17		1	132	0.5	126	0.5	<i>braenderup</i>	
1	2	2	1	1	21		17		1				4	1		1		16	1	6	208	0.8	191	0.7	<i>bredeney</i>
3	2				1	1											2	5			132	0.5	61	0.2	<i>chester</i>
2	2																				25	0.1	24	0.1	<i>cholerae-suis v kun</i>
					1	1	4					1	1				11	1			68	0.3	257	1.0	<i>cubana</i>
4	13	5	1		9	2	48				1	16	15	1	7		69		27	628	2.4	534	2.1	<i>derby</i>	
6	40	8	4	4	17	7	41	3	6		12	3	4		9	14	64	8	3	1,690	6.5	2,249	8.8	<i>enteritidis</i>	
13		4	1		12		14					8			1	2	15		2	95	0.4	86	0.3	<i>give</i>	
	52	25	4	22	42	4	77	1	6		4	35	7		25	22	168	3	14	1,465	5.6	1,660	6.5	<i>heidelberg</i>	
	4	1			4													1		154	0.6	107	0.4	<i>indiana</i>	
5	34	37	1	9	48	14	84	1	11		15	31	5		22	11	159	3	27	1,657	6.3	1,421	5.5	<i>infantis</i>	
8	25	17	1		26		1	5	2		10	2	2			2	71	6	5	464	1.8	584	2.3	<i>java</i>	
1	5	10	4	29	68	4	150		2		1	13				5	9			563	2.2	516	2.0	<i>javiana</i>	
	3	3			11		12					2	1				20		2	173	0.7	161	0.6	<i>litchfield</i>	
							13					3					15		4	53	0.2	59	0.2	<i>livingstone</i>	
2	27	3			11		5	4			1					5	46		2	324	1.2	420	1.6	<i>manhattan</i>	
	2		1		1		1										4			88	0.3	94	0.4	<i>miami</i>	
	14	8	4	2	21		9													107	0.4	65	0.3	<i>mississippi</i>	
	3	4		10	13		39	1			5	2	3		6	1	53	5	2	363	1.4	375	1.5	<i>montevideo</i>	
	6	16	2	5	20	3	33				1	16	4		3	4	12	1	1	426	1.6	389	1.5	<i>muenchen</i>	
1							2				1	3			1		5		3	43	0.2	41	0.2	<i>newington</i>	
9	44	28	19	86	79	11	363	1	5	2	39	45	9		19	12	152	2	37	2,201	8.4	1,722	6.7	<i>newport</i>	
2	10	14	4	9	50	2	65	1			4	16	3	1	3	1	43		90	621	2.4	412	1.6	<i>oranienburg</i>	
1	3				3		14					5	2		1		31		98	229	0.9	286	1.1	<i>panama</i>	
3	2				5	21	1				1				9		27			208	0.8	241	0.9	<i>paratyphi B</i>	
		1		1	2		3					1			7	10	20		1	96	0.4	172	0.7	<i>reading</i>	
2	23	1	7	5	71	2	39	3	1		3	2	1		12	11	72	5	18	1,013	3.9	919	3.6	<i>saint-paul</i>	
	4	5		1	2							2			8	1	27	13	1	308	1.2	147	0.6	<i>san-diego</i>	
	1		1		2	6					6		1		2		11		1	58	0.2	85	0.3	<i>schwarzengrund</i>	
	2	4		3	6	3	24				15	4				2	35		2	219	0.8	219	0.9	<i>senftenberg</i>	
					1	2	8				2				1		10		2	52	0.2	76	0.3	<i>tennessee</i>	
2	22	12	5	11	31	3	62	1	1		10		3		9	11	69	1	16	675	2.6	834	3.2	<i>thompson</i>	
9	8		1	30	16	4	37		1			5	15	2		9	3	145		6	535	2.0	583	2.3	<i>typhi</i>
52	176	78	31	52	110	40	300	20	25		119	53	37	1	99	34	691	10	105	6,460	24.7	6,525	25.4	<i>typhimurium</i>	
4	24			13	19		2	4	4		1	30		9			12		2	278	1.1	353	1.4	<i>typhimurium v cop</i>	
1	1						1													109	112	0.4	151	0.6	<i>weltevreden</i>
3	1						3					3			2		10		1	46	0.2	46	0.2	<i>worthington</i>	
141	562	304	97	300	765	113	1,563	46	65	4	267	5	326	105	12	266	166	2,190	63	594	22,873	87.6	23,137	90.1	TOTAL
7	71	28	59	110	87	6	198	-	2	5	11	239	42	7	8	26	22	206	34	36	3,237		2,557		ALL OTHER*
148	633	332	156	410	852	119	1,761	46	67	9	278	244	368	112	20	292	188	2,396	97	630	26,110		25,649		TOTAL

**TABLE III. SALMONELLAE REPORTED BY GROUP IDENTIFICATION ONLY
FROM HUMAN SOURCES DURING 1972**

REPORTING CENTER	GROUP															TOTAL	
	A	B	C	C1	C2	D	E	E1	E2	E4	F	G	H	I	O		UNK
ALABAMA			1														1
ALASKA		18	2	7		3	2										32
ARKANSAS		4		2		2			1								9
CALIFORNIA		24				1		1								1	31
DELAWARE																	2
D.C.	1	78	9	2	8	11	2			1							38
FLORIDA		1		1									1				3
GEORGIA		1		1													2
ILLINOIS		11		1													2
IOWA		1	1														2
LOUISIANA													1				1
MAINE				1													1
MARYLAND		8															1
MASSACHUSETTS		1															1
MICHIGAN		1	1			1	1										6
MISSISSIPPI		23		1	15	3	1						5				4
MISSOURI		1															1
NEBRASKA		20		3	1	3											27
NEVADA		3	1					1									5
NEW HAMPSHIRE		22		4	2	6	3										4
NEW JERSEY		1															1
NEW MEXICO		123	1	60	30	13	7				2	2					239
NEW YORK - A		45	16		38	7									1		412
NEW YORK - B		1			1									1			2
NEW YORK - C		8			1	3											13
NORTH CAROLINA																	3
NORTH DAKOTA																	1
OKLAHOMA		1															2
OREGON		3		4	2	1				1							4
RHODE ISLAND		22	3	5	4	6	1					1					6
SOUTH CAROLINA		5		1	2							1					1
TENNESSEE		1															1
TEXAS		1			5		1					1					8
UTAH				1		1											2
VERMONT		1	1														2
WASHINGTON																	2
WEST VIRGINIA		1		1													2
WISCONSIN		7			1			1									8
WYOMING		1					2										4
TOTAL	1	438	36	95	110	61	20	3	1	2	2	11	1	1	1	409	1,192

TABLE IV. AGE AND SEX DISTRIBUTION OF INDIVIDUALS FROM WHOM ISOLATIONS OF SALMONELLA WERE REPORTED DURING 1972

AGE (YEARS)	MALE	FEMALE	UNKNOWN	TOTAL	PERCENT	CUMULATIVE PERCENT
UNDER 1 YR	2,307	2,076	24	4,407	22.9	22.9
1-4	2,543	2,177	4	4,724	24.6	47.5
5-9	1,041	782	2	1,825	9.5	57.0
10-19	1,080	1,006	1	2,087	10.9	67.9
20-29	735	1,146	0	1,881	9.8	77.7
30-39	442	599	0	1,041	5.4	83.1
40-49	344	538	2	884	4.6	87.7
50-59	332	505	1	838	4.4	92.1
60-69	356	361	0	717	3.7	95.8
70-79	232	313	0	545	2.8	98.6
GREATER THAN 79	113	163	0	276	1.4	100.0
SUBTOTAL	9,525	9,666	34	19,225		
CHILD (UNSPECIFIED)	83	71	20	174		
ADULT (UNSPECIFIED)	48	106	5	159		
UNKNOWN	3,248	3,013	291	6,552		
TOTAL	12,904	12,856	350	26,110		
PERCENT	50.1	49.9				

TABLE V. COMMON SALMONELLAE REPORTED FROM NONHUMAN SOURCES (BY STATE) DURING 1972

SEROTYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																														
	NEW ENGLAND						WEST NORTH CENTRAL						MIDDLE ATLANTIC		EAST NORTH CENTRAL					SOUTH ATLANTIC											
	ME	NH	VT	MAS	RI	CON	MIN	IOW	MO	ND	SD	NEB	KAN	NY	NJ	PA	OHI	IND	ILL	MIC	WIS	DEL	MD	DC	VA	WV	NC	SC	GA	FLA	
<i>anatum</i>															1	1	4		3	2								1		1	
<i>bareilly</i>																4				1										1	
<i>blockley</i>															1																
<i>braenderup</i>				1		3			5						1					1							1			1	
<i>bredeney</i>						1									1		29		2	1											
<i>chester</i>																															
<i>cholerae-suis v kun</i>																															
<i>cubana</i>									14						2	3	3	1		1										1	
<i>derby</i>															2	13		1													
<i>enteritidis</i>							1		1						2	7						1						1			
<i>give</i>		9					1		1								4														
<i>heidelberg</i>				1			1							3		20	1		1												
<i>indiana</i>															1			1													
<i>infantis</i>								1				4			6	11	1	5												1	
<i>java</i>	1			1		5			2					4	4			4	1	1										1	
<i>javiana</i>																														3	
<i>litchfield</i>	2					1			1			1						1	1		1				3					1	
<i>livingstone</i>																	6				1										
<i>manhattan</i>															1	13	3	1	1												
<i>miami</i>																															
<i>mississippi</i>																															
<i>montevideo</i>		4		1											8	14	10	2		1		1								1	
<i>muenchen</i>				4								1			3			1													
<i>newington</i>																															
<i>newport</i>												9	1		6	9		1	2							1				6	
<i>oranienburg</i>						3									3		20	1		2					1					1	
<i>panama</i>																															
<i>paratyphi B</i>				2											1	5	1		2						1						
<i>reading</i>																															
<i>saint-paul</i>				2		4			32			1	1		2	8		1									1	1			
<i>san-diego</i>				1															1												
<i>schwarzengrund</i>																	2		3												
<i>senftenberg</i>								2	5			1		3	10	1			3												
<i>tennessee</i>							1							1	4	21			1												
<i>thompson</i>		2				1			3					3	2	2														1	
<i>typhi</i>																															
<i>typhimurium</i>			1	4		7	11		2			3	1	1	28	42	2	13	2	13		11	1	1			1			2	
<i>typhimurium v cop</i>						5																									
<i>weltevreden</i>																															
<i>worthington</i>														2		1													3		
TOTAL	3	15	1	17	0	30	15	3	66	0	0	0	20	7	37	110	208	13	36	17	22	1	15	1	8	0	3	3	3	21	
ALL OTHER	0	4	0	5	0	1	1	0	0	0	0	0	6	20	22	86	81	1	11	8	7	0	7	0	0	0	0	0	1	2	32
TOTAL	3	19	1	22	0	31	16	3	66	0	0	0	26	27	59	196	289	14	47	25	29	1	22	1	8	0	3	4	5	53	

TABLE V - Continued

GEOGRAPHIC DIVISION AND REPORTING CENTER																				1972 TOTAL	1971 TOTAL	SEROTYPE	
EAST S. CENTRAL				WEST S. CENTRAL				MOUNTAIN						PACIFIC									
KY	TEN	ALA	MIS	ARK	LA	OKL	TEX	MON	IDA	WYO	COL	NM	ARI	UTA	NEV	WAS	ORE	CAL	ALK	HAW			
	1	1		11	2	3							7			20	3	3		7	73	267	<i>anatum</i>
	1		15		1															1	24	59	<i>bareilly</i>
	2			2	1				1								2	2			11	137	<i>blockley</i>
																1		1		2	17	24	<i>braenderup</i>
	2	14	2	6			2						1					1			62	92	<i>bredeney</i>
1							1						2				1				2	24	<i>chester</i>
	1	10		1	1															8	3	151	<i>cholerae-suis v kun</i>
	1						2			1			1			4	2			38	46	64	<i>cubana</i>
	1	1															1	4			65	122	<i>derby</i>
																					20	70	<i>enteritidis</i>
		2		1	1													2		8	29	34	<i>give</i>
	11	1			1	1							9			1	1	13			65	351	<i>heidelsberg</i>
	1																				3	19	<i>indiana</i>
	2			6		3			1							7	6	4		1	59	211	<i>infantis</i>
	1	2						1	1						1			3		3	36	71	<i>java</i>
				2			2														7	12	<i>javana</i>
																				2	14	25	<i>litchfield</i>
																				2	9	36	<i>livingstone</i>
6															1	2	1	2			31	59	<i>manhattan</i>
																					0	5	<i>miami</i>
		1																			1	2	<i>mississippi</i>
		5	2	1		2						2				8	2		1	3	69	199	<i>montevideo</i>
		3			2											2		9			25	55	<i>muenchen</i>
				1												4		1		1	7	55	<i>newington</i>
	2	1		1	3	14		2					5			3		6		6	78	172	<i>newport</i>
		8		2			6									42		2		4	95	116	<i>oranienburg</i>
							3													4	4	35	<i>panama</i>
													4			3					18	17	<i>paratyphi b</i>
				1	3	1	3						2			1	11	5			9	199	<i>reading</i>
																					80	275	<i>saint-paul</i>
				1												1		24			27	143	<i>san-diego</i>
																18	1	1			26	91	<i>schwarzengrund</i>
	1	6	2	1	8		28										5	2		10	88	193	<i>senftenberg</i>
			1				1						1							1	33	67	<i>tennessee</i>
	10																				26	139	<i>thompson</i>
							1									1		2			4	9	<i>typhi</i>
3	2		1	4	51	15		2	1				15			6	1	53		5	305	863	<i>typhimurium</i>
				2	1								9								18	169	<i>typhimurium v cop</i>
																				2	2	3	<i>weltevreden</i>
		3		2									2					10		3	26	98	<i>worthington</i>
5	44	58	24	12	45	63	88	1	7	2	0	2	58	0	2	124	37	158	1	111	1,517	4,733	TOTAL
0	41	45	100	11	44	3	49	0	0	0	0	69	13	0	5	34	12	59	1	20	801	1,099	ALL OTHER
5	85	103	124	23	89	66	137	1	7	2	0	71	71	0	7	158	49	217	2	131	2,318	5,832	TOTAL

TABLE VI. COMMON SALMONELLAE REPORTED FROM NONHUMAN SOURCES (BY CATEGORY) DURING 1972

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT							ANIMAL FEEDS			
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
<i>anatum</i>	1	4	7	2	2	2	18	26		7	33
<i>bareilly</i>							—	15		5	20
<i>blockley</i>	3				2	1	6				—
<i>braenderup</i>						1	1				—
<i>bredeney</i>	1				1	1	3	4		22	26
<i>chester</i>		1					1				—
<i>cholerae-suis v kun</i>			2				2				—
<i>cubana</i>							—	14		10	24
<i>derby</i>			37	1		1	39	3		2	5
<i>enteritidis</i>			2			3	5			2	2
<i>give</i>		2	1				3	8			8
<i>heidelberg</i>	2	13	2	8	1	2	28	2		1	3
<i>indiana</i>							—			1	1
<i>infantis</i>	1					15	16	12		2	14
<i>java</i>						1	1				—
<i>javana</i>						5	5				—
<i>litchfield</i>							—				—
<i>livingstone</i>						2	2	2		1	3
<i>manhattan</i>	8				1		9	2		1	3
<i>miami</i>							—				—
<i>mississippi</i>							—				—
<i>montevideo</i>							—	33		15	48
<i>muenchen</i>				11		2	13			4	4
<i>newington</i>		1	1				2	4			4
<i>newport</i>				12		19	31	2		1	3
<i>oranienburg</i>							—	5		30	35
<i>panama</i>			4				4				—
<i>paratyphi B</i>			2				2				—
<i>reading</i>		4		2		1	7				—
<i>saint-paul</i>	1	5		2		5	13	1			1
<i>san-diego</i>		22				1	23				—
<i>schwarzengrund</i>	1	2					3	17		5	22
<i>senftenberg</i>	1		1				2	33		25	58
<i>tennessee</i>	2			1			3	27		2	29
<i>thompson</i>	2					1	3	2			2
<i>typhi</i>			1				1				—
<i>typhimurium</i>	4	4	8	127	7	31	181	1		13	14
<i>typhimurium v cop</i>				9		1	10				—
<i>weltevreden</i>			2				2				—
<i>workington</i>	10			1		4	15	4		6	10
TOTAL	37	58	70	176	14	99	454	217	—	155	372
ALL OTHER*	24	6	55	44	—	35	164	235	—	149	384
TOTAL	61	64	125	220	14	134	618	452	—	304	756

*SEE TABLE VII

TABLE VI - Continued

WILD ANIMALS AND BIRDS	FISH, REPTILES, AND ENVIRONMENT	HUMAN DIETARY ITEMS					MISCELLANEOUS	1972 TOTAL	1971 TOTAL	SEROTYPE	
		EGGS AND PRODUCTS	POULTRY	RED MEAT	OTHER	SUBTOTAL					
3	7	1	2	3		2	8	4	73	267	<i>anatum</i>
	2						-	2	24	59	<i>bareilly</i>
	2		2			1	3		11	137	<i>blockley</i>
	9	5			1		6	1	17	24	<i>braenderup</i>
1	4		2		1		3	25	62	92	<i>bredeyney</i>
			1				1		2	24	<i>chester</i>
							-	1	3	151	<i>cholerae-suis v kun</i>
	1	14			2		16	5	46	64	<i>cubana</i>
	1			2		5	7	13	65	122	<i>derby</i>
3	4						-	6	20	70	<i>enteritidis</i>
	2				1		1	15	29	34	<i>give</i>
1	1	7	3			1	11	21	65	351	<i>heidelberg</i>
			1	1			2		3	19	<i>indiana</i>
3	5	1		1	1	11	14	7	59	211	<i>infantis</i>
1	30			1		3	4	-	36	71	<i>java</i>
	14					1	1	1	7	12	<i>javiana</i>
							-		14	25	<i>litchfield</i>
							-	4	9	36	<i>livingstone</i>
1	6						-	12	31	59	<i>manhattan</i>
							-		-	5	<i>miami</i>
	6				2	8	-	1	1	2	<i>mississippi</i>
1	5						10	5	69	199	<i>montevideo</i>
							-	2	25	55	<i>muenchen</i>
							-	1	7	55	<i>newington</i>
1	17			5		12	17	9	78	172	<i>newport</i>
1	8			4		42	46	5	95	116	<i>oranienburg</i>
							-		4	35	<i>panama</i>
1	12						1	1	18	17	<i>paratyphi B</i>
							1	1	9	199	<i>reading</i>
7	8	31	2	1	1	14	49	2	80	275	<i>saint-paul</i>
1			2				2	1	27	143	<i>san-diego</i>
							-	1	26	91	<i>schwarzengrund</i>
	1		5				19	3	88	193	<i>senftenberg</i>
					1		1		33	67	<i>tennesse</i>
	4	5	6	1		1	13	4	26	139	<i>thompson</i>
41	28				8	8	-	3	4	9	<i>typhi</i>
1	1		3				19	22	305	863	<i>typhimurium</i>
							-	6	18	169	<i>typhimurium v cop</i>
							-		2	3	<i>weltevreden</i>
1							-		26	98	<i>worthington</i>
68	178	64	29	19	18	130	260	185	1,517	4,733	TOTAL
34	55	-	14	7	2	54	77	87	801	1,099	ALL OTHER*
102	233	64	43	26	20	184	337	272	2,318	5,832	TOTAL

TABLE VII. OTHER SALMONELLAE REPORTED FROM NONHUMAN SOURCES (BY CATEGORY) DURING 1972

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT							ANIMAL FEEDS			
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
<i>abaetetuba</i>							-				-
<i>adelaide</i>						3	3				-
<i>agona</i>						2	2	4			4
<i>alachua</i>								1		2	3
<i>albany</i>										1	1
<i>amager</i>								1			1
<i>amsterdam</i>						2	2			3	3
<i>arechavaleta</i>						2	2				-
<i>arkansas</i>										9	9
<i>berta</i>			1	3		1	5				-
<i>binza</i>								10		8	18
<i>bormum</i>								2		1	3
<i>brandenburg</i>						1	1				-
<i>california</i>	11			2		1	14	5		6	11
<i>carrau</i>											-
<i>cerro</i>								22		7	29
<i>champaign</i>										1	1
<i>charity</i>											-
<i>cholerae-suis v kun</i>			49				49				-
<i>denver</i>						1	1				-
<i>drypool</i>						2	2	26		6	32
<i>dublin</i>				30			30			1	1
<i>eimsbuettel</i>	2					1	3	55		9	64
<i>gallinarum</i>	1					1	1				-
<i>gavinara</i>						1	1				-
<i>godesberg</i>								3		1	4
<i>goeteborg</i>				1			1				-
<i>habana</i>								5		5	10
<i>haifa</i>											-
<i>hartford</i>											-
<i>houten</i>											-
<i>illinois</i>						1	1	1		2	3
<i>jamaica</i>											-
<i>johannesburg</i>						2	2	7		12	19
<i>kaapstad</i>						1	1				-
<i>kentucky</i>						1	1	29		10	39
<i>kottbus</i>											-
<i>lexington</i>								1		4	5
<i>limete</i>											-
<i>lomita</i>				1			1				-
<i>london</i>										1	1
<i>manila</i>								10		8	18
<i>mataji</i>											-
<i>meleagridis</i>		2	5				7	2		4	6
<i>minneapolis</i>				1			1				-
<i>minnesota</i>								1		3	4
<i>molade</i>										13	13
<i>muenster</i>										1	1
<i>new-brunswick</i>								1			1
<i>new-haw</i>								1			1
<i>norwich</i>											-
<i>orion</i>						1	1			5	5
<i>oslo</i>				3			3				-
<i>paratyphi A</i>											-
<i>pomona</i>											-
<i>poona</i>											-
<i>pullorum</i>	9					1	1	1		2	3
<i>rubislaw</i>						1	10				-
<i>siegburg</i>						1	1				-
<i>stanley</i>						4	4	14		16	30
<i>sundsvall</i>											-
<i>taksony</i>		1				1	2				-
<i>thomasville</i>											-
<i>thomasville</i>								20		5	25
<i>uphill</i>											-
<i>urbana</i>						2	2				-
<i>usumbura</i>						1	1				-
<i>virchow</i>											-
<i>wassenaar</i>											-
<i>weslaco</i>											-
<i>westhampton</i>	1	1						2			-
<i>weston</i>											-
TOTAL	24	4	55	41	-	34	158	222	-	146	368
NOT TYPED*	-	2	-	3	-	1	6	13	-	3	16
TOTAL	24	6	55	44	-	35	164	235	-	149	384

*SEE TABLE VIII

TABLE VII - Continued

WILD ANIMALS AND BIRDS	FISH, REPTILES, AND ENVIRONMENT	HUMAN DIETARY ITEMS						MISCELLANEOUS	1972 TOTAL	1971 TOTAL	SEROTYPE
		EGGS AND PRODUCTS	POULTRY	RED MEAT	DAIRY PRODUCTS	OTHER	SUBTOTAL				
1	1			1				5	12	34	<i>chaetetuba</i>
									3	3	<i>adelaide</i>
									3	38	<i>agona</i>
								1	3	19	<i>alachua</i> <i>albany</i>
	5							1	11	11	<i>amager</i>
									5	8	<i>amsterdam</i>
									2	-	<i>arechavaleta</i>
									9	-	<i>arkansas</i> <i>berta</i>
	2		9		1	13	23	6	54	26	<i>binza</i>
									1	1	<i>bornum</i>
									2	-	<i>brandenburg</i>
									2	-	<i>california</i> <i>carrau</i>
									29	69	<i>cerro</i>
						1	1		1	-	<i>champaign</i>
									1	-	<i>charity</i>
									49	10	<i>cholerae-suis</i> <i>denver</i>
								1	35	32	<i>drypool</i>
									31	53	<i>dublin</i>
									67	67	<i>eimsbuettel</i>
									1	1	<i>gallinarum</i> <i>gaminara</i>
1	1 1 1								4	1	<i>godtsberg</i>
									1	-	<i>goeteborg</i>
									11	22	<i>habana</i>
									1	-	<i>haifa</i> <i>hartford</i>
	1 1 3								1	-	<i>houten</i>
									4	4	<i>illinois</i>
									1	-	<i>jamaica</i>
									24	19	<i>johannesburg</i> <i>kaapstad</i>
	1			1		6	6	1	47	37	<i>kentucky</i>
							1		1	18	<i>kottbus</i>
						1	1		6	15	<i>lexington</i>
									1	-	<i>limete</i> <i>lomita</i>
	2			2			2		3	4	<i>london</i>
								1	19	9	<i>manila</i>
									2	4	<i>matadi</i>
								1	14	24	<i>meleagridis</i> <i>minneapolis</i>
						20	20		24	11	<i>minnesota</i>
									13	-	<i>molade</i>
									1	10	<i>muenster</i>
						1	1		2	4	<i>new-brunswick</i> <i>new-haw</i>
	1 2					1	1		1	-	<i>norwich</i>
								2	8	17	<i>orion</i>
								1	5	2	<i>oslo</i>
								1	1	-	<i>paratyphi A</i> <i>pomona</i>
7 6 12	7 2		1						18	13	<i>poona</i>
							1		17	24	<i>pullorum</i>
						1	1		4	5	<i>rubislaw</i>
									46	69	<i>siegburg</i> <i>stanley</i>
	1 12								2	-	<i>sundsvall</i>
								1	1	12	<i>taksony</i>
									25	35	<i>thomasville</i>
									1	1	<i>uphill</i> <i>urbana</i>
	1 1								1	-	<i>usumbura</i>
									1	-	<i>virchow</i>
									1	1	<i>wassenaar</i>
						1	1		1	-	<i>westlaco</i> <i>westhampton</i>
					1		1	1	-	<i>weston</i>	
27	46	-	10	4	2	47	63	23	685	943	TOTAL
7	9	-	4	3	-	7	14	64	116	156	NOT TYPED*
34	55	-	14	7	2	54	77	87	801	1,099	TOTAL

**TABLE VIII. SALMONELLAE REPORTED BY GROUP IDENTIFICATION ONLY
FROM NONHUMAN SOURCES DURING 1972**

SOURCES	GROUP									TOTAL
	B	C	C1	C2	D	E	E3	F	UNK	
DOMESTIC ANIMALS AND THEIR ENVIRONMENT				1					5	6
ANIMAL FEEDS		2	1				9		4	16
WILD ANIMALS AND BIRDS	3								4	7
FISH, REPTILES, AND ENVIRONMENT	3		1						5	9
HUMAN DIETARY ITEMS	3			8					3	14
MISCELLANEOUS	15		11	12	3	20		1	2	64
UNKNOWN										-
TOTAL	24	2	13	21	3	20	9	1	23	116

TABLE IX - Continued

SEROTYPE	1966	1967	1968	1969	1970	1971	1972	SEROTYPE	1966	1967	1968	1969	1970	1971	1972
<i>newlands</i>	1					3		<i>singapore</i>		1		1		1	
<i>new mexico</i>							1	<i>sinstorf</i>							2
<i>newport</i>	1,319	1,263	1,248	1,611	1,700	1,722	2,201	<i>sohanina</i>	1						
<i>nienstedten</i>	1					1	1	<i>solna</i>	1						
<i>nigeria</i>		1				1		<i>springs</i>						1	
<i>norwich</i>	28	13	41	24	22	31	37	<i>stanley</i>	6	7	7	13	13	17	10
<i>nottingham</i>	1	1			3			<i>stanleyville</i>				1			
<i>ohio</i>	12	5	1	16	8	15	16	<i>stockholm</i>	1			5			
<i>onderstepoort</i>			1			2	1	<i>suberu</i>					1		
<i>oranienburg</i>	399	406	295	266	399	412	621	<i>sundsvall</i>	3	1			1	2	4
<i>ordonez</i>					12	2	1	<i>takoradi</i>		2					
<i>orion</i>	3	6	6	4	6	2	3	<i>taksony</i>		1	1		4	4	3
<i>oritamerin</i>	1	1	1	1	1	3		<i>tallahassee</i>	7	6	8	12	8	5	17
<i>os</i>	3							<i>tananarive</i>							1
<i>oslo</i>	26	19	14	19	27	43	23	<i>tel-el-kebir</i>				1			1
<i>panama</i>	274	182	230	331	236	286	229	<i>tennessee</i>	133	63	85	43	54	76	52
<i>papuaia</i>	1			1	1	1		<i>texas</i>	1				1	1	
<i>paratyphi A</i>	7	7	13	14	5	14	10	<i>thomasville</i>	5	3	1	4	7	3	16
<i>paratyphi B</i>	153	173	114	166	205	241	208	<i>thompson</i>	579	508	673	1,056	958	834	675
<i>paratyphi B v odense</i>	2		4	3				<i>tosamanga</i>						1	
<i>paratyphi C</i>	1	1	2		2		1	<i>tournai</i>							1
<i>pensacola</i>		5	13	3	9	9	9	<i>tucson</i>						1	1
<i>pharr</i>		1	1					<i>tuebingen</i>							1
<i>phoenix</i>	1			1			4	<i>typhi</i>	654	690	609	549	533	583	535
<i>pomona</i>	4	1	3	6	3	3	4	<i>typhi-murium</i>	5,744	5,530	5,147	5,514	5,640	6,525	6,460
<i>poona</i>	40	58	75	81	93	97	95	<i>typhi-murium v copenhagen</i>	178	273	316	259	277	353	278
<i>portland</i>	1							<i>uganda</i>		1	1	1	4	4	13
<i>portsmouth</i>			1					<i>umhlatazana</i>							1
<i>potsdam</i>	3		1	1	4		9	<i>upsala</i>					1		
<i>praha</i>					2			<i>urbana</i>	28	18	29	49	59	53	29
<i>pullorum</i>	10	3	1	1	5			<i>uzaramo</i>					1		
<i>ramat-gan</i>					1			<i>vejle</i>		2				2	1
<i>reading</i>	105	54	74	68	147	172	96	<i>victoria</i>			2				1
<i>redlands</i>							1	<i>virchow</i>	4	4	6	7	4	21	29
<i>remo</i>	1						2	<i>wagenia</i>		1					
<i>richmond</i>		1		2	3	1	1	<i>wandsworth</i>			1			1	
<i>riogrande</i>							2	<i>wangata</i>							1
<i>rubislaw</i>	30	24	33	30	27	29	31	<i>wassenaar</i>	2		1	2		1	2
<i>rutgers</i>					2	1		<i>welikada</i>				3			
<i>saint-paul</i>	737	907	1,143	986	1,157	919	1,013	<i>weltevreden</i>	45	61	78	54	104	151	112
<i>san-diego</i>	122	149	106	118	234	147	308	<i>westaco</i>	1			1	1	1	2
<i>san-juan</i>				2	2			<i>westerstede</i>	6	1			3		2
<i>saphra</i>	13	11	20	14	15	14	11	<i>westhampton</i>	1		3	2	2	7	6
<i>sarajane</i>	2							<i>willemstad</i>			2	2		3	
<i>schoeneberg</i>			1					<i>worcester</i>		1					
<i>schwarzengrund</i>	71	72	55	89	56	85	58	<i>worthington</i>	44	24	22	35	59	46	46
<i>secefeld</i>						1		<i>zanzibar</i>			1				
<i>senftenberg</i>	72	58	65	78	86	219	219	<i>58</i>				1			
<i>sendai</i>	6			2				<i>58:a</i>				1			
<i>seremban</i>	2							<i>54:z₄=z₂₃</i>							1
<i>shipley</i>			1		1			<i>57:a₆</i>							1
<i>shubra</i>					1			<i>Group A</i>	1	1		3	1	5	1
<i>siegburg</i>	14	10	8	25	55	69	55	<i>Group B</i>	312	493	401	340	397	359	438
<i>simsbury</i>	5	4	6	19	9	8	6	<i>Group C</i>		2	13	10	17	31	36
								<i>Group C₁</i>	140	138	58	99	111	86	95
								<i>Group C₂</i>	61	132	72	128	132	106	110

TABLE IX - Continued

SEROTYPE	1966	1967	1968	1969	1970	1971	1972
Group D	54	77	70	98	111	75	61
Group E	13	36	9	16	20	37	20
Group E ₁				1		1	3
Group E ₂						2	1
Group E ₄			4			3	2
Group F		1	2		4	7	2
Group G	6	7	8	17	20	22	11
Group H	2	9	3	4	2		1
Group I		1		1	2	3	1
Group K		1					
Group L						1	
Group M		1					
Group O	3	3	3	3	1	1	1
Group P						1	
Group R						2	
Group Y				1			
Unknown	81	205	558	498	438	450	409
TOTAL	20,040	19,723	19,740	21,413	24,216	25,694	26,110

**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.

<i>STATE</i>	<i>STATE EPIDEMIOLOGIST</i>	<i>STATE LABORATORY DIRECTOR</i>
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	G. Doty Murphy, III, M.D.	Robert T. Howell, Dr.P.H.
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District of Columbia	Donald K. Wallace, M.D.	Alton Shields, Dr.P.H.
Florida	Chester L. Nayfield, M.D.	Nathan J. Schneider, Ph.D.
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Hawaii	Ned Wiebenga, M.D.	George Chen
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Indiana	Charles L. Barrett, 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	Cary L. Young, M.D. (Acting)	Robert L. Cavanaugh, 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	D. S. Fleming, M.D.	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.
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New York State	Alan R. Hinman, M.D.	Donald J. Dean, D.V.M.
North Carolina	Martin P. Hines, D.V.M.	Lynn G. Maddry, Ph.D.
North Dakota	Kenneth Møsser	C. Patton Steele, B.S.
Ohio	John H. Ackerman, M.D.	Charles C. Croft, Sc.D.
Oklahoma	Stanley Ferguson, Ph.D.	William R. Schmieding, M.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	Carlos Armstrong-Ressy, M.D.	Eduardo Angel, M.D.
Rhode Island	James R. Allen, 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.	J. Howard Barrick, Dr.P.H.
Texas	M. S. Dickerson, M.D.	J. V. Irons, Sc.D.
Utah	Taira Fukushima, M.D.	Russell S. Fraser, M.S.
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Virginia	Karl A. Western, M.D.	Frank W. Lambert, Ph.D.
Washington	John Beare, M.D. (Acting)	Jack Allard, Ph.D.
West Virginia	N. H. Dyer, M.D.	J. Roy Monroe, Ph.D.
Wisconsin	H. Grant Skinner, M.D.	S. L. Inhorn, M.D.
Wyoming	Herman S. Parish, M.D.	Donald T. Lee, Dr.P.H.