REPORT NO. 84

April 29, 1969

NATIONAL

COMMUNICABLE DISEASE CENTER

SALMONELLA

SURVEILLANCE

CONTENTS. . .

FOR THE MONTH OF MARCH 1969

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

Health Services and Mental Health Administration

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

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I. SUMMARY

In March 1969, 1,165 isolations of salmonellae were reported from humans, an average of 291 isolations per week (Tables I, II, and V-A). This number represents an increase of 34 (13.2 percent) over the weekly average of February 1969 and an increase of 19 (7.0 percent) over the weekly average of March 1968.

Reports of 738 nonhuman isolations of salmonellae were received during March 1969 (Tables II, IV, and V-B).

II. REPORTS OF ISOLATIONS

The ten most frequently reported serotypes during March:

	HUMAN			NONHUMAN		
	Serotype	Number	Percent	Rank Last Month	Serotype	Number	Percent
1	typhi-murium*	328	28.2	1	typhi-murium*	159	21.5
2	enteritidis	117	10.0	3	heidelberg	64	8.7
3	heidelberg	85	7.3	4	cubana	32	4.3
4	infantis	65	5.6	2	saint-paul	27	3.7
5	newport	65	5.6	7	thompson	23	3.1
6	saint-paul	62	5.3	6	eimsbuettel	22	3.0
7	thompson	52	4.5	5	cholerae-suis	21	2.8
8	blockley	45	3.9	9	derby	21	2.8
9	typhi	29	2.5	8	montevideo	19	2.6
10	derby	21	1.8	>10	enteritidis	18	2.4
10	montevideo	21	1.8	>10	infantis	18	2.4
	Total	890	76.4		Total	424	57.5
	TOTAL (all serotypes)	1,165			TOTAL (all serotypes)	738	
	*Includes var. copenhagen	9	0.8		*Includes var. copenhagen	12	1.6

III. CURRENT INVESTIGATIONS

NONE

IV. REPORTS FROM THE STATES

NONE

V. SPECIAL REPORTS

General Guidelines for Handling Ready-to-Eat Products

The following section has been added to the Manual of Meat Inspection Procedures by the Consumer Protection Program, U.S. Department of Agriculture for use by Federal meat inspectors. These guidelines are intended to reduce the risk of spread of salmonella and other food poisoning organisms from raw products to finished ready-to-eat foods. Details related to these guidelines can be obtained from Dr. John E. Spaulding, Head, Toxicology Group, Agricultural Research Center, U.S. Department of Agriculture, Beltsville, Maryland.

Section 308.16

Cooked products that may be consumed with limited further processing in the home offer ideal media for the propagation of possible food poisoning organisms. Establishments must take full responsibility for ensuring maximum sanitation levels for all equipment, employees and employee work habits to prevent microbial growth and/or contamination of product. Therefore, in addition to other requirements in Sections 308 and 318 the following rules will be added regarding the handling and further preparation of ready-to-eat and warm-and-eat and other meat food products that may be eaten without thorough cooking by consumers.

A. Cooked or ready-to-eat product shall not be handled by employees who handle or prepare raw or uncooked products. However, an employee may work on both ready-to-eat and raw products provided he properly washes and sanitizes his hands and changes any garment that has previously contacted raw product. Persons whose duties require working with live animals, offal, or inedible product must not be permitted to handle finished cooked product.

Management will provide for examination of employees' hands and fingernails before operations begin. Employees whose hands exhibit any evidence of lesions, such as boils, open sores or other inflammation, shall not be permitted to handle product.

B. Employees will properly wash and sanitize their hands upon entering or re-entering the department where cooked or ready-to-eat product is prepared, as well as each time that their work assignment causes them to contact possible contaminated materials (such as handling mechanical equipment, picking debris from the floor, etc.).

Employee aprons will be readily identified for use only in ready-to-eat or cooked product handling areas. Aprons used for such activities will be kept clean and hung in a designated area apart from other aprons when not in use.

C. Equipment, such as trays, vats and tables, must not be used interchangeably for raw product and cooked product unless it is completely cleaned and sanitized before moving to the area designated for cooked products. Such equipment should then be stored or handled in a manner to prevent contamination until used.

Washing and sanitizing of portable equipment will be done in designated areas that will not permit contamination of product or other equipment.

D. All equipment, such as trays and tables, that comes in direct contact with such products shall be thoroughly washed and sanitized every four hours. The internal temperature of products described in this Section shall not be maintained between 40°F. and 120°F. for more than two hours.

E. Exposed ready-to-eat or cooked products shall not be stored in the same room with raw product.

F. Establishment cleanup procedures will be directed to ready-to-eat or cooked product departments first if the same establishment personnel clean other establishment areas as well.

VI. INTERNATIONAL

NONE

TABLE I. COMMON SALMONELLAE REPORTED FROM HUMAN SOURCES, MARCH 1969

SEROTYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																													
	NEW ENGLAND						MIDDLE ATLANTIC					EAST NORTH CENTRAL					WEST NORTH CENTRAL						SOUTH ATLANTIC							
	ME	NH	VT	MAS	RI	CON	NYA	NYB	NYC	NJ	PA	OHI	IND	ILL	MIC	WIS	MIN	IOW	MO	ND	SD	NEB	KAN	DEL	MD	DC	VA	WVA	NC	SC	GA	FLA
anatum													1		2								1			1				2	1
bareilly																													1			1
blockley	1			9	1	1		2	4	1	3	1	1	2	1	1			1						1		2				1	1
braenderup				1		2			1	1													1								1
bredeney								1		1	1	1													3	1	1				1	
chester																																
cholerae-suis v kun																																
cubana				1										1	4	1	1															
derby								1				1	1	2											1						1	2
enteritidis				7		1		6	10	14	4	7	2	12	1		1		3				2		6	1	2		5		7	2
give				2																									7			
heidelberg	2			12		2		2	5		4	6		3	3	1	2		1						2	1	4		1		6	4
indiana																															5	
infantis			1	2		5		4	1	2	2	1	2	3		6	2		2				1		1	1	2					6
java										1				2				1													2	
javiana				1								1											2								3	
litchfield								2						1															3			2
livingstone																																
manhattan									4				1	1											1		1					1
miami																									1							4
mississippi																																
montevideo				1				1				1		2					1		1				3				1		4	1
muenchen								2	1																						2	
newington														1																		
newport				4	2					1		5		9	1	1	2		4												1	13
oranienburg						2		1				1			1			1			1											
panama				1		1					8																				1	
paratyphi B				7											1																	
reading						1								1											1							
saint-paul			1	1				4	5	2	2	10	2	5	3									1	3				7		1	6
san-diego									1																							
schwarzengrund													1																			
senftenberg								2		1																						
tennessee				1						1									1					1								1
thompson				10				5	2	1		2		9	4	1		1							1	2	2				1	1
typhi				2							1	2			1				1						3				1			2
typhimurium	1		1	25	1	5	1	18	27	9	7	9	6	33	15	17	4	3	5				3		13	2	2		4	1	7	17
typhimurium v cop						2				3					1																	
weltevreden																																
worthington				2																												
TOTAL	4	—	3	89	4	22	1	51	61	38	32	48	17	87	38	28	12	6	19	—	2	—	10	2	40	9	16	—	30	1	42	69
ALL OTHER*	—	2	—	1	2	—	17	5	3	—	—	2	—	4	1	—	—	6	—	2	—	—	—	—	—	10	—	—	2	1	—	7
TOTAL	4	2	3	90	6	22	18	56	64	38	32	50	17	91	39	28	12	12	19	2	2	—	10	2	40	19	16	—	32	2	42	76

Note: NYA – New York, Albany; NYB – Beth Israel Hospital; NYC – New York City. Beth Israel Hospital laboratory is a reference laboratory and this month serotyped a total of 127 cultures.

* See Table II.

TABLE I – Continued

GEOGRAPHIC DIVISION AND REPORTING CENTER																				TOTAL	% OF TOTAL	CUMULATIVE TOTAL	% OF CUMULATIVE 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				
																3		3			14	1.2	40	1.0	*anatum*
																					2	0.2	16	0.4	*bareilly*
						2										1	1	7			45	3.9	116	3.0	*blockley*
																		1			8	0.7	26	0.7	*braenderup*
																	1	2			13	1.1	30	0.8	*bredeney*
																					—	—	10	0.3	*chester*
																					—	—	4	0.1	*cholerae-suis v kun*
1																					9	0.8	35	0.9	*cubana*
	1		1		2											1		4		3	21	1.8	70	1.8	*derby*
1	1							1								3		15		3	117	10.0	326	8.4	*enteritidis*
																		3			12	1.0	22	0.6	*give*
	2				1		2						5			2		10		2	85	7.3	263	6.8	*heidelberg*
																					5	0.4	11	0.3	*indiana*
1	5	1			3		1				3						1	5		1	65	5.6	244	6.3	*infantis*
																	2				8	0.7	30	0.8	*java*
					2		4											2			15	1.3	63	1.6	*javiana*
																					8	0.7	17	0.4	*litchfield*
																		1		1	2	0.2	6	0.2	*livingstone*
																		1			10	0.9	45	1.2	*manhattan*
																					5	0.4	27	0.7	*miami*
																					—	—	2	0.1	*mississippi*
													1				1	2	1		21	1.8	53	1.4	*montevideo*
																					5	0.4	39	1.0	*muenchen*
1																					2	0.2	3	0.1	*newington*
							10				6							6			65	5.6	241	6.2	*newport*
							1											3			11	0.9	48	1.2	*oranienburg*
							1						1							3	16	1.4	58	1.5	*panama*
							5											1			14	1.2	31	0.8	*paratyphi B*
																	1				4	0.3	10	0.3	*reading*
		2					3	1										3			62	5.3	200	5.2	*saint-paul*
																					1	0.1	9	0.2	*san-diego*
														1				1			3	0.3	15	0.4	*schwarzengrund*
																		1			4	0.3	12	0.3	*senftenberg*
																					5	0.4	11	0.3	*tennessee*
1		1					1	1										5		1	52	4.5	155	4.0	*thompson*
	3			4		3	1											4		1	29	2.5	97	2.5	*typhi*
2	4		1	1	8	1	9				4		1			4	5	42		1	319	27.4	1094	28.3	*typhimurium*
	1						1										1				9	0.8	39	1.0	*typhimurium v cop*
																				3	3	0.3	11	0.3	*weltevreden*
																					2	0.2	5	0.1	*worthington*
7	17	4	2	5	16	6	39	3	—	—	13	—	8	1	—	14	13	122	1	19	1071	91.9	3534	91.4	TOTAL
—	—	1	3	1	1	—	4	—	—	—	—	3	2	—	—	—	—	9	4	1	94		331		ALL OTHER*
7	17	5	5	6	17	6	43	3	—	—	13	3	10	1	—	14	13	131	5	20	1165		3865		TOTAL

TABLE II. OTHER SALMONELLAE REPORTED FROM HUMAN SOURCES, MARCH 1969

SEROTYPE	REPORTING CENTER																					
	ALA	ALK	ARI	ARK			CAL	DC	FLA	HAW			ILL	IOW	LA	MAS			MIC	MIS	NH	NM		
albany																			1					
berta			2																					
drypool													1											
eimsbuettel																								
fayed																								
hartford									3															
inverness									1															
johannesburg																								
los angeles							1																	
meleagridis							1																	
minnesota									1															
muenster																								
oslo										1														
paratyphi A																								
poona													2											
rubislaw							1																	
siegburg															1									
simsbury																								
stanley							1																	
tallahassee									1															
thomasville	1																							
urbana							1																	
TOTAL	1	–	2	–			5	–	6	1			3	–	1	–			1	–	–	–		
NOT TYPED*	–	4	–	1			4	10	1	–			1	6	–	1			–	3	2	3		
TOTAL	1	4	2	1			9	10	7	1			4	6	1	1			1	3	2	3		

* See Table V-A

TABLE II – Continued

REPORTING CENTER													TOTAL	CUMULATIVE TOTAL	SEROTYPE
NYA	NYB	NYC	NC			ND	OHI	RI	SC			TEX			
													1	4	*albany*
													2	5	*berta*
													1	1	*drypool*
			1										1	6	*eimsbuettel*
			1										1	1	*fayed*
													3	12	*hartford*
													1	1	*inverness*
	1												1	1	*johannesburg*
													1	1	*los angeles*
													1	3	*meleagridis*
													1	3	*minnesota*
	1												1	6	*muenster*
													1	1	*oslo*
							1						1	3	*paratyphi A*
													2	6	*poona*
													1	5	*rubislaw*
													1	3	*siegburg*
	2												2	2	*simsbury*
													1	2	*stanley*
													1	4	*tallahassee*
													1	1	*thomasville*
							1						2	5	*urbana*
–	4	–	2			–	2	–	–			–	28	120	TOTAL
17	1	3	–			2	–	2	1			4	66	211	NOT TYPED*
17	**5**	**3**	**2**			**2**	**2**	**2**	**1**			**4**	**94**	**331**	**TOTAL**

Cumulative Totals include isolations of all serotypes (except those listed in Table I) reported this year.

TABLE III. COMMON SALMONELLAE REPORTED FROM NONHUMAN SOURCES, MARCH 1969

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT							ANIMAL FEEDS			
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
anatum	1	5	1		1	1	9	3			3
bareilly							–	2			2
blockley	8			1		1	10				–
braenderup							–				–
bredeney	1			2		3	6				–
chester		1					1	1			1
cholerae-suis v kun			20				20				–
cubana		1					1	21		2	23
derby		4	3			2	9	2		9	11
enteritidis	8	2	1	1		1	13	2			2
give	1	3				1	5				–
heidelberg	14	40		1		1	56	4		1	5
indiana							–				–
infantis	10	2					12	2		1	3
java							–				–
javiana			1				1				–
litchfield							–				–
livingstone						1	1	4		3	7
manhattan	1	4					5				–
miami			2			1	3				–
mississippi							–				–
montevideo		2	1				3	3		9	12
muenchen	1	2					3				–
newington					1		1				–
newport	2						2				–
oranienburg		3			2		5	3		2	5
panama						1	1	1			1
paratyphi B							–				–
reading		1					1				–
saint-paul	2	22				1	25				–
san-diego		10				1	11				–
schwarzengrund		3					3			2	2
senftenberg	1	8	1				10	5		2	7
tennessee	1	2					3	11			11
thompson	12	1					13	7			7
typhi							–				–
typhimurium	13	14	10	26	7	11	81	4		7	11
typhimurium v cop	4		1	4		1	10	1			1
weltevreden							–				–
worthington	6	4					10	5		1	6
TOTAL	86	134	41	35	11	27	334	81	–	39	120
ALL OTHER*	13	11	3	12	1	11	51	80	–	27	107
TOTAL	99	145	44	47	12	38	385	161	–	66	227

*See Table IV

TABLE III – Continued

WILD ANIMALS AND BIRDS	REPTILES AND ENVIRONMENT	HUMAN DIETARY ITEMS						MISCELLANEOUS	TOTAL	CUMULATIVE TOTAL	SEROTYPE
		EGGS AND PRODUCTS	POULTRY	RED MEAT	DAIRY PRODUCTS	OTHER	SUBTOTAL				
					1		1		13	70	*anatum*
							–		2	8	*bareilly*
		1		2			3		13	33	*blockley*
							–		–	–	*braenderup*
							–	1	7	39	*bredeney*
							–	1	3	7	*chester*
							–	1	21	110	*cholerae-suis v kun*
					1	7	8		32	49	*cubana*
							–	1	21	47	*derby*
1							–	2	18	50	*enteritidis*
			1				1		6	10	*give*
		2	1				3		64	231	*heidelberg*
							–		–	2	*indiana*
1		2					2		18	48	*infantis*
							–		–	4	*java*
							–		1	2	*javiana*
							–		–	2	*litchfield*
		1					1		9	29	*livingstone*
	2						–		7	13	*manhattan*
							–		3	3	*miami*
							–		–	–	*mississippi*
		3					3	1	19	80	*montevideo*
							–		3	18	*muenchen*
						1	1		2	11	*newington*
							–	1	3	42	*newport*
							–	1	11	22	*oranienburg*
1							–		3	5	*panama*
							–		–	–	*paratyphi B*
			1				1		2	17	*reading*
1							–	1	27	105	*saint-paul*
							–		11	42	*san-diego*
							–		5	12	*schwarzengrund*
							–		17	44	*senftenberg*
					1		1	1	16	35	*tennessee*
	1	2					2		23	87	*thompson*
							–		–	–	*typhi*
18		1					1	36	147	312	*typhimurium*
1							–		12	54	*typhimurium v cop*
							–		–	–	*weltevreden*
							–	1	17	39	*worthington*
23	3	12	3	2	3	8	28	48	556	1682	TOTAL
1	1	2	–	–	3	–	5	17	182	472	ALL OTHER*
24	**4**	**14**	**3**	**2**	**6**	**8**	**33**	**65**	**738**	**2154**	**TOTAL**

TABLE IV. OTHER SALMONELLAE REPORTED FROM NONHUMAN SOURCES, MARCH 1969

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT							ANIMAL FEEDS			
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
alachua		3					3	1			1
albany	1						1				—
binza						6	6	3			3
bornum							—	4			4
california	1						1	4			4
cerro			1		1	1	3	6		4	10
cholerae-suis				1			1				—
corvallis							—				—
dublin				7			7				—
duval							—				—
eimsbuettel	2	1		1		1	5	16		1	17
gallinarum	1						1				—
gaminara							—				—
habana							—				—
illinois							—			1	1
johannesburg	1						1	1			1
kentucky		3				1	4	9			9
lexington							—	3			3
london							—			3	3
mikawashima							—				—
minnesota							—	8			8
new-brunswick							—				—
ohio							—			2	2
oslo						2	2				—
paratyphi A							—			6	6
paratyphi C							—			5	5
pullorum	2						2				—
siegburg	1	2					3			1	1
simsbury							—	15			15
taksony		2					2	3			3
thomasville				1			1	2		1	3
urbana							—	1			1
westhampton							—	2			2
TOTAL	9	11	1	10	1	11	43	78	—	24	102
NOT TYPED*	4	—	2	2	—	—	8	2	—	3	5
TOTAL	13	11	3	12	1	11	51	80	—	27	107

*See Table V-B

TABLE IV – Continued

WILD ANIMALS AND BIRDS	REPTILES AND ENVIRONMENT	HUMAN DIETARY ITEMS						MISCELLANEOUS	TOTAL	CUMULATIVE TOTAL	SEROTYPE
		EGGS AND PRODUCTS	POULTRY	RED MEAT	DAIRY PRODUCTS	OTHER	SUBTOTAL				
							–		4	15	*alachua*
							–		1	11	*albany*
							–		9	19	*binza*
							–		4	5	*bornum*
							–		5	11	*california*
							–		13	22	*cerro*
							–		1	4	*cholerae-suis*
		2					2		2	2	*corvallis*
							–		7	27	*dublin*
							–	12	12	12	*duval*
							–		22	53	*eimsbuettel*
							–		1	5	*gallinarum*
							–	1	1	1	*gaminara*
1							–		1	1	*habana*
							–		1	4	*illinois*
							–		2	6	*johannesburg*
							–		13	30	*kentucky*
							–		3	5	*lexington*
							–		3	3	*london*
							–	1	1	1	*mikawashima*
							–		8	41	*minnesota*
					3		3	1	4	4	*new-brunswick*
							–		2	2	*ohio*
							–		2	3	*oslo*
							–	1	7	7	*paratyphi A*
							–		5	5	*paratyphi C*
							–		2	8	*pullorum*
							–		4	18	*siegburg*
							–		15	17	*simsbury*
							–		5	7	*taksony*
							–		4	7	*thomasville*
							–		1	1	*urbana*
							–	1	3	6	*westhampton*
1	–	2	–	–	3	–	5	17	168	432	TOTAL
–	1	–	–	–	–	–	–	–	14	40	NOT TYPED*
1	1	2	–	–	3	–	5	17	182	472	TOTAL

TABLE V. SALMONELLAE REPORTED BY GROUP IDENTIFICATION ONLY, MARCH 1969

A. HUMAN SOURCES

REPORTING CENTER	GROUP														TOTAL
	B	C	C1	C2	D		E	G	H	O		V	058	UNK	
ALASKA	3								1						4
ARKANSAS	1														1
CALIFORNIA	1							1				1	1		4
DISTRICT OF COLUMBIA	6		2	1	1										10
FLORIDA	1														1
ILLINOIS														1	1
IOWA	5		1												6
MASSACHUSETTS														1	1
MISSISSIPPI		2		1											3
NEW HAMPSHIRE	1						1								2
NEW MEXICO	1				1		1								3
NEW YORK – A														17	17
NEW YORK – BI	1														1
NEW YORK – C	3														3
NORTH DAKOTA														2	2
RHODE ISLAND	1				1										2
SOUTH CAROLINA			1												1
TEXAS				2										2	4
TOTAL	24	2	4	4	3		2	1	1	–		1	1	23	66

B. NONHUMAN SOURCES

SOURCES	GROUP														TOTAL
	B	C	C1	C2	D		E	G	H	O		V	058	UNK	
DOMESTIC ANIMALS AND THEIR ENVIRONMENT	3				2		1			1				1	8
ANIMAL FEEDS														5	5
WILD ANIMALS AND BIRDS															–
REPTILES AND ENVIRONMENT	1														1
HUMAN DIETARY ITEMS															–
MISCELLANEOUS															–
TOTAL	4	–	–	–	2		1	–	–	1		–	–	6	14