REPORT NO. 46
FEBRUARY 28, 1966

CDC

COMMUNICABLE DISEASE CENTER

SALMONELLA SURVEILLANCE

TABLE OF CONTENTS

For the Month of January 1966

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 National Animal Disease Laboratory (USDA, ARS), Ames, Iowa, 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 to:

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TABLE OF CONTENTS

I. SUMMARY

During January 1,531 human isolations of salmonella were reported. The average number of isolations per week (383) represented an increase of 16 over December 1965, but a decrease of 2 from January 1965. The number of human isolations reported during January followed the expected pattern (See Figure 1). Nonhuman isolations during January totaled 525, 201 less than December 1965.

Included in this issue under CURRENT INVESTIGATIONS is a preliminary report on an outbreak of gastroenteritis due to Salmonella pullorum and S. paratyphi B in Aurora, Illinois.

II. REPORTS OF ISOLATIONS FROM THE STATES

A. Human

The seven most frequently reported serotypes during January were:

Rank	Serotype	Number	%	Rank Last Month
1	S. typhi-murium and S. typhi-murium var. copenhagen	492	32.1	1
2	S. enteritidis	123	8.0	4
3	S. infantis	117	7.6	5
4	S. heidelberg	104	6.8	2
5	S. newport	82	5.4	3
6	S. thompson	68	4.4	9
7	S. typhi	57	3.7	8
	Total	1,043	68.1	
	Total (all serotypes)	1,531		

During January, 64 different serotypes were reported. The seven most common accounted for 68.1 per cent of all isolations.

The only serotype on the list of seven most frequently reported serotypes during January which represented a newcomer to the list in recent months was S. thompson. Salmonella thompson accounted for 2.7 per cent of all isolations reported during 1965. During January 68 isolations (4.4 per cent) were reported. Of these, 39 were from Illinois, Michigan, and Wisconsin. No information has been received as yet relating any of these isolations to a common source.

Another noteworthy exception to the above list was the appearance of S. enteritidis in second position. Salmonella enteritidis, which normally accounts for less than 5 per cent of all isolations reported, accounted for 123 isolations (8.0 per cent) during January and was the agent involved in a common source outbreak in Georgia. Thirty-two recoveries were reported from Georgia during January. Most of these represented cases of gastroenteritis that were associated with a restaurant chain. The investigation of that outbreak is currently in progress. See Tables I and II for the number and geographic distribution of other serotypes.

The age and sex distribution (Table III) was consistent with past experience. During January, 322 (21.0 per cent) persons, reported as harboring salmonellae, had other members of their families simultaneously infected. This too is consistent with past experience.

B. Nonhuman

There were 525 isolations of salmonella from nonhuman sources during January, 201 less than December. Fifty-four serotypes were represented among these isolations, which were submitted by 37 different states. (See Table V.)

The seven most frequently reported were:

Rank	Serotype	Predominant Source and Number	No.	%	Rank Last Month
1	S. typhi-murium and S. typhi-murium var. copenhagen	Bovines (20) & Turkeys (10)	76	14.5	2
2	S. saint-paul	Turkeys (39)	54	10.3	3
3	S. heidelberg	Turkeys (24) & Chickens (14)	52	9.9	1
4	S. infantis	Chickens (11) Turkeys (7)	40	7.6	4
5	S. anatum	Turkeys (15)	34	6.5	5
6	S. derby	Turkeys (12) & Pork meat products(11)	30	5.7	Not listed
7	S. blockley	Chickens (11) & Turkeys (8)	23	4.4	7
	Total		309	58.9	

Single isolations of six serotypes in the United States were reported from five states. These include Salmonella amsterdam from feed in Ohio; S. babelsberg from bone meal in Indiana; S. bradford and S. eppendorf from pork meat products in New Jersey; S. pharr from a copybora in Michigan and S. bovis-morbificans from pet food (beef) in California. The last serotype was reported from a human source in California in March 1965.

III. CURRENT INVESTIGATIONS

A. Outbreak of Salmonellosis Due to *Salmonella pullorum* and *Salmonella paratyphi B*. (Preliminary report).

Reported by Norman J. Rose, M.D., State Epidemiologist, Illinois Department of Public Health, John R. Boring, Ph.D., Jonas A. Shulman, M.D., Michael Treger, D.V.M., Investigations Section, CDC, and Robert Mueller, M.D., EIS Officer assigned to Great Lakes Naval Training Station, Great Lakes, Illinois

Between December 21 and January 13, a total of 17 isolations of salmonella from symptomatic individuals were reported from a community hospital in Aurora, Illinois. Of these isolations 11 were classified as Group D salmonella and 6 as Group B. Five of the Group D cultures were confirmed as *Salmonella pullorum* by the Illinois State Laboratory and 5 of the Group B organisms were identified as *S. paratyphi B*. The ages of the victims ranged from 8 months to 70 years. The illness in patients was moderately severe but no deaths were recorded. From examination of hospital admission dates, symptomatology on admission, and culture dates, it was apparent that the infection was community-acquired in at least 15 of the 17 cases. The infection was thought to be hospital-acquired in the other 2 patients, both of whom had had close contact in the hospital with patients known to be excreting salmonella. Between January 4 and January 26, a stool survey of the 62 kitchen employees at the hospital was undertaken. Ten of the 62 employees were found positive for salmonella, but only one admitted symptomatic illness. Four of the food handlers were found positive for *S. pullorum* and 6 were found positive for *S. paratyphi B*.

Epidemiologic investigations were initiated in Aurora on January 24 in an effort to determine (a) the extent of symptomatic disease in the community, (b) whether both organisms were from the same source and (c) the source of infection. A survey was made of private physicians and pharmacies in the community and discharge records were examined at all three hospitals in the community. No marked increase in symptomatic diarrheal illness was noted in the community. All of the symptomatic cases were seen in either the out-patient or in-patient services at the one hospital. On February 1, 1966, an additional stool survey of employees at the three hospitals in Aurora was undertaken. Over 300 specimens were examined and found negative for salmonella.

At present the working hypothesis is that both organisms were derived from the same source. The documentation of the presence of both serotypes in one symptomatic patient supports this hypothesis.

To date the common source among the non-symptomatic cases has not been identified. Common items such as milk and eggs appeared to be eliminated by the diverse sources of these items. Additional studies aimed at identifying the common source are currently in progress and will be reported in a subsequent issue of the Salmonella Surveillance Report.

Editor's Comment: The outbreak presently under investigation in Aurora is in many ways unique and fascinating. *Salmonella pullorum* has rarely been documented as a cause of illness in man. Since the salmonella surveillance program was initiated in 1963 only 2 isolations of *S. pullorum* from human sources have been reported.

In most of the patients studied to date in the Aurora outbreak, the available evidence suggests that the infection was community-acquired. Among those patients admitted to the hospital, symptomatic gastroenteritis was the predominant clinical picture and in several instances salmonella organisms were recovered from stool specimens submitted within 12 hours of admission to the hospital. The finding of over one-sixth of the food handlers at the hospital positive for the same salmonella

serotypes is difficult to interpret. Many of the early cases were in children under 2 years of age with limited dietary exposure to possible vehicles of infection. As of this date, however, no common sources have been identified in this group. Additional follow-up reports on the Aurora outbreak will be awaited with great interest.

IV. REPORTS FROM THE STATES

A. North Carolina - Outbreak of Salmonellosis at a Public School. Reported by W. L. Norville, Director, Alamance (North Carolina) County Health Director, Jacob Koomen, M.D., Assistant Health Director, North Carolina State Health Department, and Joseph L. Kinzie, Jr., EIS Officer, assigned to North Carolina State Health Department.

The annual supper for the parent-teacher association of a North Carolina public school was held on November 16, 1965. The menu included turkey, sweet potatoes, dressing, gravy, and either pie, cake or custard. Approximately 405 plates were served at the banquet but in many instances more than one persons consumed food from a single plate.

On Friday, November 17, several persons who had attended the supper appeared at local hospitals and offices of private physicians with complaints of severe cramps, fever, and bloody diarrhea. Approximately 32 persons required hospitalization. A survey of local physicians indicated that several hundred persons in the community had developed gastrointestinal symptoms following the banquet.

Stool cultures were obtained from hospitalized patients and several were positive for Salmonella heidelberg. No other enteric pathogens were isolated. Cultures were also obtained from a plate of food which had been partially eaten and refrigerated. The turkey, dressing, and sweet potatoes were found positive for S. heidelberg. The turkeys used at the dinner weighed 25 to 30 lbs. and had been supplied by a local packing plant from a poultry wholesaler in a midwestern state. They had been processed and thawed in a local dining establishment which had been previously denied a Grade A rating by local sanitarians and where food handling practices were thought to be highly questionable. This establishment also had limited refrigeration facilities, and it is thought likely that the turkey was recontaminated following cooking at which time it was placed in the same pan in which the frozen birds had been thawed.

Time and temperature conditions between cooking and serving were thought to be ideal for incubation and multiplication of salmonella organisms.

V. SPECIAL REPORTS

NONE

VI. INTERNATIONAL

NONE

VII. FOOD AND FEED SURVEILLANCE

NONE

Figure I.

REPORTED HUMAN ISOLATIONS OF SALMONELLA IN THE UNITED STATES

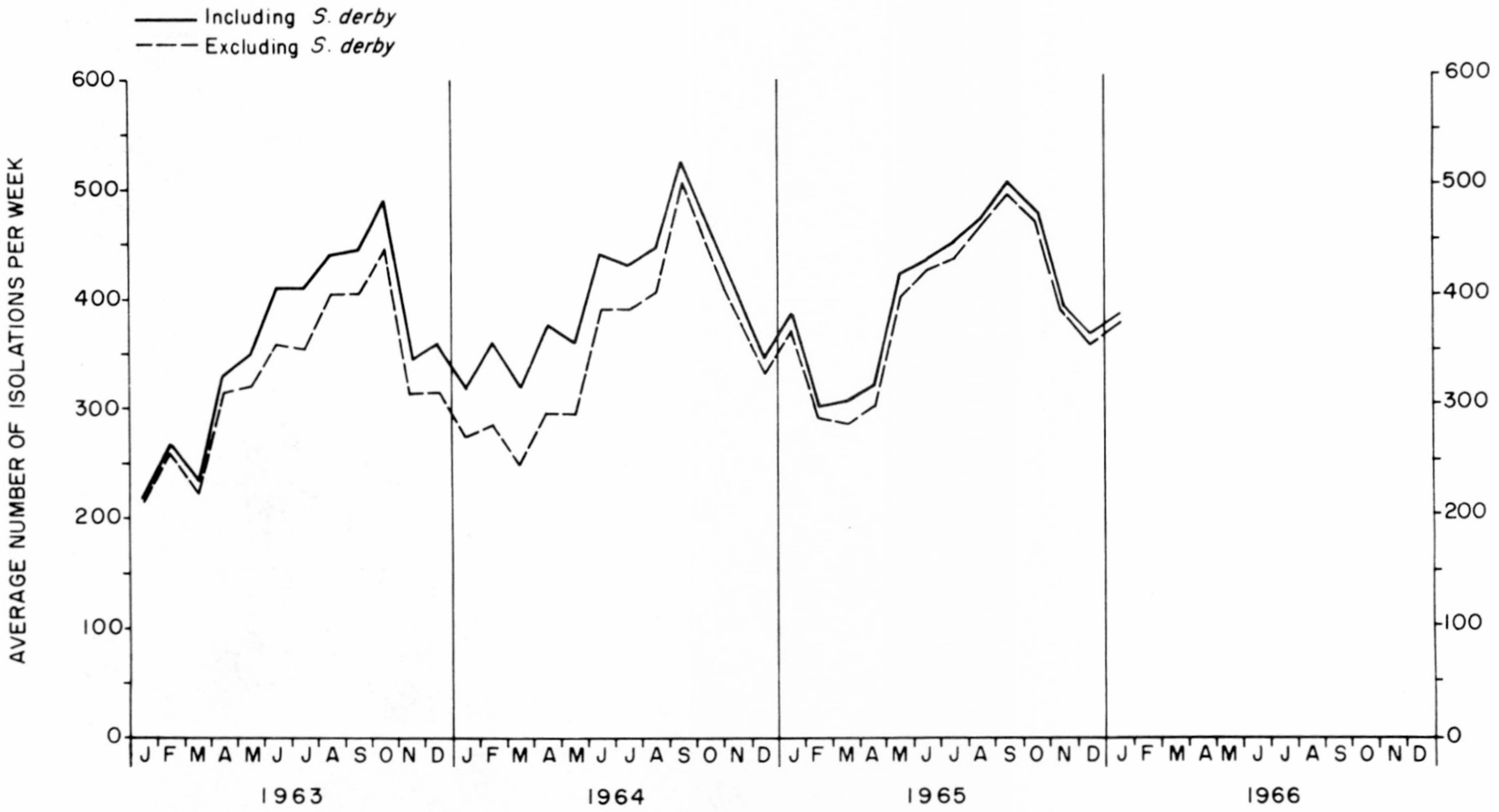

TABLE I

COMMON SALMONELLA SEROTYPES ISOLATED FROM HUMANS IN THE UNITED STATES DURING JANUARY, 1966

SEROTYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																															SEROTYPE
	NEW ENGLAND							MIDDLE ATLANTIC						EAST NORTH CENTRAL						WEST NORTH CENTRAL								SOUTH ATLANTIC								
	ME	NH	VT	MASS	RI	CONN	TOT	NY-A	NY-BI	NY-C	NJ	PA	TOT	OHIO	IND	ILL	MICH	WIS	TOT	MINN	IOWA	MO	ND	SD	NEBR	KAN	TOT	DEL	MD	DC	VA	WV	NC	SC	GA	FLA	TOT	
anatum									2			5	7			3			3													1		2	2	7	anatum
bareilly																																					bareilly
berta																	1		1																2	2	berta
blockley				7			7		1	1	1	2	5	2			1	1	4			1					1	1							1		2	blockley
bovis-morbificans																																					bovis-morbificans
braenderup				4			4							1		4			5																		braenderup
bredeney																																			2	2	bredeney
chester						1	1	1			1		2			1			1										1							1	chester
cholerae-suis v kun																	1		1	1							1								1	1	cholerae-suis v kun
cubana				3			3					1	1	1			1	1	3																		cubana
derby				2		1	3	4		2		2	8	2		1	3		6									1	3							4	derby
enteritidis				7		10	17	3	3	2	2	11	21	3		5	1	11	20										5	1	3	1	3		32	10	55	enteritidis
give												2	2			2	1		3																		give
heidelberg				11			11	1	2	3	1	2	9		2	2	2	6	12	1	2						3		8		2		7		4	5	26	heidelberg
indiana												3	3	1		3			4																		indiana
infantis		1		9	1		11	7	2		4	5	18	10	3	3	1	14	31	1	1	1				3	6	1	2			1		1	5	10	infantis
java																6			6	1							1								1	1	java
javiana																																			1	3	4	javiana
litchfield												1	1																							1	1	litchfield
livingstone																										1	1										livingstone
manhattan								1				2	3	1		1	1		3																		manhattan
meleagridis																																					meleagridis
miami																																			1	1	miami
mississippi																																					mississippi
montevideo				5		1	6									1	1	2	4										2				2			1	5	montevideo
muenchen				1			1									1	3		4	2		1					3								1	1	2	muenchen
newington																																				1	1	newington
newport				1			1	3	1			5	9	2		4	2	4	12	8		1					9	1	1		1				1	5	9	newport
oranienburg				7			7	1				2	4	7	3		1		4							2	2				1			1	1	3	oranienburg
panama								2					2		2	1			3	1							1										panama
paratyphi B									1				1	1	1	7			9												1					1	2	paratyphi B
poona																		1	1																		poona
saint-paul				3		2	5	2				2	1	5	1		4	6	11	1							1		1		2		2		2	1	8	saint-paul
san-diego				1		1	2		1					1				1	1		1					1											san-diego
schwarzengrund																																					schwarzengrund
senftenberg				2			2					1	1																									senftenberg
tennessee																1	2		3								1							1		2	tennessee
thompson				1		1	2					1	1	1		15	9	15	40	2		1				1	4	2	2		1				1	1	7	thompson
typhi						1	1	4		4	2	3	13	6	1	1	1		9			2					2				2		2	2		3	9	typhi
typhi-murium	3			27		5	35	36	15	19	5	41	116	14	3	14	24	8	63	7		4	2			1	14		14	1	1	2	3		16	9	46	typhi-murium
typhi-murium v cop	1			2			3					1	1				2		2																		typhi-murium v cop
urbana								1				1	2																									urbana
weltevreden																1			1																			weltevreden
worthington																																						worthington
untypable, group B					3		3																						4				1			5	untypable, group B
untypable, group C1					1		1																						1							1	untypable, group C1
untypable, group C2					1		1																						1						1	2	untypable, group C2
untypable, group D																													3							3	untypable, group D
untypable, group E																																					untypable, group E
untypable or unknown								1					1	1					1										2								2	untypable or unknown
Total Table I	4	1		93	6	23	127	67	28	31	22	92	240	50	12	81	64	64	271	25	4	11	2			8	50	7	41	13	13	3	22	3	64	58	224	Total Table I
Total Table II	-	-		1	-	2	3	1	-	1	-	-	2	-	-	20	2	-	22	-	-	-	-			2	2	-	-	-	-	-	-	-	-	4	4	Total Table II
Total Tables I & II	4	1		94	6	25	130	68	28	32	22	92	242	50	12	101	66	64	293	25	4	11	2			10	52	7	41	13	13	3	22	3	64	62	228	Total Tables I & II

NY-A = New York-Albany, NY-BI = New York-Beth Israel, NY-C = New York City

TABLE I (Continued)

SEROTYPE	EAST SOUTH CENTRAL					WEST SOUTH CENTRAL					MOUNTAIN									PACIFIC						OTHER	TOTAL	% OF TOTAL	1966 CUM. TOTAL	% OF 1966 CUM. TOTAL	1965 CUM. TOTAL	% OF 1965 CUM. TOTAL	SEROTYPE
	KY	TENN	ALA	MISS	TOT	ARK	LA	OKLA	TEX	TOT	MONT	IDA	WYO	COLO	NM	ARI	UTAH	NEV	TOT	WASH	ORE	CAL	ALAS	HAI	TOT	VI						
anatum							3		2	5				1					1	1		5		4	10		33	2.1	33	2.1	24	1.6	anatum
bareilly							2			2						1			1			1			1		4	.3	4	.3	10	.7	bareilly
berta																											3	.2	3	.2	6	.4	berta
blockley																						4			4		23	1.5	23	1.5	37	2.4	blockley
bovis-morbificans																															0	.0	bovis-morbificans
braenderup							2		1	3				2					2			1			1		15	1.0	15	1.0	5	.3	braenderup
bredeney							1			1										4		2		2	8		11	.7	11	.7	5	.3	bredeney
chester		1			1	1			1	2												1			1		9	.6	9	.6	17	1.1	chester
cholerae-suis v kun							1			1																	4	.3	4	.3	1	.06	cholerae-suis v kun
cubana																											7	.5	7	.5	4	.3	cubana
derby							3	2	2	7										1		2		4	7		35	2.3	35	2.3	58	3.8	derby
enteritidis	1	5			6				2	2												2			2		123	8.0	123	8.0	103	6.7	enteritidis
give							1			1											1				1		7	.5	7	.5	10	.7	give
heidelberg		5			5		3	2	3	8				4					4	5	2	16		3	26		104	6.8	104	6.8	126	8.2	heidelberg
indiana							2			2																	9	.6	9	.6	1	.06	indiana
infantis							2	2		4				6					6	4	2	12		13	31		117	7.6	117	7.6	87	5.7	infantis
java							4			4												1		1	2		14	.9	14	.9	15	1.0	java
javiana			1		1	1	2		3	6																	11	.7	11	.7	18	1.2	javiana
litchfield							3			3																	5	.3	5	.3	17	1.1	litchfield
livingstone							2		1	3																	4	.3	4	.3	0	.0	livingstone
manhattan																						3			3		9	.6	9	.6	13	.8	manhattan
meleagridis																						1			1		1	.07	1	.07	3	.2	meleagridis
miami																											1	.07	1	.07	3	.2	miami
mississippi							5			5																	5	.3	5	.3	3	.2	mississippi
montevideo							1		1	2												5			5		22	1.4	22	1.4	50	3.2	montevideo
muenchen							1		1	2												4			4		16	1.0	16	1.0	9	.6	muenchen
newington																								1	1		2	.1	2	.1	3	.2	newington
newport						7	8		5	20										1		11		10	22		82	5.4	82	5.4	65	4.2	newport
oranienburg						1			2	3														1	1		27	1.8	27	1.8	61	4.0	oranienburg
panama									1	1												1		4	5		12	.8	12	.8	12	.8	panama
paratyphi B														2					2								14	.9	14	.9	16	1.0	paratyphi B
poona																1			1								2	.1	2	.1	5	.3	poona
saint-paul	1	1			2				2	2										4	2	7			13		47	3.1	47	3.1	72	4.7	saint-paul
san-diego																	1		1			1			1		7	.5	7	.5	28	1.8	san-diego
schwarzengrund		3			3		3			3																	6	.4	6	.4	10	.7	schwarzengrund
senftenberg							1			1												2			2		6	.4	6	.4	4	.3	senftenberg
tennessee																				1				2	3		8	.5	8	.5	16	1.0	tennessee
thompson		1			1	1	2		2	5							1		1		1	6			7		68	4.4	68	4.4	29	1.9	thompson
typhi	1				1		1	1	2	4						1			1		1	16			17		57	3.7	57	3.7	72	4.7	typhi
typhi-murium	7	3	2		12	4	10	1	30	45	1	1		11			26	1	40	20	6	83		5	114		485	31.7	485	31.7	412	26.8	typhi-murium
typhi-murium v cop						1				1																	7	.5	7	.5	20	1.3	typhi-murium v cop
urbana									1	1																	3	.2	3	.2	1	.06	urbana
weltevreden																											1	.07	1	.07	4	.3	weltevreden
worthington																						1		1	2		2	.1	2	.1	4	.3	worthington
untypable, group B						4				4					10				10			2	2		4		26	1.7	26	1.7	16	1.0	untypable, group B
untypable, group C1											1				5	1			7								9	.6	9	.6	11	.7	untypable, group C1
untypable, group C2						1				1																	4	.3	4	.3	8	.5	untypable, group C2
untypable, group D						1				1																	4	.3	4	.3	1	.06	untypable, group D
untypable, group E																															1	.06	untypable, group E
untypable or unknown						1				1																	5	.3	5	.3	8	.5	untypable or unknown
Total Table I	10	19	3		32	23	63	8	62	156	2	1		26	15	4	28	1	77	41	15	190	2	51	299		1,476	96.5	1,476	96.5	1,504	98.0	Total Table I
Total Table II	-	3	-		3	1	5	-	-	5	-	-		-	-	-	-	-	-	-	-	10	-	3	13		55	3.5	55	3.5	34	2.2	Total Table II
Total Tables I & II	10	22	3		35	24	68	8	62	161	2	1		26	15	4	28	1	77	41	15	200	2	54	312		1,531	100.0	1,531	100.0	1,538	100.2	Total Tables I & II

TABLE II

UNCOMMON SALMONELLA SEROTYPES ISOLATED FROM HUMANS DURING 1966

SEROTYPE	REPORTING CENTER																													
	ALA	ALAS	ARI	ARK	CALIF	COLO	CONN	DEL	DC	FLA	GA	HAI	IDA	ILL	IND	IOWA	KAN	KY	LA	ME	MD	MASS	MICH	MINN	MISS	MO	MONT	NEBR	NEV	NH	NJ	NM
abortus-bovis														2																		
ball					2												1															
bradford																			3													
carrau														1																		
cerro																																
duesseldorf					1														1													
eimsbuettel																																
gaminara																			1													
menston																	1															
mission																																
mjimwema																																
muenster										2				1																		
new-brunswick							2																1									
norwich				1						1																						
ohio					2																											
oslo					1							3																				
pullorum														9																		
reading					1									6																		
siegburg					2																	1										
stanley														1																		
virchow																							1									
untypable G										1																						
untypable O					1																											

TABLE II (Continued)

REPORTING CENTER																						JAN. TOTAL	1966 CUM. TOTAL	MONTH LAST REPORTED	STATE LAST REPORTED	TOTAL PREVIOUSLY REPORTED TO SAL. SURV. UNIT 1962 - JAN. 1966	SEROTYPE
NY-A	NY-BI	NY-C	NC	ND	OHIO	OKLA	ORE	PA	RI	SC	SD	TENN	TEX	UTAH	VT	VA	VI	WASH	WV	WIS	WYO						
																						2	2	*	*	0	abortus-bovis
																						2	2	*	*	0	ball
																						1	1	Sept. 64	Mo. & N.J.	2	bradford
																						3	3	Dec. 65	Calif.,La., & Fla.	12	carrau
																						1	1	Dec. 65	Haw. & Ill.	28	cerro
		1										1										3	3	Nov. 64	Fla.	7	duesseldorf
																						1	1	Dec. 65	Okla.	3	eimsbuettel
																						1	1	Dec. 65	N.J. & Ariz.	20	gaminara
												2										1	1	Dec. 65	Colo. & Kans.	14	menston
																						2	2	Dec. 65	La. & Fla.	7	mission
1																						1	1	*	*	0	mjimwema
																						3	3	Dec. 65	Fla.	26	muenster
																						3	3	Dec. 65	Mass. & Mich.	32	new-brunswick
																						2	2	Dec. 65	Ala. & Ariz.	51	norwich
																						2	2	Dec. 65	N.J.	13	ohio
																						4	4	Dec. 64	Haw.	15	oslo
																						9	9	Mar. 64	Ga.	4	pullorum
																						7	7	Dec. 65	Calif. & Ariz.	102	reading
																						3	3	Dec. 65	Calif. & Tex.	19	siegburg
																						1	1	Dec. 64	Ariz.,Fla., & N.Y.	26	stanley
																						1	1	Dec. 65	Mich.	16	virchow
																						1	1				untypable G
																						1	1				untypable O

*Not previously reported.

TABLE III

Age and Sex Distribution of 1,487 Isolations of Salmonella Reported for September 1965

Age (Years)	Male	Female	Total	%	Cumulative %
Under 1	104	64	168	16.6	16.6
1 - 4	130	120	250	24.8	41.4
5 - 9	60	64	124	12.3	53.7
10 - 19	47	41	88	8.7	62.4
20 - 29	50	45	95	9.4	71.8
30 - 39	21	42	63	6.2	78.0
40 - 49	16	40	56	5.6	83.6
50 - 59	26	28	54	5.3	88.9
60 - 69	20	28	48	4.8	93.7
70 - 79	20	22	42	4.1	97.8
80 +	9	13	22	2.2	100.0
Child (Unspec.)	5	4	9		
Adult (Unspec.)	7	16	23		
Unknown	251	194	445	___	___
Total	766	721	1,487		
% of Total	51.5	48.5			

TABLE IV

REPORTED NONHUMAN ISOLATES BY SEROTYPE AND SOURCE, *JANUARY 1966

Serotype	poultry	chicken	turkey	pigeon	canary	pheasant	wild bird	equine	bovine	ovine	porcine	canine	feline	mouse	coon	capybara	egg	powdered egg	frozen egg	frozen egg albumen	powdered egg yolk	chicken & dressing	hamburger	pork meat product	sausage	meat loaf	headcheese	noodles
alachua		1																										
amsterdam																												
anatum		4	15						1										2	1				6				
babelsberg																												
binza									1																			
blockley		11	8							1		1													2			
bovis-morbificans																												
bradford																								1				
braenderup		2																										
bredeney		2	2																									
california		1																										
cerro		1																4			2							
chester			5																									
cholerae-suis v kun											5																	
cubana																												
derby		1	12								1													11			3	
dublin									8																			
eimsbuettel																												
enteritidis		2	4								1	1	1							1				1				
eppendorf																								1				
gallinarum		1																										
give		1							1															2				
hamilton																												
heidelberg		14	24		1															2				1			4	
indiana												1												6				
infantis		11	7														4	1	1	3				2				1
java																							1					
kentucky																												
lexington		1																										
livingstone		2	1																									
manhattan			1																	2				1				
manila																												
meleagridis			1																									
minnesota			1																									
montevideo		10																1										
newington		3																1										
newport			5						7					1														
oranienburg		1										1								7								
orion		4																										
oslo																												
pharr																1												
pullorum	2	8																										
saint-paul		1	39																	2				5				
san-diego			11																									
schwarzengrund			6																			1				1		
senftenberg			1															1										
simsbury																												
tennessee		2																	6									
thomasville			1																									
thompson		7	1															2		2								
tuebingen																												
typhi																												
typhi-murium		3	10	1	1	1	1	1	20	2	2	3			1					1								
typhi-murium v cop		8		1						2														3				
untypable group B									1																			
untypable group K																					1							
TOTAL	2	102	155	2	2	1	1	1	39	5	9	7	1	1	1	1	4	10	9	21	3	1	1	40	2	1	7	1

Source: National Disease Laboratory, Ames, Iowa, weekly Salmonella Reports from individual States and US-FDA-Division of Microbiology, Washington, D.C.

*Includes December 1965 late reports.

TABLE IV
REPORTED NONHUMAN ISOLATES BY SEROTYPE AND SOURCE, *JANUARY 1966 (Continued)

cream pie	dried yeast tablets	pet food, beef	pet food, horse meat	frozen pet food, unknown	pet food, unknown	bone meal/meat scraps	cottonseed meal	rice husks	feed, unknown	soybean meal	horsemeat	tankage	turtle	snake	river water	alligator tank	turtle water	"pink elephant" water	turtle tank	"honeypot"	lab stock culture	baby scale swab	unknown	Total	Serotype
			3			1			1			1												1	alachua
						1																		1	amsterdam
						1																		34	anatum
						1																		1	babelsberg
																								2	binza
		1																						23	blockley
														1										1	bovis-morbificans
																								1	bradford
																								3	braenderup
																								4	bredeney
						1	1																	2	california
																								8	cerro
																								5	chester
								3																5	cholerae-suis v kun
																								3	cubana
						3			2															30	derby
																								8	dublin
																								3	eimsbuettel
																								11	enteritidis
																								1	eppendorf
		1				1																		1	gallinarum
										1														6	give
			1														2				2		1	1	hamilton
																								52	heidelberg
																								7	indiana
				1		5			1															40	infantis
						2					1						1				3			5	java
						1																		1	kentucky
																								1	lexington
									1								1							5	livingstone
						1																		4	manhattan
																								1	manila
						1																		2	meleagridis
						1																		1	minnesota
																								12	montevideo
						1					1									2				6	newington
	1					1			1			1					2				1			16	newport
									1															15	oranienburg
																			1					5	orion
																								1	oslo
						5										1	1							1	pharr
																								10	pullorum
																								54	saint-paul
																								11	san-diego
																								8	schwarzengrund
						2						1												5	senftenberg
						1																		1	simsbury
						1																		10	tennessee
																								1	thomasville
																	2							14	thompson
														1										1	tuebingen
																		1						1	typhi
3			1			3					2	1			1						1	1	2	61	typhi-murium
		1																						15	typhi-murium v cop
																								2	untypable group B
																								1	untypable group K
3	1	3	5	1	18	16	1	3	7	1	4	4	1	1	1	1	9	1	1	2	7	1	3	525	TOTAL

Source: National Disease Laboratory, Ames, Iowa, weekly Salmonella Reports from individual States and US-FDA-Division of Microbiology, Washington, D.C.
*Includes December 1965 late reports.

TABLE V

REPORTED NONHUMAN ISOLATES BY SEROTYPE AND STATE, *JANUARY 1966

Serotype	Ala	Ark	Calif	Conn	Dela	Fla	Ga	Ill	Ind	Iowa	Kan	La	Md	Mass	Mich	Minn	Miss	Mo	Mont	Neb	NJ	NM	NYA	NYC	NC	Ohio	Ore	Pa	SC	SD	Tenn	Tex	Utah	Va	Wash	Wisc	Wyo	Total	Serotype
alachua																					1																		1	alachua
amsterdam																										1												1	amsterdam
anatum	1		14				1									4					6							1				4	2			1		34	anatum
babelsberg									1																													1	babelsberg
binza								1																					1									2	binza
blockley			12				1		2								3										1	1								3		23	blockley
bovis-morbificans			1																																		1	bovis-morbificans
bradford																					1																	1	bradford
braenderup		1	1														1					/															3	braenderup
bredeney			2	2																																	4	bredeney
california																	1														1						2	california
cerro		1							1																	6											8	cerro
chester																2																			3		5	chester
cholerae-suis v kun					1				1	1																			1					1			5	cholerae-suis v kun
cubana		3																																			3	cubana
derby			4													10					11					2									3		30	derby
dublin			6																													2					8	dublin
eimsbuettel	1							1		1																												3	eimsbuettel
enteritidis			1				1		1							4					1				1							2						11	enteritidis
eppendorf																					1																	1	eppendorf
gallinarum																																1						1	gallinarum
give			1				1		1												2								1									6	give
hamilton												1																											1	hamilton
heidelberg			14				7			2			7			7	2	1		1	1				1			1						1	6	1		52	heidelberg
indiana						1															6																	7	indiana
infantis			21				3	2	3						4	1					2					1									3			40	infantis
java			3			1		1																														5	java
kentucky										1																												1	kentucky
lexington			1																																		1	lexington
livingstone			2									1														1						1						5	livingstone
manhattan							1									2					1																	4	manhattan
manila									1																													1	manila
meleagridis			2																																		2	meleagridis
minnesota			1																																		1	minnesota
montevideo			1				5	1	1								3								1												12	montevideo
newington			3					1																											2			6	newington
newport			8													4	2						1													1		16	newport
oranienburg								3	2					1		7								1		1												15	oranienburg
orion																	4									1												5	orion
oslo			1																																		1	oslo
pharr															1																							1	pharr
pullorum												1							1									1			1			6			10	pullorum
saint-paul			18							1						18					5						1					8	1		2		54	saint-paul
san-diego			10																													1					11	san-diego
schwarzengrund			5				2									1																					8	schwarzengrund
senftenberg	1		1						1	1						1																					5	senftenberg
simsbury									1																													1	simsbury
tennessee	1		2						1						6																							10	tennessee
thomasville			1																																			1	thomasville
thompson		4	1				1				2		2		2																2							14	thompson
tuebingen															1																							1	tuebingen
typhi																		1																				1	typhi
typhi-murium	1		32	1			1	2				3				3		3								2				3		1	4	1	2	1	1	61	typhi-murium
typhi-murium v cop							6	2	1												5											1						15	typhi-murium v cop
untypable group B			1																			1																2	untypable group B
untypable group K																										1												1	untypable group K
TOTAL	5	9	170	3	1	2	30	14	18	7	2	6	9	1	14	64	16	5	1	1	43	1	1	1	3	16	2	4	2	4	3	20	9	11	15	11	1	525	TOTAL

Source: National Disease Laboratory, Ames, Iowa, weekly Salmonella Reports from individual States and US-FDA-Division of Microbiology, Washington, D.C.

*Includes December, 1965 late reports.

NY-A=New York-Albany; NY-C=New York-City