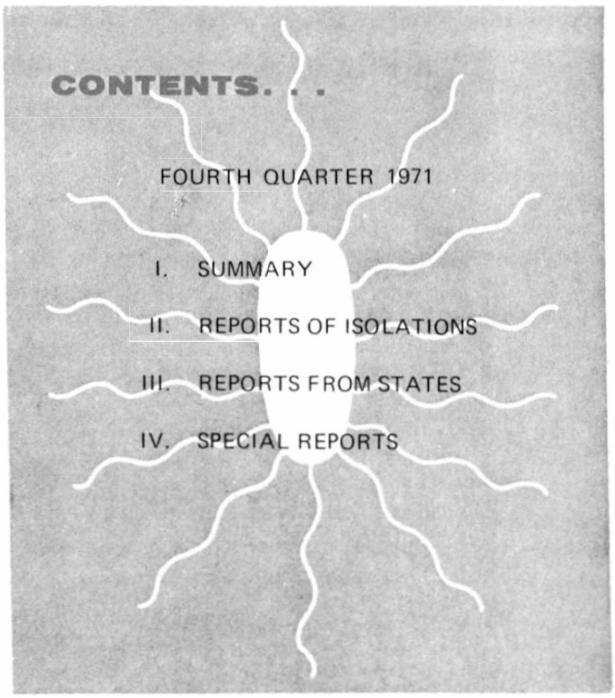
REPORT NO.113
MAY 1972



CENTER FOR DISEASE CONTROL

# SALMONELLA

## SURVEILLANCE




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

Center for Disease Control
Attn.: Salmonellosis Surveillance Activity, Epidemiology Program
Atlanta, Georgia 30333

Center for Disease Control . . . . . David J. Sencer, M.D., Director

Epidemiology Program . . . . . 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 . . . . . Matthew S. Loewenstein, M.D., Chief

Salmonellosis Surveillance Activity . . . . . Peter A. Rice, M.D.

Statistician . . . . . Stanley M. Martin, M.S.

Office of Veterinary Public Health Services . . . . . Richard L. Parker, D.V.M., Chief

Bacterial Zoonoses Section . . . . . Arnold F. Kaufmann, D.V.M., Chief
Grace W. McConnell, V.M.D.

Epidemic Services Laboratory Section . . . . . George Morris, Chief

June 21, 1972

TABLE OF CONTENTS



DHEW Publication No. (HSM) 72-8156

## I. SUMMARY

In the fourth quarter of 1971, 6,753 isolations of salmonellae were reported from humans, an average of 519 isolations per week (Tables I, II, and V-A). This number represents a decrease of 126 (19.5 percent) from the weekly average during the third quarter 1971 and a decrease of 6 (1.1 percent) from the weekly average of the fourth quarter 1970 (Tables II, IV, and V-B). Average reported human isolations per week for each month and during the quarter are provided below for the last three years.

| | 1969 | 1970 | 1971 |
|---|---|---|---|
| October | 485 | 644 | 562 |
| November | 470 | 523 | 562 |
| December | 404 | 432 | 452 |
| Quarter Total | 452 | 525 | 519 |

## II. REPORTS OF ISOLATIONS

The ten most frequently reported serotypes during the fourth quarter:

| | HUMAN | | Rank Last | NONHUMAN | | |
|---|---|---|---|---|---|---|
| Serotype | Number | Percent | Quarter | Serotype | Number | Percent |
| typhi-murium* | 1847 | 27.4 | 1 | typhi-murium* | 120 | 13.7 |
| newport | 603 | 8.9 | 4 | newport | 42 | 4.8 |
| enteritidis | 452 | 6.7 | 2 | montevideo | 39 | 4.4 |
| infantis | 410 | 6.1 | 5 | heidelberg | 38 | 4.3 |
| heidelberg | 381 | 5.6 | 3 | senftenberg | 38 | 4.3 |
| thompson | 227 | 3.4 | 6 | cerro | 29 | 3.3 |
| saint-paul | 203 | 3.0 | 7 | derby | 28 | 3.2 |
| derby | 182 | 2.7 | >10 | saint-paul | 26 | 3.0 |
| typhi | 171 | 2.5 | >10 | binza | 23 | 2.6 |
| javiana | 163 | 2.4 | 8 | bredeney | 23 | 2.6 |
| Total | 4639 | 68.7 | | Total | 406 | 46.2 |
| TOTAL (all serotypes) | 6753 | | | TOTAL (all serotypes) | 879 | |
| *Includes var. copenhagen | 79 | 1.2 | | *Includes var. copenhagen | 12 | 1.4 |

# III. REPORTS FROM THE STATES

III. REPORTS FROM THE STATES

A. Reports of Salmonella Outbreaks Received During the Fourth Quarter, 1971

| State | Month of Outbreak | Location | Serotype | Number of Persons | | | | Deaths | Vehicle | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ill | At Risk | With positive cultures | Hospitalized | | | |
| Virginia | Sep | Harrisonburg | *S. typhi* | 11 | 30 | 11 | | 0 | Playground contaminated with sewage | ?elderly carrier |
| Pennsylvania | Jun | Mercer City | *S. typhi* | 3 | ? | 3 | | | | |
| Pennsylvania | Aug | Chester City | *S. typhi* | 33 | 130 | 17 | 17 | 2 | Chicken salad implicated | Report in this issue of SSR |
| Michigan | | | *S. typhi* | 3 | | 3 | | | | Nursing home outbreak |
| New York | Sep | New York City | *S. schwarzengrund* | 28 | ? | 14 | 0 | 0 | Roast turkey positive for *S. schwarzengrund;* implicated by food specific attack rates | Reported in SSR #112 |
| California | | | *S. dublin* | 5 | | 5 | | 0 | Raw milk incriminated | |
| Massachusetts | Oct | Ashfield | *S. reading* | 9 | 9 | 4 | | 0 | Smoked turkey implicated | Turkey home-smoked in a chimney |
| Massachusetts | Jul | West Springfield | *S. newport* | ? | 150 | 11 | several | 0 | | Restaurant outbreak |
| South Carolina | Aug | Greenville | *S.* group B | 15 | 106 | 7 | 15 | 1 | | Nursing home |
| Iowa | Jul | Holstein | *S. thompson* | 95 | 220 | 21 | 22 | 0 | Multiple foods | Two separate outbreaks 1 day apart catered by the same restaurant |
| Michigan | Nov | Port Huron | *S. typhi*<br>*S. infantis* | 19 | 34 | 1 + *S. typhi*<br>1 + *S. infantis* | 1 | 0 | Not identified | Shipboard outbreak |
| Ohio | Oct | Cleveland | *S. enteritidis* | | | 10 | 4 | 0 | | Restaurant outbreak |
| Maryland | Aug 70<br>Feb 71 | NIH | *S. cholerae-suis* | 7 | | 7 | 7 | 1 | Contaminated platelet infusions | Reported in this issue of SSR |

## B. S. cholerae-suis septicemia caused by platelet transfusions.

Reported by Frank S. Rhame, M.D., Hospital Infections Section, CDC, Atlanta; R. K. Root, M.D., Chief, Infectious Diseases Section, Department of Medicine, University of Pennsylvania Medical School; J. D. McLowry, M.D., Chief, Microbiology Service, Clinical Center, NIH; T. Dadisman, M.D., Maryland State Department of Health; and John V. Bennett, M.D., Chief, Bacterial Diseases Branch, Epidemiology Program, CDC, Atlanta, Georgia.

Between August 12, 1970, and February 2, 1971, seven cases of Salmonella cholerae-suis septicemia occurred among patients hospitalized at the Clinical Center of the National Institutes of Health. All the patients were immunologically compromised: four had leukemia, and one each had Hodgkin's disease, lymphosarcoma, and the Wiskott-Aldrich syndrome. One patient died. None had accompanying diarrheal illness.

One person was an outpatient during the 2 months prior to her septicemia and ate no food prepared in the inpatient kitchen; two other patients ate food only from the inpatient kitchen. All seven patients had been hospitalized on three wards, but no single physician had seen more than two of the patients. Common exposures to physical therapists, occupational therapists, EKG technicians, clergymen, patient activities, area personnel, and dieticians were ruled out. The patients were, however, exposed to the same hematology technicians, nurses working on all three wards, blood bank workers, and personnel from the central IV additive service. Stool cultures were

obtained from these personnel and from approximately 75 patients who were ward mates of the infected patients. All were negative for S. cholerae-suis.

The sporadic occurrence of the cases suggested intermittent exposure to a common source. A control population was selected consisting of 22 patients present on the same wards and services at the same time as the septic patients. Rates of exposure to various medications during the week preceding each case of S. cholerae-suis-septicemia were compared in both groups. The major difference was in the rate of administration of platelets. Further investigation revealed that all seven patients received platelets from a single donor in a commercial plasmaphoresis program. He was found to have tibial osteomyelitis with localized tenderness of the left tibia being the only symptom. Salmonella cholerae-suis was cultured from his blood on three of four occasions.

Editorial comment: This outbreak illustrates the importance of the epidemiologic technique of comparing rates of exposure to appropriate features of the ill patients with a carefully selected control population. The donor was a 50-year-old Negro male who had a normal hemoglobin electrophoretic pattern and who had no obvious reason for osteomyelitis.

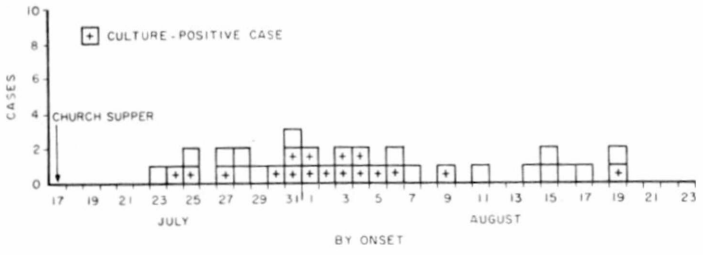
Reference - Saphra I, Wassermann M: AMJ Med Sci 228:525, 1957. Salmonella cholerae-suis. A Clinical and Epidemiological Evaluation of 329 Infections Identified Between 1940 and 1954 in the New York Salmonella Center.

C. S. typhi--Coatesville, Pennsylvania

Typhoid Fever--Pennsylvania. Reported by Stephen M. Hanson, M.D., Director of Laboratories, Coatesville Hospital, Pennsylvania; George Bender, M.D., Director, Chester County Health Department, Pennsylvania; William D. Schrack, Jr., M.D., Director, Division of Communicable Diseases, Commonwealth of Pennsylvania Department of Health; and Ronald H. Goldenson, M.D., EIS officer, Pennsylvania.

On July 17, 1971, 130 persons attended a church supper in Coatesville, Pennsylvania. Thirty-three (25 percent) of these persons became ill with febrile gastroenteritis due to Salmonella typhi (Figure 1). The median incubation period was 17 days, with a range of 6-33 days. Symptoms included fever (100 percent), malaise (100 percent), headache (79 percent), diarrhea (67 percent), abdominal pain (67 percent), vomiting (48 percent), sore throat (33 percent), constipation (30 percent), and cough (18 percent). The mean duration of illness was 27 days. Seventeen persons were hospitalized and two patients died, one with hemolysis and subsequent hemoglobinuric renal failure and the other with pulmonary embolism.

CASES OF TYPHOID FEVER, BY ONSET, COATESVILLE, PENNSYLVANIA, JULY 17, - AUGUST 21, 1971




Fourteen hospitalized persons had blood or stool specimens positive for S. typhi. Three other ill persons who were not hospitalized had stool cultures positive for S. typhi; all were phage type E-1. Clinical findings in the 14 hospitalized included abdominal tenderness (69 percent), splenomegaly (19 percent), and rose spots (13 percent). Despite admission temperatures of between 101° and 105° F, pulse rates were less than 90 per minute in 75 percent of the cases, and white blood cell counts were less than 7,000 in 63 percent. Direct complications included severe hemolytic anemia in three patients and lower gastrointestinal bleeding in one.

Water used at the church came from a private well. Culture of the water failed to reveal S. typhi or coliform contamination. Furthermore, several patients had taken food home before eating it and did not drink water at the church.

Due to the uniformity of the menu, food specific attack rates did not implicate a single food. Five cooks prepared fried chicken in small batches over the 5-hour period. The ingredients for potato salad (diced cooked potatoes, hard boiled eggs, and celery) were prepared the night before the meal. At the church kitchen, the cooks boiled and sliced the potatoes, and cleaned the celery; each food handler boiled and peeled one dozen eggs in her home and brought them to the church to add to the previously prepared ingredients.

One of the food handlers became ill with typhoid fever; the remaining four remained well and had negative stool cultures. Because of the long incubation period and delay in diagnosis, mass culturing of the 130 persons attending the supper did not begin until 39 days after the meal. One asymptomatic person, an 84-year-old woman, had a stool culture positive for S. typhi phage type E-1. She gave no history of clinical typhoid fever, however, she routinely used the food preparation area at one of the homes where the hardboiled eggs for the potato salad had been cooled and peeled. In addition, she ate food prepared for the church supper. Although direct handling of the eggs was denied, it is presumed that this individual may have been the chronic carrier responsible for contamination of the eggs which were used in preparing the potato salad. At the time of this report, 9 months later, she was still excreting the organism in her stool.

Editorial comment: Common source outbreaks of typhoid fever in the United States have become extremely rare in recent years. In the 5-year-period 1966-1970 only eight outbreaks, affecting 96 persons, were reported to the Salmonella Surveillance Activity at CDC. An increasing percentage of typhoid cases and outbreaks have been associated with foreign travel. Two such outbreaks were reported in Salmonella Surveillance Report No. 112. There was no evidence of foreign importation in the present outbreak.

In 1912, a waterborne outbreak of typhoid fever involving 317 cases occurred in Coatesville, Pennsylvania. The elderly woman thought to be the source of this outbreak did not live in Coatesville, Pennsylvania, at the time of the large (317 cases) 1912 waterborne outbreak in that city.

## IV. SPECIAL REPORTS

### A. Further Regulation on Pet Turtles.

Since the passage of legislation in Washington, D. C.,in 1968 regulating the sale of pet turtles, three additional states have enacted similar legislation: New York, North Carolina, and Maryland.

The regulations in each of these states require that suitable samples from each lot of turtles to be sold be tested for the presence of salmonella and other bacterial pathogens. Turtle distributors must have in their possession certification by a state public health official that the lot in question has been declared salmonella-free.

Certain counties have also approved similar ordinances prohibiting the sale of salmonella-infected turtles. These include Dade County, Florida, and Sedgewick County, Kansas.

During the first quarter of 1972, FDA and CDC published in the Federal Register proposed regulations aimed at effecting control at the federal level. These proposals will be published in the next issue of this report.

Copies of the various state regulations are available from the specific states or counties or can be obtained from the Enteric Diseases Section, Bacterial Diseases Branch, Epidemiology Program, CDC, Atlanta, Georgia 30333.

B. Recent Articles on Salmonellosis.

1. Granella RA, Broitman SA, Zamcheck N: Salmonella enteritis. I. Role of reduced gastric secretion in pathogenesis. Am J Dig Dis 16:1000, 1972

2. Grannella RA, Broitman SA, Zamcheck N: Salmonella enteritis. II. Fulminant diarrhea in and effects on the small intestine. Am J Dig Dis 16:1007, 1972

3. Scioli C, Fiorentino F, Sasso G: Treatment of carriers of Salmonella typhi with intravenous ampicillin. J Infect Dis 125:170, 1972

4. Lerner PI, Golden PF, Jane JA: Salmonella-infected subdural hematoma. Pediatrics 49:127, 1972

5. Cherubin CE, Szmuness M, Winter J: Antibiotic resistance of salmonella, northeastern United States-1970. NY State J Med 72:369, 1972

6. Thomason BM, Wells, JG: Preparation and testing of polyvalent conjugates for fluorescent-antibody detection of salmonellae. Appl Microbiol 22:876, 1972

7. Neves J, Raso P, Marinho RP: Prolonged septicaemic salmonellosis intercurrent with Schistosomiasis mansoni (intestinal polyposis, hepatic and cardiopulmonary forms) Chagas' disease, cerebral cysticercosis, taeniasis, shigellosis, anacylostomiasis, ascariasis and chronic malnutrition. J Trop Med Hyg 74:9, 1971

8. Morale V: R factors of Escherichia coli strains causing urinary tract infections. Their types of transfer factors and differences in their transmissibility to citrobacter and S. typhi-murium recipient strain. Folia Microbiologica 16:317, 1972

9. Baker EF, Anderson MY, Allard J: Epidemiologic aspects of turtle-associated salmonellosis. Arch Environ Health 24:1, 1972

TABLE I. COMMON SALMONELLAE REPORTED FROM HUMAN SOURCES FOR THE FOURTH QUARTER, 1971

| 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* | | | | 2 | | 1 | | 1 | 3 | 2 | 9 | 3 | 1 | 5 | 2 | | | | | | | | | | 4 | | 1 | | | | 6 | 6 |
| *bareilly* | | | | | | | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | 1 | | | | 1 | |
| *blockley* | | | | 7 | | 5 | | 8 | 11 | 7 | 3 | 8 | | 13 | 3 | 1 | 4 | 1 | 1 | | | | 2 | | 3 | | 7 | | 10 | | 3 | 1 |
| *braenderup* | | | | 4 | | 3 | | 1 | 1 | 3 | 3 | | | 2 | 1 | | | | | 1 | | | | | | | | | | | 2 | 1 |
| *bredeney* | | | | 2 | | | | 1 | 1 | | 3 | 1 | 1 | 1 | 6 | | 1 | | | 2 | | | | | 2 | | 3 | | | | | 7 |
| *chester* | | | | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | 1 | | | | | |
| *cholerae-suis v kun* | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | 1 | 1 | 2 |
| *cubana* | | | | 1 | | 2 | | 1 | | 2 | 1 | 2 | | 1 | | | | | | | 1 | | | | 1 | | 3 | | 2 | | 1 | 1 |
| *derby* | | | | 2 | | 1 | | 7 | 9 | 14 | 1' | 1 | | 15 | 5 | 1 | 4 | | 1 | | | | | 1 | 20 | | 6 | | 2 | | 7 | 10 |
| *enteritidis* | 1 | | 1 | 50 | 7 | 15 | | 37 | 39 | 46 | 25 | 34 | 7 | 49 | 5 | 10 | 12 | 3 | 4 | | | | 6 | 1 | 16 | | 7 | 2 | 6 | | 4 | 5 |
| *give* | | | | 3 | | 1 | | 1 | 1 | | 2 | 2 | | | 1 | | | | | | | | | | 1 | | | | | | | |
| *heidelberg* | | | | 8 | | 8 | 1 | 8 | 18 | 8 | 17 | 9 | 4 | 27 | 10 | 9 | 7 | 1 | 4 | | | | 6 | 4 | 21 | | 10 | | 9 | | 11 | 16 |
| *indiana* | | | | | | | | 2 | 1 | 2 | 2 | | 1 | 4 | 5 | | | | | | | | | | | | | | 1 | | 3 | 1 |
| *infantis* | 2 | | 1 | 19 | 1 | 9 | | 11 | 10 | 14 | 14 | 8 | 4 | 32 | 17 | 4 | 1 | 4 | 6 | 2 | 3 | 1 | 5 | 1 | 24 | | 13 | 1 | 14 | | 31 | 23 |
| *java* | | | | | 1 | 7 | | 7 | 2 | 6 | 5 | | | 14 | | 11 | 14 | | 2 | 1 | | | 2 | | | | | | 2 | | 2 | 9 |
| *javiana* | | | | | | | | | | 2 | | | | 4 | 1 | | | | | | | | 3 | | 2 | | 2 | | | | 13 | 56 |
| *litchfield* | | | | 1 | | 5 | | 1 | 2 | 3 | | | | 4 | 4 | | 3 | | 1 | | 1 | | | | 3 | | 2 | | | | | 5 |
| *livingstone* | | | | | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | 6 | 1 |
| *manhattan* | | | | 2 | | 4 | | 5 | 3 | 3 | 2 | 2 | 1 | 7 | 5 | 1 | | | 2 | | | | | | 4 | | | | | | 2 | |
| *miami* | | | | | | 1 | | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | 4 | 22 |
| *mississippi* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 |
| *montevideo* | 1 | | | 3 | | 1 | | 1 | 5 | 2 | 8 | 3 | | 1 | | 1 | | 1 | 2 | | | | | 1 | 7 | | | | 1 | | 2 | 2 |
| *muenchen* | | | | 2 | | 2 | | 1 | 1 | 2 | | 1 | | 11 | 1 | 1 | | 1 | 2 | | | | 2 | | 2 | | 3 | | 4 | | 4 | 9 |
| *newington* | | | | | | | | | | 1 | 1 | | | | 1 | | | | | | | | | | | | | | | | | |
| *newport* | 3 | | | 25 | 2 | 7 | | 15 | 7 | 26 | 13 | 15 | 4 | 23 | 10 | 11 | 6 | 5 | 10 | 1 | | | 12 | | 10 | | 7 | | 13 | | 32 | 88 |
| *oranienburg* | | | | 4 | 1 | 6 | | 1 | 1 | 4 | 1 | 2 | | 2 | 10 | 4 | 2 | 2 | 2 | | 1 | | 2 | 1 | 2 | 1 | 1 | | | | 5 | 3 |
| *panama* | | | | 3 | | 2 | | 1 | 2 | 1 | 5 | | 1 | 4 | | | | | | | | | | | | | 2 | | 2 | | 2 | |
| *paratyphi B* | | 1 | | 4 | 1 | | | 1 | | 1 | | 8 | 5 | | 9 | | | | | 1 | | | | | 8 | | 4 | | | | | |
| *reading* | 1 | | | 18 | | 4 | | | | | 3 | | 1 | | | | | | | | | | | | 1 | | 1 | | | | | |
| *saint-paul* | | | | 5 | | 3 | | 3 | 3 | 9 | 11 | 7 | 2 | 11 | 5 | 4 | 3 | 1 | 3 | | | | 1 | | 16 | | 3 | | 20 | | 9 | 15 |
| *san-diego* | | | | 4 | | | | | 3 | | 1 | | | 1 | | 1 | | | | | | | | | 1 | | | | | | 2 | |
| *schwarzengrund* | | | | | | 1 | | | | 2 | 1 | 1 | | | | | 1 | 1 | | | 1 | | | | | | | 1 | | | | | |
| *senftenberg* | | | | 4 | 1 | 1 | | | | 3 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | | | | | | 2 | | 2 | 1 | 3 | | | | | 6 |
| *tennessee* | | | | | | | | 1 | | | 1 | | | 5 | | | | | | | | | | | | | | | | | | |
| *thompson* | 1 | 1 | 1 | 18 | 1 | 9 | | 8 | 5 | 8 | 4 | 3 | 2 | 7 | 8 | 12 | 1 | | 2 | 3 | | | 5 | 2 | 8 | | 7 | | 2 | | 8 | 8 |
| *typhi* | | | | 9 | | 8 | 1 | 3 | 11 | 1 | 11 | 4 | | 5 | 5 | 7 | | | 4 | | | | 1 | | 1 | 1 | 4 | 2 | 5 | | 2 | 10 |
| *typhimurium* | 9 | 2 | 4 | 168 | 9 | 65 | | 59 | 72 | 87 | 82 | 33 | 12 | 100 | 52 | 91 | 29 | 15 | 31 | 2 | 5 | | 22 | 2 | 64 | 3 | 38 | | 46 | | 65 | 54 |
| *typhimurium v cop* | 5 | | | 20 | | 3 | | | | 7 | | | | | 9 | | | 3 | | 1 | | | | | 2 | | | | | | | |
| *weltevreden* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *worthington* | | | | | | | | | | | | 1 | | 1 | 1 | | | | | | | | | | | | | | 1 | | | |
| TOTAL | 23 | 4 | 7 | 388 | 24 | 174 | 2 | 187 | 212 | 268 | 242 | 150 | 47 | 353 | 181 | 170 | 91 | 38 | 78 | 14 | 12 | 1 | 71 | 13 | 225 | 6 | 130 | 5 | 141 | – | 231 | 362 |
| ALL OTHER* | – | 35 | 1 | 5 | 16 | 2 | 61 | 11 | 10 | 3 | 30 | 3 | 1 | 26 | 20 | 7 | 7 | 7 | 3 | – | – | 6 | 5 | – | 10 | 51 | 15 | – | 6 | 12 | 16 | 20 |
| **TOTAL** | **23** | **39** | **8** | **393** | **40** | **176** | **63** | **198** | **222** | **271** | **272** | **153** | **48** | **379** | **201** | **177** | **98** | **45** | **81** | **14** | **12** | **7** | **76** | **13** | **235** | **57** | **145** | **5** | **147** | **12** | **247** | **382** |

Note: NYA – New York, Albany; NYB – Beth Israel Hospital; NYC – New York City. Beth Israel Hospital laboratory is a reference laboratory and this quarter serotyped a total of 301 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 | | | | |
| 2 | | 1 | | 1 | 5 | 1 | 16 | | | | 1 | | 6 | | | | | 11 | | 2 | 92 | 1.4 | 307 | 1.2 | *anatum* |
| | | | | | 2 | | | | | | | | | | | | | | | | 8 | 0.1 | 51 | 0.2 | *bareilly* |
| 3 | 2 | 1 | | 1 | 5 | 1 | 3 | | | | | | 1 | | | 3 | 1 | 12 | | 2 | 133 | 2.0 | 586 | 2.3 | *blockley* |
| | 2 | | | | | 1 | 7 | | | | | | 1 | | | | | 6 | | | 39 | 0.6 | 125 | 0.5 | *braenderup* |
| | 1 | 2 | | | 2 | | 3 | | 1 | | | | | | | | | 8 | | 3 | 51 | 0.8 | 189 | 0.7 | *bredeney* |
| | | | | | | | | | | | | | 2 | | | | | 2 | | | 7 | 0.1 | 60 | 0.2 | *chester* |
| | | | | | | | | | | | | | | | | | | | | | 5 | 0.1 | 24 | 0.1 | *cholerae-suis v kun* |
| | 1 | | | 1 | | | 1 | | | | | | 4 | | | | | 2 | | | 28 | 0.4 | 258 | 1.0 | *cubana* |
| | 3 | 2 | | 1 | 6 | | 12 | | | | | | | | | 1 | | 32 | | 8 | 182 | 2.7 | 534 | 2.1 | *derby* |
| 1 | 4 | 2 | | 1 | 8 | 1 | 9 | 4 | | | 4 | | | 1 | 1 | 4 | 2 | 17 | | 1 | 452 | 6.7 | 2,249 | 8.7 | *enteritidis* |
| | | | | | 5 | | 4 | | | | | | | | | | | | | 2 | 24 | 0.4 | 84 | 0.3 | *give* |
| 6 | 10 | 3 | | 1 | 13 | 3 | 10 | | 4 | | 8 | | 12 | | | 3 | 5 | 80 | 1 | 6 | 381 | 5.6 | 1,657 | 6.4 | *heidelberg* |
| | | 1 | | | 2 | | | | | | | | | | | | | | | | 25 | 0.4 | 106 | 0.4 | *indiana* |
| 8 | 9 | 8 | | 3 | 13 | 2 | 28 | 1 | | | 4 | | 10 | | | 5 | 9 | 32 | | 3 | 410 | 6.1 | 1,419 | 5.5 | *infantis* |
| 1 | 9 | | 3 | | 11 | | | | | | 3 | | 2 | | | | | 16 | | 8 | 138 | 2.0 | 580 | 2.3 | *java* |
| | 4 | | | 13 | 15 | | 40 | | | | 1 | | 5 | | | | | 2 | | | 163 | 2.4 | 514 | 2.0 | *javiana* |
| | | | | | 1 | 1 | 2 | | | | | | | | | | | | | | 39 | 0.6 | 159 | 0.6 | *litchfield* |
| | | | | | 2 | | 2 | | | | | | 5 | | | | | 5 | | 3 | 26 | 0.4 | 59 | 0.2 | *livingstone* |
| 1 | 3 | | | | 5 | 1 | 3 | | | | | | | | | 1 | | 20 | | | 77 | 1.1 | 419 | 1.6 | *manhattan* |
| | | | | | | | | | | | | | | | | | | 3 | | 1 | 33 | 0.5 | 94 | 0.4 | *miami* |
| | 2 | 1 | 1 | | 8 | | | | | | | | | | | | | | | | 16 | 0.2 | 65 | 0.3 | *mississippi* |
| | 3 | 3 | | | 8 | | 9 | | 1 | | | | | | | | | 17 | | | 83 | 1.2 | 375 | 1.5 | *montevideo* |
| | 3 | 1 | | 1 | 3 | | 17 | | | | | | 4 | | | | 1 | 9 | | | 88 | 1.3 | 388 | 1.5 | *muenchen* |
| | | | | | | | | | | | | | | | | | | 3 | | | 6 | 0.1 | 41 | 0.2 | *newington* |
| 7 | 11 | 8 | 3 | 39 | 33 | 1 | 61 | | 4 | | 5 | | 29 | 1 | | 7 | 3 | 37 | | 9 | 603 | 8.9 | 1,712 | 6.7 | *newport* |
| 3 | 1 | 1 | | | 8 | 2 | 26 | | | | | | 12 | | | | | 10 | | 1 | 122 | 1.8 | 412 | 1.6 | *oranienburg* |
| | 3 | | | | 8 | | 23 | | | | | | 5 | | | | | 19 | | 27 | 110 | 1.6 | 286 | 1.1 | *panama* |
| 1 | | | | | | | 6 | | | | | | | | | 3 | | 1 | | | 54 | 0.8 | 241 | 0.9 | *paratyphi B* |
| | | | | 1 | | | | | | | | | | | | 3 | 4 | 6 | | | 43 | 0.6 | 171 | 0.7 | *reading* |
| 2 | 8 | 2 | 1 | 1 | 7 | | 15 | | | | | | 1 | 1 | | 6 | 3 | 17 | | 5 | 203 | 3.0 | 916 | 3.6 | *saint-paul* |
| | | 5 | | | 1 | | | | | | | | 1 | | | | | 7 | | | 27 | 0.4 | 142 | 0.6 | *san-diego* |
| | 1 | | | | 1 | | 1 | | | | | | | | | | | 3 | | | 15 | 0.2 | 85 | 0.3 | *schwarzengrund* |
| | | | | 2 | 5 | 1 | 3 | | | | 7 | | | | | | | 13 | | 4 | 71 | 1.1 | 217 | 0.8 | *senftenberg* |
| | | 1 | | | | | | | | | 4 | | | | | | | 2 | | | 14 | 0.2 | 76 | 0.3 | *tennessee* |
| | 2 | 3 | | 1 | 8 | | 28 | 1 | | | | | 1 | 1 | | 5 | 7 | 33 | 1 | 2 | 227 | 3.4 | 834 | 3.2 | *thompson* |
| 4 | 4 | | | 10 | 2 | 4 | 19 | | | | | 2 | | | | 1 | | 29 | | 1 | 171 | 2.5 | 584 | 2.3 | *typhi* |
| 7 | 30 | 12 | 1 | 5 | 20 | 6 | 74 | 3 | 22 | | 27 | | 18 | 6 | 1 | 28 | 10 | 263 | 1 | 13 | 1,768 | 26.2 | 6,522 | 25.4 | *typhimurium* |
| 7 | 4 | | | 1 | 3 | | | 1 | 4 | | 1 | | 4 | | | 1 | 2 | | 1 | | 79 | 1.2 | 352 | 1.4 | *typhimurium v cop* |
| | | | | | | | | | | | | | | | | | | | | 49 | 49 | 0.7 | 151 | 0.6 | *weltevreden* |
| | | | | | | | | | | | | | | | | | | 3 | | | 7 | 0.1 | 47 | 0.2 | *worthington* |
| 53 | 120 | 57 | 9 | 83 | 210 | 25 | 422 | 10 | 36 | – | 65 | 2 | 123 | 10 | 2 | 71 | 47 | 720 | 4 | 150 | 6,069 | 89.9 | 23,091 | 89.8 | TOTAL |
| 2 | 9 | 5 | 36 | 15 | 13 | – | 52 | 1 | – | 1 | – | 31 | 20 | – | 4 | 6 | 7 | 62 | 14 | 17 | 684 | | 2,617 | | ALL OTHER* |
| 55 | 129 | 62 | 45 | 98 | 223 | 25 | 474 | 11 | 36 | 1 | 65 | 33 | 143 | 10 | 6 | 77 | 54 | 782 | 18 | 167 | 6,753 | | 25,708 | | TOTAL |

TABLE II. OTHER SALMONELLAE REPORTED FROM HUMAN SOURCES FOR THE FOURTH QUARTER, 1971

| SEROTYPE | REPORTING CENTER | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ALA | ALK | ARI | ARK | CAL | CON | DC | FLA | GA | HAW | ILL | IND | IOW | KAN | KY | LA | MD | MAS | MIC | MIN | MIS | MO | MON | NEB |
| *aba* | | | | | | | | | | | | | | | | | | | | | | | | |
| *agona* | | | | | 1 | | | | | | 5 | | | | | | | 1 | 4 | | | | 1 | |
| *alachua* | | | | | 1 | 1 | | | | 4 | | | | | | | 1 | | | | | | | |
| *albany* | | | | | | | | | 1 | | | | | | | | 3 | | 2 | | | | | |
| *atlanta* | | | | | | | | | 3 | | | | | | | | | | | | | | | |
| *azteca* | | | | | | | | | | | | | | | | | | | | | | | | |
| *berta* | | | 7 | | | | | 1 | | | | | | | | 1 | | | | | | | | |
| *binza* | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| *bonaire* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *bonariensis* | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| *bovis-morbificans* | | | | | 3 | | | | | | | | | | | | | | | 1 | | | | |
| *bradford* | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| *brandenburg* | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| *brunei* | | | | | | | | | | | | | | | | | | | | | | | | |
| *cambridge* | | | | | | | | | | | | | | | | | | 1 | | | | | | |
| *cerro* | | | | | 2 | | | | 1 | | | | | | | | | | 1 | | | | | |
| *cholerae-suis* | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| *corvallis* | | | | | | | | | | | | | | | | | | | | | | 1 | | |
| *drypool* | 1 | | | | | | | | | | | | | | | 1 | | | | | | | | |
| *dublin* | | | | | 12 | | | | | | | | | | | | | | | | | | | |
| *duesseldorf* | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | |
| *eastbourne* | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | |
| *edinburg* | | | | | | | | | | | | | | | | | | | | | | | | |
| *eimsbuettel* | | 3 | | | | | | | | | 1 | | | | | 1 | 1 | | | | | | | |
| *florida* | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| *gaminara* | 1 | | | | | | | 1 | | | | | | | | 2 | | | | | | | | |
| *georgia* | | | | | | | | | | | | | | 1 | | | | | | | | | | |
| *grumpensis* | | | | | | | | | | | | | | | | | | | | | | | | |
| *habana* | | | | | | | | | | | | | | | | | | | | | | | | |
| *haifa* | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | |
| *hartford* | | | | | | | | 8 | | | 1 | | | | | | | | 2 | | | | | |
| *hvittingfoss* | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| *ibadan* | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| *inverness* | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | |
| *irumu* | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| *ituri* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *johannesburg* | | | | | 1 | | | | 1 | | | | | | | | | | | | | | | |
| *kaapstad* | | | | | | | | | | | | | | | | | | | | | | | | |
| *kentucky* | 1 | | | | 1 | | | | 1 | | 1 | | | | | | | | | | | | | |
| *kottbus* | | | | | 4 | | | | 3 | | 1 | | | | 1 | | 1 | | 1 | | | | | |
| *larochelle* | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| *lexington* | | | 1 | | 1 | | | | | | 2 | | | | | | | | | | | | | |
| *lille* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *loma-linda* | | | | | | | | | | | | | | | | | | | | | | | | |
| *lomita* | | | | 1 | | | | | | | | | | | | | | | | | | | | |
| *london* | | | | | 1 | | | | 1 | | 7 | | | | | | | | 1 | | | | | |
| *manchester* | | | | | | | | | | | | | | | | | | | | | | | | |
| *matadi* | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| *meleagridis* | | | | | 7 | | | | 1 | 1 | | | | | 1 | | | 1 | | | | | | |
| *minneapolis* | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | |
| *minnesota* | | | | | 1 | | | 1 | | | 1 | | | | | | | | 1 | | | | | |
| *molade* | | | | | | | | 2 | | | | | | | | | 1 | | | | | | | |
| *muenster* | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| *new-brunswick* | | | | | | | | | | | | | | | | | | | | | | | | |
| *newlands* | | | | | | | | | | | | | | | | | | | | | | | | |
| *nienstedten* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *norwich* | | | | 3 | | | | | | | | | | 1 | | 1 | | | | | | 1 | | |
| *ohio* | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| *oslo* | | | | | | | | 1 | | 7 | 1 | | | | | | | | | | | | | |
| *papuana* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *paratyphi A* | | | | | 2 | | | 1 | 1 | 1 | | | | | | | | | 2 | | | 1 | | |
| *pensacola* | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| *pomona* | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| *poona* | | | 5 | | 1 | | | 3 | | | | | | 1 | | 1 | | 1 | | | | | | |
| *rubislaw* | | | 1 | | 1 | | | | 1 | | | | | | | 2 | | | | | | | | |
| *saphra* | | | | | | | | | | | | | | | | | | | | | | | | |
| *siegburg* | | | 1 | | 7 | | | | | | 1 | | | | | | | | | | | | | |
| *simsbury* | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | |
| *stanley* | | | | | | | | | | | | | | | | | | | 4 | | | | | |
| *sundsvall* | | | | | | | | | | | | | | | | | | | | | | | | |
| *taksony* | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| *texas* | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| *thomasville* | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| *tucson* | | | 1 | | | | | | | | | | | | | | | | | | | | | |
| *uganda* | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| *urbana* | | | | | 1 | | | | | | | | 1 | | | | | | 1 | | | | | |
| *virchow* | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| *westhampton* | | | | | 1 | | | | | | | | | 2 | | | | | | | | | | |
| TOTAL | 4 | 3 | 20 | 7 | 58 | 2 | 2 | 20 | 16 | 17 | 24 | 1 | 2 | 5 | 2 | 10 | 8 | 5 | 19 | 5 | — | 3 | 1 | — |
| NOT TYPED* | 1 | 11 | — | 8 | 4 | — | 49 | — | — | — | 2 | — | 5 | — | — | 3 | 2 | — | 1 | 2 | 36 | — | — | 6 |
| TOTAL | 5 | 14 | 20 | 15 | 62 | 2 | 51 | 20 | 16 | 17 | 26 | 1 | 7 | 5 | 2 | 13 | 10 | 5 | 20 | 7 | 36 | 3 | 1 | 6 |

See Table V-A

TABLE II – Continued

| REPORTING CENTER | | | | | | | | | | | | | | | | | | | TOTAL | CUMULATIVE TOTAL | SEROTYPE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEV | NH | NJ | NM | NYA | NYB | NYC | NC | OHI | ORE | PA | RI | SC | TEN | TEX | VT | VA | WAS | WIS | WYO | | | |
| | | | | | | | | | | | | | | 1 | | | | | | 1 | 1 | *aba* |
| | | | | | | | | | | 11 | | | 1 | | | | | 4 | | 28 | 44 | *agona* |
| | | | | | | | | | | | | | | | | | | | | 7 | 16 | *alachua* |
| | | | | | | | | | | | | | 1 | | | | | | | 7 | 18 | *albany* |
| | | | | | | | | | | | | | | | | | | | | 3 | 19 | *atlanta* |
| | | | | | | 2 | | | | | | | | | | | | | | 2 | 2 | *azteca* |
| | | | | | | | | | | | | | | | | 1 | | | | 10 | 100 | *berta* |
| | | | | | | 1 | | | | | | | | | | | | | | 3 | 11 | *binza* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *bonaire* |
| | | | | | | | | | | | | | | | | | | | | 1 | 3 | *bonariensis* |
| | | | | | | | | | | 2 | | | | | | | | | | 6 | 25 | *bovis-morbificans* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *bradford* |
| | | | | | | | | | | | | | | | | | | | | 1 | 8 | *brandenburg* |
| | | | | | | | | | | | | | | 1 | | | | | | 1 | 1 | *brunei* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *cambridge* |
| | | | | | 1 | 1 | | | | | | | | 1 | | | | | | 7 | 23 | *cerro* |
| | | | | | | 1 | | | | 1 | | | | | | | 1 | | | 4 | 13 | *cholerae-suis* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *corvallis* |
| | | 1 | | | | | | | | | | | | 1 | | | | | | 4 | 19 | *drypool* |
| | | | | | | | | | | | | | | 1 | | | | | | 13 | 24 | *dublin* |
| | | | | | | | | | | | | | | | | | | | | 2 | 6 | *duesseldorf* |
| | | | | | | | | | | | | | | | | | | | | 2 | 9 | *eastbourne* |
| | | | | | | | | | 2 | | | | | | | | | | | 2 | 2 | *edinburg* |
| | | | | | | | | | | | | | 1 | | | | 1 | | | 8 | 15 | *eimsbuettel* |
| | | | | | | | | | | | | | | | | | | | | 1 | 4 | *florida* |
| | | | | | | | | | | | | | | 1 | | | | | | 5 | 21 | *gaminara* |
| | | | | | | | | | | | | | | | | | | | | 1 | 2 | *georgia* |
| | | | | | | | | | | | | | | | | | 1 | | | 1 | 5 | *grumpensis* |
| | | | | | | | | | | 2 | | | | | | | | | | 2 | 17 | *habana* |
| | | | | | | | | | | | | | | | | | 1 | | | 3 | 3 | *haifa* |
| | | | | | | | | | | | | | | | | | | | | 11 | 38 | *hartford* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *hvittingfoss* |
| | | | | | | | | | | | | | | 3 | | | | | | 6 | 12 | *ibadan* |
| | | | | | | | | | | | | | | | | | | | | 2 | 10 | *inverness* |
| | | | | | | | | | | | | | | | | | | | | 1 | 3 | *irumu* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *ituri* |
| | | | | | | | | | | | | | | | | | | | | 2 | 5 | *johannesburg* |
| | | | | | | | | | | 3 | | | | | | | | | | 3 | 11 | *kaapstad* |
| | | | | | | | | | | | | | | | | | | | | 4 | 34 | *kentucky* |
| | | | | | 1 | | 3 | | | 1 | | | | | | 1 | | | | 17 | 68 | *kottbus* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *larochelle* |
| | | | | | | | | | | | | | | | | | | | | 4 | 8 | *lexington* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *lille* |
| | | | | | | | | | 1 | | | | | | | | 1 | | | 2 | 3 | *loma-linda* |
| | | | | | | | | | | | | | | 2 | | 1 | 1 | | | 5 | 13 | *lomita* |
| | | 1 | | | 5 | 3 | 1 | | | 5 | | | 1 | 5 | | | | | | 31 | 64 | *london* |
| | | | | | | | | | | | | | | | | 1 | | | | 1 | 2 | *manchester* |
| | | | | | | | | | | | | | | | | | | | | 2 | 2 | *matadi* |
| | | | | | | | | | | 2 | | | 1 | | | | | | | 13 | 26 | *meleagridis* |
| | | | | | | | | | | 1 | | | | | | | | | | 3 | 3 | *minneapolis* |
| | | 1 | | | 1 | | | | | | | | | | | | | | | 6 | 30 | *minnesota* |
| | | | | | | | | | | | | | | | | | | | | 3 | 7 | *molade* |
| | | | | | | | | | | 1 | | | 1 | | | | | | | 3 | 26 | *muenster* |
| | | | | | | | | | | | | | | 2 | | | | | | 2 | 6 | *new-brunswick* |
| | | | | | | 1 | | | | | | | | | | | | | | 1 | 3 | *newlands* |
| | | | | | | | | | 1 | | | | | | | | | | | 1 | 1 | *nienstedten* |
| | | | | | | | | | | 1 | | | | | | | | | | 7 | 31 | *norwich* |
| | | | | | | | | | | | | | | | | | | | | 3 | 15 | *ohio* |
| | | | | | | | | | | | | | 1 | | | | | | | 10 | 43 | *oslo* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *papuana* |
| | | | | | | | 2 | | | | | | | | | 1 | | | | 8 | 14 | *paratyphi a* |
| | | | | | | | | | | | | | | | | | | | | 4 | 9 | *pensacola* |
| | | | | | | | | | | | | | | | | | | | | 1 | 3 | *pomona* |
| | | | | | 1 | | | 2 | | | | | | 3 | | 1 | | | | 19 | 97 | *poona* |
| | | | | | | | | | | | | | | 5 | | | | | | 10 | 29 | *rubislaw* |
| | | | | | | | | | | | | | | 7 | | | | | | 7 | 14 | *saphra* |
| | | | | | | | | | | | | | | 5 | | | | | | 14 | 69 | *siegburg* |
| | | | | | | | | 1 | | | | | | | | | | | | 3 | 8 | *simsbury* |
| | | | | | | | | | | | | | | | | | | 1 | | 5 | 16 | *stanley* |
| | | | | | | | | | | | | | | 1 | | | | | | 1 | 2 | *sundsvall* |
| | | | | | | | | | | | | | | | | | | | | 1 | 4 | *taksony* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *texas* |
| | | | | | | | | | | | | | | | | | | | | 1 | 3 | *thomasville* |
| | | | | | | | | | | | | | | | | | | | | 1 | 1 | *tucson* |
| | | | | | | | | | | | | | | | | | | | | 1 | 4 | *uganda* |
| | | | | | 2 | 1 | | | | | | | | 2 | | | | | | 8 | 53 | *urbana* |
| | | | | | | | | | | | | | | | | 9 | | | | 10 | 20 | *virchow* |
| | | | | | | | | | | | | | | | | | | | | 3 | 7 | *westhampton* |
| – | – | 3 | – | – | 11 | 10 | 6 | 3 | 4 | 30 | – | – | 7 | 41 | – | 15 | 6 | 5 | – | 375 | 1,355 | TOTAL |
| 4 | 35 | – | 31 | 61 | – | – | – | – | 3 | – | 16 | 12 | 2 | 11 | 1 | – | – | 2 | 1 | 309 | 1,262 | NOT TYPED* |
| **4** | **35** | **3** | **31** | **61** | **11** | **10** | **6** | **3** | **7** | **30** | **16** | **12** | **9** | **52** | **1** | **15** | **6** | **7** | **1** | **684** | **2,617** | **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 FOR THE FOURTH QUARTER, 1971

| SEROTYPE | DOMESTIC ANIMALS AND THEIR ENVIRONMENT | | | | | | | ANIMAL FEEDS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CHICKENS | TURKEYS | SWINE | CATTLE | HORSES | OTHER | SUBTOTAL | TANKAGE | VEGETABLE PROTEIN | OTHER | SUBTOTAL |
| *anatum* | | 2 | 2 | | | 1 | 5 | 5 | | 1 | 6 |
| *bareilly* | 1 | | | | | | 1 | 14 | | 1 | 15 |
| *blockley* | 2 | | | | | 3 | 5 | | | | — |
| *braenderup* | | | | | | | — | | | | — |
| *bredeney* | 2 | 1 | 2 | | | | 5 | 10 | | | 10 |
| *chester* | 1 | 2 | | | | 1 | 4 | | | | — |
| *cholerae-suis v kun* | | | 6 | | | | 6 | | | | — |
| *cubana* | | | | | | | — | 5 | | 2 | 7 |
| *derby* | | | 23 | | | | 23 | 1 | | 1 | 2 |
| *enteritidis* | | 1 | 1 | 2 | | 1 | 5 | | | | — |
| *give* | | 1 | 2 | | | | 3 | | | | — |
| *heidelberg* | 5 | 21 | 4 | 1 | 1 | 3 | 35 | | | | — |
| *indiana* | 1 | 5 | | | | | 6 | | | | — |
| *infantis* | 10 | 1 | 1 | | | 3 | 15 | 2 | | | 2 |
| *java* | | | | | | | — | | | | — |
| *javiana* | | | | | | | — | | | | — |
| *litchfield* | 1 | | | | | | 1 | | | | — |
| *livingstone* | | | | | | | — | 3 | | 3 | 6 |
| *manhattan* | 1 | 16 | | | | | 17 | | | | — |
| *miami* | | | | | | | — | | | | — |
| *mississippi* | | | | | | | — | | | | — |
| *montevideo* | 3 | | | | | 3 | 6 | 16 | | 8 | 24 |
| *muenchen* | | | | | | | — | | | | — |
| *newington* | | | | | | | — | 2 | | | 2 |
| *newport* | 2 | 1 | | 6 | 1 | 2 | 12 | | | 2 | 2 |
| *oranienburg* | | 1 | | | | | 1 | 5 | | 9 | 14 |
| *panama* | | | 6 | | | | 6 | | | | — |
| *paratyphi B* | | | | | | | — | | | 1 | 1 |
| *reading* | 1 | 7 | | | | | 8 | 1 | | | 1 |
| *saint-paul* | 7 | 11 | | 3 | | | 21 | | | | — |
| *san-diego* | | 1 | | | | 1 | 2 | | | | — |
| *schwarzengrund* | 1 | | | | | | 1 | | | 6 | 6 |
| *senftenberg* | 8 | 3 | | | | 2 | 13 | 16 | 2 | 3 | 21 |
| *tennessee* | | | | | | | — | | | | — |
| *thompson* | 3 | | 1 | | | 1 | 5 | 1 | | 1 | 2 |
| *typhi* | | | | | | | — | | | | — |
| *typhimurium* | 10 | 15 | 7 | 27 | 3 | 16 | 78 | 1 | | 3 | 4 |
| *typhimurium v cop* | 4 | | 1 | 3 | | 3 | 11 | | | | — |
| *weltevreden* | | | | | | | — | 1 | | | 1 |
| *worthington* | 6 | | | 1 | | | 7 | 2 | 1 | 2 | 5 |
| TOTAL | 69 | 89 | 56 | 43 | 5 | 40 | 302 | 85 | 3 | 43 | 131 |
| ALL OTHER* | 10 | 7 | 3 | 6 | — | 11 | 37 | 63 | 1 | 36 | 100 |
| **TOTAL** | **79** | **96** | **59** | **49** | **5** | **51** | **339** | **148** | **4** | **79** | **231** |

* 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 | | | | |
| 3 | 2 | | | | | | – | 1 | 17 | 267 | *anatum* |
| | | | | | | 1 | 1 | | 17 | 59 | *bareilly* |
| | | 2 | | | | | 2 | | 7 | 137 | *blockley* |
| | 2 | 5 | | | | | 5 | | 7 | 24 | *braenderup* |
| | 7 | | | | | | – | 1 | 23 | 91 | *bredeney* |
| | | | | | | | – | | 4 | 24 | *chester* |
| | | | | | | | – | | 6 | 150 | *cholerae-suis v kun* |
| | | 1 | | | | | 1 | | 8 | 64 | *cubana* |
| | | | | 1 | | 1 | 2 | 1 | 28 | 122 | *derby* |
| 1 | 7 | | | | | | – | | 13 | 70 | *enteritidis* |
| | 1 | | | | | | – | | 4 | 34 | *give* |
| | 3 | | | | | | – | | 38 | 351 | *heidelberg* |
| 2 | | | | | | | – | | 8 | 19 | *indiana* |
| 1 | 3 | | | | | | – | | 21 | 211 | *infantis* |
| 2 | 14 | | | | | | – | 1 | 17 | 71 | *java* |
| | | | | | | | – | | – | 12 | *javiana* |
| 1 | 10 | | | | | | – | | 12 | 25 | *litchfield* |
| | | | | | | | – | 1 | 7 | 36 | *livingstone* |
| | 2 | | | | | | – | | 19 | 59 | *manhattan* |
| | 1 | | | | | | – | | 1 | 5 | *miami* |
| | | | | | | | – | | – | 2 | *mississippi* |
| | 5 | 2 | | | | 1 | 3 | 1 | 39 | 199 | *montevideo* |
| 2 | 9 | | | | | | – | 2 | 13 | 55 | *muenchen* |
| | | | | | | | – | | 2 | 55 | *newington* |
| 2 | 26 | | | | | | – | | 42 | 172 | *newport* |
| | 4 | | | | | 1 | 1 | | 20 | 116 | *oranienburg* |
| | 2 | | | | | | – | 1 | 9 | 35 | *panama* |
| | 4 | | | | | | – | | 5 | 17 | *paratyphi B* |
| | | | | | | | – | | 9 | 199 | *reading* |
| | 1 | 2 | | | | 1 | 3 | 1 | 26 | 275 | *saint-paul* |
| | | | | | | | – | | 2 | 143 | *san-diego* |
| | | | | | | | – | | 7 | 91 | *schwarzengrund* |
| | 1 | | | 1 | | | 1 | 2 | 38 | 193 | *senftenberg* |
| | | 1 | | | | | 1 | 1 | 2 | 67 | *tennessee* |
| | 2 | 3 | 1 | | | | 4 | 1 | 14 | 139 | *thompson* |
| | | | | | | | – | | – | 9 | *typhi* |
| 6 | 10 | 1 | | 1 | | 3 | 5 | 5 | 108 | 863 | *typhimurium* |
| | | | 1 | | | | 1 | | 12 | 169 | *typhimurium v cop* |
| | | | 1 | | | 1 | 2 | | 3 | 3 | *weltevreden* |
| | | | 1 | | | | 1 | | 13 | 98 | *worthington* |
| 20 | 116 | 17 | 4 | 3 | – | 9 | 33 | 19 | 621 | 4,731 | TOTAL |
| – | 54 | 1 | 2 | – | – | 33 | 36 | 30 | 258 | 1,101 | ALL OTHER* |
| **20** | **170** | **18** | **6** | **3** | **–** | **42** | **69** | **49** | **879** | **5,832** | **TOTAL** |

TABLE IV. OTHER SALMONELLAE REPORTED FROM NONHUMAN SOURCES FOR THE FOURTH QUARTER, 1971

| SEROTYPE | DOMESTIC ANIMALS AND THEIR ENVIRONMENT | | | | | | | ANIMAL FEEDS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CHICKENS | TURKEYS | SWINE | CATTLE | HORSES | OTHER | SUBTOTAL | TANKAGE | VEGETABLE PROTEIN | OTHER | SUBTOTAL |
| *adelaide* | | | | | | | | | | | |
| *agona* | 1 | 1 | | | | | 2 | | | | |
| *alachua* | | | | | | | | 3 | | 1 | 4 |
| *albany* | 1 | | | | | | 1 | 5 | | | 5 |
| *berta* | | | | 2 | | 1 | 3 | | | | |
| *binza* | 1 | | | | | | 1 | 21 | | 1 | 22 |
| *bornum* | | | | | | | | | | 1 | 1 |
| *bovis-morbificans* | | | | | | | | | | | |
| *california* | 1 | | | | | | 1 | 2 | | | 2 |
| *cerro* | | 1 | 1 | | | | 2 | 1 | | 1 | 2 |
| *cholerae-suis* | | | 1 | | | | 1 | | | | |
| *drypool* | | | | | | | | 1 | | 6 | 7 |
| *dublin* | | | | 3 | | | 3 | | | | |
| *eimsbuettel* | 2 | | | | | 7 | 9 | 3 | 1 | 1 | 5 |
| *florida* | | | | | | | | | | | |
| *gaminara* | | | | | | 1 | 1 | | | | |
| *georgia* | | | | | | | | | | | |
| *habana* | | | | | | | | 2 | | 4 | 6 |
| *hartford* | | | | | | 1 | 1 | | | | |
| *hidalgo* | | 2 | | | | | 2 | | | | |
| *inverness* | | | | | | | | | | | |
| *johannesburg* | | | | | | | | 1 | | 1 | 2 |
| *kentucky* | | 2 | | | | | 2 | 4 | | 1 | 5 |
| *kottbus* | | | | | | | | | | | |
| *lexington* | | | | | | | | 1 | | 7 | 8 |
| *lille* | | | | | | | | | | 1 | 1 |
| *manila* | | | | | | | | 4 | | | 4 |
| *matadi* | | | | | | | | | | | |
| *minneapolis* | | | | | | | | | | 1 | 1 |
| *minnesota* | | 1 | | | | | 1 | | | | |
| *muenster* | 3 | | | | | | 3 | 2 | | | 2 |
| *negev* | | | | | | | | | | | |
| *new-brunswick* | | | | | | | | | | | |
| *orion* | | | | | | | | | | 3 | 3 |
| *phoenix* | | | | | | | | | | | |
| *poona* | 1 | | 1 | | | | 2 | | | | |
| *roan* | | | | | | | | | | | |
| *rubislaw* | | | | | | 1 | 1 | | | | |
| *siegburg* | | | | | | | | 5 | | 4 | 9 |
| *taksony* | | | | 1 | | | 1 | | | 1 | 1 |
| *thomasville* | | | | | | | | 8 | | 1 | 9 |
| *uphill* | | | | | | | | | | | |
| *urbana* | | | | | | | | | | | |
| *westhampton* | | | | | | | | | | | |
| 44:Z36Z38 | | | | | | | | | | | |
| TOTAL | 10 | 7 | 3 | 6 | – | 11 | 37 | 63 | 1 | 35 | 99 |
| NOT TYPED* | – | – | – | – | – | – | – | – | – | 1 | 1 |
| **TOTAL** | **10** | **7** | **3** | **6** | **–** | **11** | **37** | **63** | **1** | **36** | **100** |

*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 | | | | |
| | 1 | | | | | | – | | 1 | 3 | *adelaide* |
| | | | | | | | – | | 2 | 34 | *agona* |
| | | | | | | | – | | 4 | 38 | *alachua* |
| | | | | | | | – | | 6 | 19 | *albany* |
| | 5 | | | | | | – | | 8 | 11 | *berta* |
| | | | | | | | – | | 23 | 56 | *binza* |
| | | | | | | | – | | 1 | 20 | *bornum* |
| | | | | | | 1 | 1 | | 1 | 2 | *bovis-morbificans* |
| | | | 1 | | | | 1 | | 4 | 26 | *california* |
| | | | | | | 25 | 25 | | 29 | 69 | *cerro* |
| | | | | | | | – | | 1 | 11 | *cholerae-suis* |
| | | | | | | 1 | 1 | | 8 | 32 | *drypool* |
| | | | | | | | – | | 3 | 53 | *dublin* |
| | | | | | | | – | | 14 | 67 | *eimsbuettel* |
| | | | | | | 2 | 2 | | 2 | 2 | *florida* |
| | | | | | | | – | | 1 | 1 | *gaminara* |
| | 1 | | | | | | – | | 1 | 1 | *georgia* |
| | | | | | | | – | | 6 | 22 | *habana* |
| | 1 | | | | | | – | 1 | 3 | 4 | *hartford* |
| | | | | | | | – | | 2 | 2 | *hidalgo* |
| | 1 | | | | | | – | | 1 | 1 | *inverness* |
| | | | | | | | – | | 2 | 19 | *johannesburg* |
| | | | | | | | – | | 7 | 37 | *kentucky* |
| | | 1 | | | | | 1 | | 1 | 18 | *kottbus* |
| | | | | | | | – | | 8 | 15 | *lexington* |
| | | | | | | | – | | 1 | 6 | *lille* |
| | | | | | | | – | | 4 | 9 | *manila* |
| | 4 | | | | | | – | | 4 | 4 | *matadi* |
| | | | | | | | – | | 1 | 1 | *minneapolis* |
| | | | | | | | – | | 1 | 11 | *minnesota* |
| | | | | | | | – | 1 | 6 | 10 | *muenster* |
| | | | | | | 1 | 1 | | 1 | 1 | *negev* |
| | 1 | | | | | | – | | 1 | 4 | *new-brunswick* |
| | | | | | | | – | | 3 | 17 | *orion* |
| | 1 | | | | | | – | | 1 | 1 | *phoenix* |
| | 1 | | | | | | – | | 3 | 13 | *poona* |
| | | | | | | 2 | 2 | | 2 | 2 | *roan* |
| | | | | | | | – | | 1 | 5 | *rubislaw* |
| | | | | | | | – | | 9 | 69 | *siegburg* |
| | | | | | | | – | | 2 | 12 | *taksony* |
| | | | | | | | – | | 9 | 35 | *thomasville* |
| | | | | | | 1 | 1 | | 1 | 1 | *uphill* |
| | 12 | | | | | | – | | 12 | 33 | *urbana* |
| | 3 | | | | | | – | | 3 | 6 | *westhampton* |
| 1 | | | | | | | – | | 1 | 1 | 44:Z36Z38 |
| | | | | | | | | | | | |
| 1 | 31 | 1 | 1 | – | – | 33 | 35 | 2 | 205 | 944 | TOTAL |
| – | 23 | – | 1 | – | – | – | 1 | 28 | 53 | 157 | NOT TYPED* |
| 1 | 54 | 1 | 2 | – | – | 33 | 36 | 30 | 258 | 1,101 | TOTAL |

TABLE V. SALMONELLAE REPORTED BY GROUP IDENTIFICATION ONLY FOR THE FOURTH QUARTER, 1971

A. HUMAN SOURCES

| REPORTING CENTER | GROUP | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | C | C1 | C2 | D | E | E1 | E4 | F | G | I | R | UNK. | | |
| ALABAMA | | | | | | | | | | | | | 1 | | 1 |
| ALASKA | 5 | | 4 | 1 | 1 | | | | | | | | | | 11 |
| ARKANSAS | 2 | | 1 | 5 | | | | | | | | | | | 8 |
| CALIFORNIA | 1 | | 1 | | | | | | | | | 2 | | | 4 |
| D.C. | 26 | 4 | 2 | 3 | 4 | | | | | | | | 10 | | 49 |
| ILLINOIS | 2 | | | | | | | | | | | | | | 2 |
| IOWA | 4 | 1 | | | | | | | | | | | | | 5 |
| LOUISIANA | 1 | | | 1 | | | | | | | 1 | | | | 3 |
| MARYLAND | | | | | | | | | | | | | 2 | | 2 |
| MICHIGAN | | | | | | | | | | | | | 1 | | 1 |
| MINNESOTA | 2 | | | | | | | | | | | | | | 2 |
| MISSISSIPPI | 10 | 1 | 2 | 6 | 4 | 6 | | | | 3 | | | 4 | | 36 |
| NEBRASKA | 2 | | | 1 | 2 | | | 1 | | | | | | | 6 |
| NEVADA | 1 | | | 3 | | | | | | | | | | | 4 |
| NEW HAMPSHIRE | 21 | 1 | 5 | | 4 | | | | | | | | 4 | | 35 |
| NEW MEXICO | 14 | | 9 | 3 | 1 | 4 | | | | | | | | | 31 |
| NEW YORK - A | | | | | | | | | | | | | 61 | | 61 |
| OREGON | 1 | | | 1 | | | | | | | | | 1 | | 3 |
| RHODE ISLAND | 5 | | 4 | 5 | | | 1 | | | | | | 1 | | 16 |
| SOUTH CAROLINA | 3 | | 3 | 2 | 1 | 1 | | | | | | | 2 | | 12 |
| TENNESSEE | 2 | | | | | | | | | | | | | | 2 |
| TEXAS | 1 | | 2 | 1 | | 2 | | | | | | | 5 | | 11 |
| VERMONT | | 1 | | | | | | | | | | | | | 1 |
| WISCONSIN | 1 | | | | | | | | | | | | 1 | | 2 |
| WYOMING | 1 | | | | | | | | | | | | | | 1 |
| **TOTAL** | 105 | 8 | 33 | 32 | 17 | 13 | 1 | 1 | – | 3 | 1 | 2 | 93 | | 309 |

B. NONHUMAN SOURCES

| SOURCES | GROUP | | | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | C | C1 | C2 | D | E | E1 | E4 | F | G | I | R | UNK. | | |
| DOMESTIC ANIMALS AND THEIR ENVIRONMENT | | | | | | | | | | | | | | | – |
| ANIMAL FEEDS | | | | | | | | | | | | | 1 | | 1 |
| WILD ANIMALS AND BIRDS | | | | | | | | | | | | | | | – |
| REPTILES AND ENVIRONMENT | 11 | | 4 | 5 | 1 | 1 | | | 1 | | | | | | 23 |
| HUMAN DIETARY ITEMS | | | | 1 | | | | | | | | | | | 1 |
| MISCELLANEOUS | 3 | 1 | 7 | 1 | 2 | 13 | | | 1 | | | | | | 28 |
| **TOTAL** | 14 | 1 | 11 | 7 | 3 | 14 | – | – | 2 | – | – | – | 1 | | 53 |

☆U.S.Government Printing Office: 1972—746-629/3501 Region No. 4

## STATE EPIDEMIOLOGISTS AND STATE LABORATORY DIRECTORS

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

| *STATE* | *STATE EPIDEMIOLOGIST* | *STATE LABORATORY DIRECTOR* |
|---|---|---|
| Alabama | Frederick S. Wolf, M.D. | Thomas S. Hosty, Ph.D. |
| Alaska | Donald K. Freedman, M.D. | Frank P. Pauls, Dr.P.H. |
| Arizona | Philip M. Hotchkiss, D.V.M. | H. Gilbert Crecelius, Ph.D. |
| Arkansas | John A. Harrel, Jr., M.D. | Robert T. Howell, Dr.P.H. |
| California | James Chin, M.D. | Howard L. Bodily, Ph.D. |
| Colorado | C. S. Mollohan, M.D. | C. D. McGuire, Ph.D. |
| Connecticut | James C. Hart, M.D. | William W. Ullmann, Ph.D. |
| Delaware | Floyd I. Hudson, M.D. | Irene V. Mazeika, M.D. |
| District of Columbia | William E. Long, M.D. | Alton Shields, Dr.P.H. |
| Florida | Ralph B. Hogan, M.D. | Nathan J. Schneider, Ph.D. |
| Georgia | John E. McCroan, Ph.D. | Earl E. Long, M.S. |
| Hawaii | Harry L. Boyett, M.D. | Henri Minette, Dr.P.H. |
| Idaho | John A. Mather, M.D. | Darrell W. Brock, Dr.P.H. |
| Illinois | Franklin D. Yoder, M.D. (Acting) | Richard Morrissey, M.P.H. |
| Indiana | Charles L. Barrett, M.D. | Josephine Van Fleet, M.D. |
| Iowa | Arnold M. Reeve, 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 | Timothy R. Townsend, M.D. (Acting) | Charles Okey, Ph.D. |
| Maryland | John D. Stafford, M.D. (Acting) | Robert L. Cavenaugh, M.D. |
| Massachusetts | Nicholas J. Fiumara, 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 | Michael H. Goloff, M.D. (Acting) | David B. Lackman, Ph.D. |
| Nebraska | Henry D. Smith, M.D. | Henry McConnell, Dr.P.H. |
| Nevada | William M. Edwards, M.D. | Paul Fugazzotto, Ph.D. |
| New Hampshire | Vladas Kaupas, M.D. | Robert A. Miliner, Dr.P.H. |
| New Jersey | Ronald Altman, M.D. | Martin Goldfield, M.D. |
| New Mexico | Nancy C. McCaig, M.D. | Daniel E. Johnson, Ph.D. |
| New York City | Pascal J. Imperato, M.D. | Paul S. May, Ph.D. |
| 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 Mosser | 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 | Samuel Osgood, M.D. | Gatlin R. Brandon, M.P.H. |
| Pennsylvania | W. D. Schrack, Jr., M.D. | James E. Prier, Ph.D. |
| Puerto Rico | Luis Mainardi, M.D. | Eduardo Angel, M.D. |
| Rhode Island | David L. Starbuck, M.D. (Acting) | Malcolm C. Hinchliffe, M.S. |
| South Carolina | Donald H. Robinson, M.D. | Arthur F. DiSalvo, M.D. |
| South Dakota | Robert H. Hayes, 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. |
| Vermont | Geoffrey Smith, M.D. | Dymitry Pomar, D.V.M. |
| Virginia | H. E. Gillespie, M.D. | Frank W. Lambert, Ph.D. |
| Washington | Byron J. Francis, M.D. | 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. |



3E4233672