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DR. PARRAN IS SUCCEEDED BY DR. SCHEELE

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DR. THOMAS PARRAN DR. LEONARD A. SCHEELE

Dr. Leonard A. Scheele took over his official duties as Surgeon General of the United States Public Health Service on April 6. President Truman nominated him for this post on February 12 and the appointment was confirmed by the Senate on February 25. Commenting on his successor, Dr. Thomas Parran said:

"Dr. Scheele is one of the outstanding figures in public health in this country. He possesses both the professional and personal qualifications to be a great Surgeon General. I wish for him long years of useful public service in this responsible position."

Dr. Scheele, 40, previously Assistant Surgeon General and Director, National Cancer Institute, has devoted his entire professional life to public health.

He assumed his former position in July 1947, after serving as Assistant Director, National Cancer Institute since 1946. During the past 2 years, he also has been concerned with development of plans for the Service's 500-bed clinical research hospital.

Dr. Scheele's wartime services included a year (1942–43) in Washington as Chief, Field Casualty Section, Medical Division, United States Office of Civilian Defense; and over 2 years (1943–45) in Europe on loan to the United States Army. He administered all public health and welfare operations in Italy, and later, with Supreme Headquarters, Allied Expeditionary Forces, administered a similar program for all of northwest Europe. His work won him three military decorations: Legion of Merit, Typhus Medal and French Order of Public Health.

He began specialization in 1937 as a Special Cancer Fellow at Memorial Hospital, New York, N. Y. On completion of 2 years of studies, he was assigned to the National Cancer Institute as Officer in Charge, National Cancer Control Program, 1939–42.

Dr. Scheele entered the Public Health Service in 1934. As Assistant Quarantine Officer, he served a year each in San Francisco and Honolulu. In 1936–37, he was Health Officer, Queen Anne's County, Md.

He received his A. B. from University of Michigan in 1931, his B. S. in medicine in 1933 and his M. D. in 1934, both from Wayne University, Detroit.

THE PUBLIC HEALTH SERVICE UNDER LEADERSHIP OF DR. PARRAN

Dr. Thomas Parran, who has devoted more than 30 years of his professional life to the Public Health Service, was first appointed Surgeon General in 1936.

At that time, Service activities were confined primarily to operation of Marine hospitals, to interstate and foreign quarantine and to research on a limited scale.

Today, Public Health Service responsibilities encompass the wide field of preventive medicine which is moving into the study of man and his reaction to his total environment, both physical and mental.

Expansion of the Service was made possible with the passage in 1935 of the Social Security Act which provided Federal grants-in-aid for general public health work.

Dr. Parran has been one of the chief proponents of the principle of limited grants to strengthen not only local and State public health services, but also for expansion of research in private and public nonfederal institutions throughout the country.

To enable Public Health Service research workers to study human cases, he inaugurated plans for a clinical research hospital which is to be added to the National Institute of Health.

He also has consistently encouraged support of voluntary health and civic organizations in behalf of improved public health services.

Even before he became Surgeon General, Dr. Parran was a leading proponent of the principle of advisory councils of outstanding scientists to assist in the administration of the research program. This has proved so successful a policy that similar provisions were written into the National Cancer Institute Act, Mental Health Act, and Hospital Survey and Construction Act.

Backed by the confidence of Congress, Dr. Parran has been largely responsible for initiating these programs in the Public Health Service during his term of office:

1. Strengthening of the research program of the National Institute of Health and increasing the support of research projects in nonfederal institutions.

2. Development of a national research and control program in cancer.

3. Development of national venereal disease control through aid for States.

4. Development of a national tuberculosis control program to augment voluntary activities.

5. Administration of the National Mental Health Act to stimulate research, training and State programs of control.

6. Administration of the Hospital Survey and Construction Act to make possible the beginning of a national network of hospital and public health facilities.

7. Development and administration of wartime Cadet Nurse Corps to prevent the collapse of civilian nursepower.

8. Organization of the Communicable Disease Center, Atlanta, Georgia, which cooperates with State and local health departments in the study and prevention of communicable diseases.

Dr. Parran has represented the United States at many international health and related conferences. He will continue to be this Government's member on the Interim Commission of World Health Organization.

THE ROAD AHEAD IN PUBLIC HEALTH

By Dr. Leonard A. Scheele, *Surgeon General, United States Public Health Service*

No Surgeon General of the United States Public Health Service has taken the solemn oath of office under such fortunate circumstances as attend my entering upon that assignment today. None, I hope, has taken office with a deeper sense of responsibility and pride than I feel today.

This year, 1948, is the one hundred and fiftieth anniversary of the Public Health Service. Our organization is stronger and better equipped to serve the Nation, richer in the confidence of the American people and their Representatives in Congress, broader in its vision of service, than ever before in its long history. The Nation knows—but no group is more sensibly aware than we of the Public Health Service—that we owe much of that strength, enrichment, and vision to our great leader of the past 12 years—Dr. Thomas Parran. As one of the many officers to whom he has given opportunities for experience and leadership, I accept, with a real sense of humility, the torch from his hand and pledge to hand it on with its flame of service undiminished.

To be given the leadership of the Public Health Service with its rich heritage of service and accomplishment, is more than an honor: it is an inspiration and a challenge. Today, nearly 20,000 men and women are devoting their lives to the Service; their work and their devotion to our common objectives inspire the confidence with which I undertake the task of leadership. The heritage created by our predecessors challenges all of us to preserve its high traditions and to seek its continuing enrichment in every opportunity offered us for giving more and better service to the Nation.

We are further inspired and challenged by the yearning of the American people for health. At no time in our history has the desire for meaningful values and new life-goals been so intense; and health is the first value and the first goal of life. The desire for health is reflected by the growing public demand for better health services, by increased congressional support of the programs of the Public Health Service and by numerous new proposals, which the Congress is now considering, for the solution of some of our most urgent problems.

Finally, and I believe most significantly, the desire of the Nation for health is reflected by a new understanding on the part of professional and civic leaders, that they must work more closely with each other in planning and operations to improve health and medical services of all types. As Surgeon General of the Public Health Service, I consider it to be one of my first duties and privileges to foster cooperation between this organization and our colleagues in the

Nation's professional societies and faculties, in the voluntary and philanthropic organizations interested in health and medical service and in other Federal, State, and local agencies.

The pattern of cooperation which was established in the basic law of the Public Health Service [1] has served the Nation efficiently in strengthening and expanding medical research, professional training, and public health services. The primary factor in these programs is the provision of financial assistance: for research—grants-in-aid to public and nonprofit private institutions and to individual scientists; for professional training—fellowships and clinical traineeships to individuals, and grants to State health authorities for training their employees; for general and special public health programs, including hospital construction—grants to legally responsible State agencies. The Public Health Service will continue to seek implementation of its financial-aid programs through adequate appropriations, and we will endeavor to increase and strengthen other elements of the cooperative programs, such as consultant and technical services, joint planning, and coordination of our programs in the interest of more efficient and effective administration.

The policy of the Public Health Service in the past has been to advance national health by the processes of demonstration, education, concrete help, and leadership. Our existing laws support that policy, and State agencies and private institutions which have participated in our programs, have concrete proof that the actions of the Service are in strict conformity with our policy and with the law. The independence of private institutions and the sovereign authority of the States for the initiation and conduct of their programs have been consistently respected by the Public Health Service; and this policy will be maintained under my administration. I anticipate acceptance of increased responsibility on the part of all the Nation's health resources—industrial, charitable, private, professional, and governmental—for the health of the American people. It shall be my constant endeavor, aided by my colleagues, to keep the Public Health Service always alert to the Nation's needs and to provide to all cooperating organizations the highest quality of service that we can render.

The oldest program of the Public Health Service—medical and hospital care for our various groups of beneficiaries—commands the major portion of our clinical and auxiliary manpower. To the men and women who operate our far-flung network of hospitals and clinics, thousands of Americans owe the precious gift of sympathetic care in illness and restoration to health. The Public Health Service

[1] Public Health Service Act of 1944, as amended.

owes its medical and hospital staffs a debt of gratitude for devotion to duty, often in extremely difficult situations. The Service will seek to strengthen their hands in the provision of services to their patients, and to improve their opportunities for continued training and advancement in their professions.

By increasing teamwork among all those engaged in major programs of the Service, I believe we can mutually benefit from each other's strengths and accomplishments and thus give even more valuable service to the Nation.

The advances already made in the administration of the national quarantine laws have taught us valuable lessons. We now know that a modern, streamlined quarantine service is not a barrier but an aid to the peaceful intercourse of nations, and to international cooperation in health protective measures. The Public Health Service will continue to seek and apply effective methods in the administration of the quarantine service.

The United States has been a leader in the development of plans for a world health organization, and the Public Health Service has played an important part in that development. The Service stands ready to make its contribution to international health under the laws of the Nation. So far, the United States has not joined the 24 United Nations who formally accepted the covenant of the World Health Organization.

We are living in an era of rapid social change and scientific progress. The speed and nature of change in contemporary life have a striking effect upon the relative importance of health problems. A half-century ago, our principal health problem was the conquest of communicable diseases. Today, new problems, chiefly those related to the health of an older population, confront us. Thus, as the health needs of the Nation change and shift, the programs of the Public Health Service must be kept flexible so that at all times our efforts may be focused upon those problems which chiefly affect the Nation's well-being and which chiefly concern the American people. Within the framework of its legal responsibility, the Service will continue to seek the means to strengthen all appropriate resources of the Nation in solving those problems.

No one organization, no one of our great American institutions—private enterprise, voluntary public service—can alone solve the major health problems of today. We must all consider the Nation's health our individual and our mutual responsibility. As I see the national health needs at this time, certain problems should have priority in our efforts to seek solutions.

We have a great deal of unfinished business in the public health field. Communicable diseases, both chronic and acute, which still

take approximately 100,000 lives annually, could be eliminated if we worked more diligently with the tools at hand. We have the medical and public health means; we have organized Federal-State cooperative programs for applying the means. There is no excuse for failure to control venereal diseases, tuberculosis, malaria, whooping cough, diphtheria, typhoid fever, the dysenteries and several other acute infections I could mention. The conquest of communicable diseases is a clear responsibility of local, State, and Federal health agencies. It is imperative that we clinch our victory in this field, for other more difficult tasks await willing hands.

A part of our unfinished business—and a primary cause of lag in the conquest of old diseases—is the organization, staffing, and efficient operation of local health units. The Public Health Service, through its pattern of State aid, stands ready with a large proportion of its resources, to assist in covering the United States with full-time efficient local health services, a task approved by all professional organizations. The organization of local health units is a clear responsibility of local and State governments. Legislation now before the Congress would, if enacted, greatly increase the Federal contribution to the organization of local health services throughout the country, and to the training of personnel for staffing them.

The American people have not yet seriously considered one of their greatest personal and national health needs: the need for healthy maturity. The prediction that by 1970, one in every 10 Americans will be 65 years of age or older, has not been understood in all its implications. When the Public Health Service was established 150 years ago, the average American lived only 40 years; today, he lives more than 65 years. Yet we have not even attempted to define what we think healthy maturity should be. We find ourselves faced, instead, with an enormous personal and national burden of disease in the adult population, the most productive element of our society. It is possible that we shall not be able clearly to define healthy maturity until we learn more about the chronic degenerative diseases and until we attempt to apply in the entire adult population our knowledge of these diseases. It was not until we had made considerable progress in the control of childhood diseases that we could undertake the important study of the whole child and thus come to an understanding of healthy childhood. Child health is now a positive, defined objective of this country—even though we have not yet attained health for all our children. In our need for healthy maturity, we have only just started to apply widely our knowledge of cancer and to intensify our search for better means with which to detect and treat malignancies. We have barely started to explore the cardiovascular diseases.

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Research and application still lag in other major causes of death and ill-health among adults; cerebral hemorrhage, kidney diseases, diabetes, arthritis, and rheumatism. Study of the healthy adult should accompany our investigation of the diseases to which he is susceptible. Our aim should be not only freedom from disease, but healthy maturity.

Mental health is known to be one of the most important requirements for a healthful, happy life at all ages. The National Mental Health Program established in the Public Health Service 2 years ago has met with unusual difficulties. Supported by the Nation's leading psychiatrists and experts in related fields, our efforts still languish in the nation-wide shortage of trained personnel and facilities, and in the lack of understanding on the part of the public that mental illness, with its incipient manifestations, is the most widespread, serious ailment of our time. It is my sincere hope that the American people will recognize the seriousness of this problem and will seek the means for mental health which, science assures us, will result from united efforts to apply psychiatric knowledge to our personal and community problems.

The search for new knowledge in the medical sciences is being expanded throughout the United States. The Public Health Service is proud of its share in fostering that expansion and in the work now being done in our own laboratories and hospitals. Our institutes for general research, for research in cancer and mental disease, in a few years' time will be, I hope, the finest center in the world for experimental and clinical investigations of the major causes of disability and death. We shall not relax our efforts to expand and refine knowledge of the infectious diseases. Recent achievements by Public Health Service investigators are proof of our determination to intensify the exploration of baffling problems in bacteriology.

The Nation's investments in research have produced a body of knowledge which, if fully applied to the needs of all the people, would advance human health immeasurably. I have mentioned the lag in the application of some of this knowledge, even though the effective means for its application through community health organization is equally well known. One of the chief causes of lag in other fields is lack of agreement as to the most effective means for bringing scientific knowledge and skills directly to the people who need them. It is my earnest desire that the Public Health Service shall contribute fully to the solution of these perplexing problems. I believe that we can do so by cooperating with the professions, institutions, and agencies which provide health and medical care, in the study and demonstration of more effective methods for the organization and provision of services.

The health of the American people and their health resources cannot and must not become a monopoly—either of governments, private enterprise, or charitable organizations. Each of these great institutions has made incalculable contributions to American health. The constituent groups and organizations within them must endure and grow in wisdom, strength, and efficiency.

The crisis in the professional schools of the Nation is the most serious problem which faces the medical and health professions today. Unless and until the crisis is resolved, the Nation will be hampered in all its efforts to increase its health resources and to improve the health of the people. The President's Scientific Research Board and other serious students of the problem have pointed to the financial straits into which the medical and other professional schools have fallen. These training centers which produce our doctors, dentists, nurses, research scientists, and other essential health personnel are national assets, vital to our personal and national well-being. Professional education has been established in this country on high standards and on a system which allows for growth, change, and improvement. The present high standards must be maintained and raised as rapidly as science, facilities, and funds permit. Expansion of educational facilities is essential if the demand for trained personnel is to be met; but expansion must be based upon demonstrated needs and upon the abilities of the schools to meet those needs.

Under existing laws, the Public Health Service will do all in its power to alleviate today's shortage of qualified personnel through its research fellowships and clinical trainee programs. Grants-in-aid are already available to qualified institutions for the construction of laboratory and clinical research facilities for the study of cancer. I hope that in the future we may be able to extend the same type of assistance in other research fields. Public Health Service funds may also be used in research projects to provide beds in nonfederal hospitals for clinical research; we shall encourage and assist the establishment of more research beds throughout the country as one means of expanding both the search for new knowledge and the training of personnel.

The Public Health Service must be particularly responsive to the needs of the Nation's schools of public health. The shortage of trained public health personnel of all types is one facet of the total problem of professional education, but it is one which involves the efficient staffing of our organization as well as many State and local health departments.

The present low salary levels and inadequately supported administration in our health organizations also are barriers to the recruitment of able young men and women to the service of the Nation's health. Like America's teachers, scientists, artists, and other creative workers,

America's health workers have not been assigned their true value—either economic or functional—in our contemporary civilization. Yet, they represent the enduring, vital values which make life worth living and a nation spiritually and physically alive! The Public Health Service has a responsibility to give full support to improved personnel practices and to improved compensation for public health personnel throughout the country. Public health work must be made as attractive economically as it is spiritually to those who adopt it as a career.

In this critical era, the public health and medical professions are faced with great and challenging responsibilities which call for our fullest mental and physical energies. I believe that we shall meet our responsibilities to the American people, to our professions, and to ourselves with that combination of intellectual integrity and creative imagination which has characterized the great men and women of medicine and public health. To my colleagues in the Public Health Service, to our Advisory Councils and consultants, and members of the health professions everywhere, I express my desire and firm determination to work with you and for you, as Surgeon General and as colleague, while we strive together in our tasks of service. And to the American people, I pledge my best efforts for the health of every person in the land.

CONTROL OF TRICHINOSIS

REPORT BY THE COMMITTEE ON PUBLIC HEALTH RELATIONS, THE NEW YORK ACADEMY OF MEDICINE [1]

INCIDENCE OF TRICHINOSIS

Necroscopic examination of diaphragm material from 5,313 persons in 37 States and the District of Columbia showed an incidence of 16.1 percent of trichinous infection, according to a study (*14*) made by the National Institute of Health over several years. The specimens were derived from 3,000 hospital patients in Washington, D. C., and 5 eastern seaboard cities; 200 from States in which clinical trichinosis had never been reported; and 283 from victims of sudden death outside of hospitals or who had been in hospitals for less than 24 hours. The rest included 1,125 specimens selected at random from hospitals chosen on a chance basis; 295 from persons who had lived on farms or in villages; 200 from orthodox and unorthodox Jews; 200 from the State of Washington and 10 from Oregon. Omitting the Jewish series, in which there was only one positive case, the rate of infection was 16.7 per 100 cases and was nearly uniform regardless of geographical or environmental factors (*14*).

[1] Prepared by E. H. L. Corwin, Ph. D. and Lois Stice for a subcommittee consisting of Dr. Haven Emerson, Dr. Wilson G. Smillie, and Dr. Maximin De M. Touart.

The high incidence of trichinous infection in these patients in whom clinical trichinosis had not been diagnosed suggests that many cases are never recognized and that many persons suffer only mild illness that does not come to medical attention. Ober (*9*) in a review of 287 cases seen in Massachusetts during the 10-year period 1936–45 stated that in 70 thoroughly studied cases the disease had first been misdiagnosed. Diagnoses made before trichinosis was suspected included grippe, acute nephritis, chronic nephritis, chronic rheumatic fever, pyelonephritis, gastroenteritis, staphylococcal infection, food poisoning, and poliomyelitis. Other diseases for which trichinosis may be mistaken are typhoid fever, angioneurotic edema, meningitis, tetanus, and acute sinusitis.

Evidence presented in 1940 before a special commission of the New York State Legislature during an investigation (*8*) indicated that in the preceding 10 years, 1,403 cases had been reported in the State of New York and that 608 of these were in New York City. According to more recent information, 1,075 cases were reported in New York City between 1934 and 1944. An outbreak of 84 cases in February and March, 1945, was described by Shookhoff, Birnkrant, and Greenberg (*11*). While the morbidity rate has not been definitely determined, the mortality rate of clinically recognized trichinosis is from 5 to 6 percent.

The average incidence of trichinous infection in all hogs in the United States has been estimated to be approximately 1.5 percent. It is 5.7 percent in garbage-fed hogs and 0.95 percent in hogs fed mainly on forage, grain, and other feeds. The greatest source of infection in hogs is said to be infected pork scraps fed to them in garbage. On the basis of the average incidence, Gould (*5*) estimated that the average American during his lifetime would probably consume nearly 200 meals of pork containing trichinae. Infection may occur if the trichinae are viable in only one of these servings of pork.

In addition to the mortality and morbidity from this disease among human beings, our foreign trade has been affected at times, since pork from this country has been excluded from several European countries because of its heavy infection with trichinae. Germany in 1880 and 1883 issued specific decrees prohibiting importation of pork from the United States. In 1891 the United States adopted microscopic inspection of pork intended for foreign export, but in spite of this, Germany began to reinspect and after a few years refused to accept further certification of inspection from this country. The United States Department of Agriculture states, however, that European countries have for many years accepted pork from this country on the basis of our certification; France makes a special requirement that fresh pork sent to that country be frozen to destroy any possible live trichinae.

The foregoing facts prove that trichinosis is a significant public health as well as an economic problem. A subcommittee of the Committee on Public Health Relations of The New York Academy of Medicine, appointed to inquire into the situation, conferred with representatives of the United States Public Health Service, the United States Department of Agriculture, the American Society of Refrigerating Engineers, and Dr. Donald L. Augustine of Harvard University, who has conducted research on the effects of low temperature on trichinae. In addition, the information collected by the New York State Trichinosis Commission at its hearings in 1940 was reviewed.

RELATION OF TRICHINOSIS TO MEAT INSPECTION

Federal inspection of meat as practiced at present does not guarantee freedom from trichinae in fresh pork and pork products ordinarily cooked by the consumer. Only about 70 percent of the pork consumed in the United States is produced in plants under Federal inspection (*4*), and of that amount only the part that is intended for consumption without further cooking may be considered to be free from trichinae. On fresh pork or cured pork ordinarily cooked by the consumer, the legend "U. S. Inspected and Passed" means that the pork has been inspected in the same manner as all other meat intended for sale in interstate commerce and that it is not necessarily free from trichinae. Federal inspection is required only for pork products that move in interstate commerce, and pork consumed in the State where it is produced may or may not undergo Federal inspection. The hearings of the New York State Trichinosis Commission revealed there are several hundred butchers in the State operating small slaughterhouses where there is little, if any, inspection or supervision. Some cities have their own meat-inspection service, but at most up-State slaughterhouses the meat products are under no inspection from any source.

METHODS OF CONTROL

Several methods of preventing transmission of trichinae to human beings have been advocated. The most effective are: (1) Microscopic inspection of pork, (2) boiling of garbage fed to hogs, and (3) processing of pork by some acceptable method—heating, curing, or freezing. It is apparent that none of these methods has been applied consistently or strictly enough to lower the prevalence of the infection.

Microscopic examination.—According to Gould, microscopic inspection has been used in some countries with good effect (*5*). The principal objections to this method are: (1) The procedure is costly; (2) trichinae may not be detected, particularly in hogs less than 1 year old; (3) trichinae may not be found in the particular tissue specimen examined and yet may be present in other parts of the same

animal; and (4) the public may acquire a false sense of security in eating raw or inadequately cooked pork if it is marked as having passed microscopic examination. Even if microscopic inspection were practiced by the Federal Government, nearly one-third of the pork produced in the country would not be subjected to inspection.

Boiling of garbage.—It is generally agreed that hogs fed principally on garbage are the chief source of trichinous infection. Any regulation requiring the feeding of grain alone would appear to be impossible of enforcement in the United States, even if grain were available in adequate amount for the purpose. Moreover, even grain-fed hogs would be infected in the pens of the slaughtering plants if they were fed on offal as they reportedly are in many instances.

Boiling of garbage fed to hogs appears to be a relatively effective method of control in Canada and England, but is regarded by many as impractical in this country because of enforcement difficulties. The United States Public Health Service, however, for many years has advocated this method (*7, 12, 13*). In 1938, Dr. Maurice C. Hall, late Chief of the Division of Zoology, declared that in spite of all objections or statements to the contrary, garbage feeders can, and in many places do, cook garbage (*7*). He commented further that "Whether every detail of cost, feed values and other items meets with the entire approval of everyone concerned or interested, is a minor matter compared with the public health as affected by garbage-fed hogs, of which about 5 percent are trichinous."

In a study of municipal garbage-disposal methods as related to trichinosis, Wright (*12*) declared that although most of the municipalities had provided protection against many diseases spread through food and water, in the case of trichinosis they were not only failing to provide safeguards, but were contributing to the spread of infection by permitting the use of garbage for hog-feeding. Emphasizing that the economic aspect was not the factor of prime importance, Wright pointed out that "With such things as the use of night soil as fertilizer, we have long since disregarded the economic factor in favor of benefits to community health."

The American Public Health Association, through its governing council, adopted a resolution in 1938 urging that local and State health officials "take active steps to encourage the use of methods of garbage disposal other than disposal by feeding to swine, or to encourage the cooking of municipal garbage before its consumption by swine, as a health measure for the protection of the citizens of the municipality." The American Journal of Public Health in 1940 directed attention editorially to the problem and stated that the reasons for lack of protection in the cities are almost entirely commercial, since some cities maintain hog farms of their own, and in other

cities persons engaged in the business have brought pressure to bear against the passage of legislation designed to protect the public effectively against the dangers of raw pork (*10*).

Veterinarians also have recommended the boiling of garbage as a solution to the problem of trichinosis. Dickey (*3*) in 1943 urged the American Veterinary Medical Association to exercise its influence to have laws passed by the States to prohibit what he called "the unpardonable, but highly mercenary practice of feeding hogs uncooked garbage containing pork scraps."

According to Dickey, large-scale garbage feeders have complained that a requirement for boiling garbage would impose discrimination on them unless the law also applied to farmers who feed home-produced swill to swine. Dickey compared such complaints to the early fears on the part of slaughterers that Federal meat inspection would put them out of business. He commented:

> It is firmly believed that the pangs which the feeders of uncooked garbage experience every time there is public expression in favor of laws requiring the cooking of garbage fed to hogs are but travail pains which will completely disappear when the laws are finally born.

Another objection often raised is that boiled swill is not palatable to hogs. There appears to be a difference of opinion on this point. Some authorities told the New York State Trichinosis Commission that hogs would eat cooked garbage, but it was the opinion of most garbage feeders that it was not so palatable as ordinary garbage. On the other hand, evidence from Canada indicates that there were no objections on that score from Canadian hog raisers. Dr. Wright of the United States Public Health Service informed the subcommittee that experiments at the Maryland Agricultural Experiment Station in 1914 had demonstrated that boiling made no difference in the amount of garbage eaten by hogs.

The cost of processing garbage has been investigated by both the United States Public Health Service and the Bureau of Animal Industry of the United States Department of Agriculture. Their statements to the New York State Trichinosis Commission in 1940 indicated that the cost of equipment varied from $10 for an open kettle sufficient for the feeding of 12 hogs to $200 for an upright boiler suitable for 200 hogs. A system large enough to prepare feed for 800 hogs cost $640. The operating cost at that time ranged from 90 cents a ton in Canada to $3.50 a ton in Portland, Oreg. It was pointed out that a large part of the cost was probably represented by the labor involved in removing inedible objects from the garbage.

The Canadian Department of Agriculture furnished hog-raisers with mimeographed directions for building a cooker from a discarded boiler at a cost of from $25 to $60. On some Oregon ranches cooking

is done in vats of Douglas fir; the vats cost about $70, while the steam boiler and other necessary equipment cost between $600 and $700, according to a statement by Dr. Wright to the New York State Trichinosis Commission. Small scale feeders have used inexpensive steel oil drums set in a brick furnace.

Pork Processing, with Special Reference to Freezing

Gould (*4*, *5*) advocated Federal, State, and local regulations requiring that all pork be processed. He expressed the opinion that if all pork were processed, trichinosis would be quickly eliminated from hogs, since they acquire the infection principally from eating pork scraps in garbage.

A less sweeping proposal would extend the requirements for processing to cover products which usually are cooked, but are sometimes eaten raw or inadequately cooked. A representative of the New York City Department of Health stated that in 888 of 1,075 cases of trichinosis reported in New York City from 1934 to 1944, the histories indicated that the patients had eaten products of this kind. For these products no processing is now required by the regulations of the United States Department of Agriculture. The Department, however, requires processing of all other types of pork products; these must be heated to a temperature not lower than 137° F., cured by salting and smoking, or frozen. In the slow freezing process now recommended by the Federal regulations, pork products less than 6 inches thick are held at 5° F. for 20 days. Products in pieces more than 6 and less than 27 inches thick must be held for 30 days. Shorter periods are permitted if lower temperatures are applied; that is, 10 days for small pieces and 20 days for those more than 6 inches thick at −10° F., and 6 to 12 days, respectively, for the two sizes at −20° F.

In New York City there are regulations requiring that unless a processor uses pork previously frozen, he must heat thoroughly before selling any pork product customarily eaten uncooked. In a report of 84 cases of trichinosis in the city in 1945, Shookhoff and his associates (*11*) recorded that the pork used in the meats that caused the outbreak had not been frozen as recommended; it was said that refrigerating companies licensed to do this work had found it more profitable to use their facilities for other purposes, and consequently the practice of freezing pork had been discontinued.

Modern quick-freezing methods have not been adapted for use in the processing of pork. Augustine (*1*) experimented in 1933 with raw pork loin roasts in which infected guinea-pig muscle had been inserted. Then the infected cuts were brought rapidly to low temperatures varying from 18.1° to −34.6° C. (NOTE: −17.8° C. is equivalent to 0° F.) It was found that the parasites were not injured until the

temperature reached −27.6° C. Complete destruction was attained, however, when trichinous material was lowered to −18° C. and held at that point for 24 hours. Dr. Augustine presented these figures before the subcommittee.

A report of a similar investigation was published in 1934 by Blair and Lang (*2*). These investigators used rat muscle in order to determine whether a different species of test animal would produce different results. Resistances to freezing were greater than those observed by Augustine. Blair and Lang found that larvae encysted in rat muscle could be killed by rapidly lowering the temperature to −35° C., but not until the muscle had been held at the lower temperature for 2 hours. They were of the opinion that it would be impracticable to use this method commercially because of the slow rate at which large volumes of pork and pork products cool. After experiments with pork roasts, the investigators concluded that commercial quantities of pork rapidly frozen to −17.8° C. must be stored at the same temperature for more than 48 hours. When ground meat was frozen rapidly, encysted trichinal larvae were killed in a few minutes. They concluded that additional investigation on the efficacy of quick freezing of heavily infected pork was imperative. They also suggested that studies of the effect of the age of the larvae and of the relation between resistances to cold of different species of animals would add value to comparisons of methods.

The committee consulted the American Society of Refrigerating Engineers for information concerning developments in freezing technics and the costs involved. That society's Technical Committee A–3 on Meat Packing, in a report prepared especially for the Committee on Public Health Relations, expressed the opinion that the freezing of all pork to destroy trichinae is impracticable under present conditions and that if freezing were practicable it would materially increase the cost of pork to the consumer. Members of the engineers' committee are as follows: J. P. McShane, Swift & Co., Chicago, chairman; H. K. Gillman, Tobin Packing Co., Fort Dodge, Iowa; T. A. D. Jones, Kingan & Co., Indianapolis; F. P. Neff, Tupman and Thurlow, Chicago; Starr Parker, H. H. Meyer Packing Co., Cincinnati; R. W. Ranson, John Morrell & Co., Ottumwa, Iowa; H. M. Shulman, Hammond Standish & Co., Detroit; K. E. Wolcott, Wilson & Co., Chicago, and J. S. Bartley, Rath Packing Co., Waterloo, Iowa.

The engineers estimated that it would require the equivalent of all the present freezer capacity in the United States to process all the pork produced, if the slow freezing now recommended by the Department of Agriculture were employed. If quick freezing methods should be developed, less space would be required, but more insulation and more refrigerating compressor displacement capacity would be neces-

sary and the operating costs would then be higher. Moreover, other new facilities would be required in packing plants. Among such facilities were mentioned: Refrigerated space for wrapping and packaging the pork before freezing; storage space for boxes, cartons and other supplies, and new "thaw rooms" with controlled temperature, humidity and circulation of air for defrosting the pork to be cured. The engineers claim that to provide additional space it would be necessary to make extensive changes in plants or to utilize new public cold storage space.

Increased costs, which would be borne by the consumer, would arise partly from the acquisition of the new equipment and the extra space needed for large-scale refrigeration, and partly from the extra handling entailed in the freezing process. No actual estimates of the cost were submitted.

Certain other objections to freezing were advanced by the engineers: (1) The investment in the product and in special supplies would add to the risk of doing business; (2) the "dripping" and color of frozen pork make it unattractive; (3) the necessity for keeping the product frozen until it was ready for cooking would further complicate the handling and would necessitate special equipment in retail stores; and (4) it would be impossible to supervise the freezing of pork from hogs slaughtered on farms. The opinion was also expressed that regulations requiring the freezing of all pork might engender false feelings of security, since a small proportion from establishments which were not under effective inspection might still harbor trichinae. Some of the difficulties cited are probably exaggerated. Many retailers now have installed freezers in their stores for other frozen products; the danger from lack of supervision of individual farms would not be increased by a requirement for freezing. The matter of chief importance is the question of increased cost for a food which is as wholesome and popular as pork is.

A proposal to refrigerate all pork was advanced several years ago, but packers at that time declined to consider the idea on the ground that their facilities were inadequate. In the opinion of one observer, cooperation on the part of the packers with Federal, State, or local authorities on the control of trichinosis has never been forthcoming; it was his impression that the main attention of the trade had been directed to lessening publicity concerning the disease, because it was feared that publication of facts relating to it would react adversely on the industry.

In the recent statement on refrigeration, Gould (*5*) commented that "the main costs connected with this method of control of trichinosis are the costs of apparatus, such as refrigerating units and storage space. These expenses are initial ones and similar initial expenses

would be found necessary in any other method. The operation or maintenance of the method, however, would require relatively little personnel as compared with microscopic inspection, and the method of processing would, therefore, be much cheaper. In the last analysis the cost of this method would be borne by the consumer. The consumer would in fact be glad to assume this extra cost if he could have the assurance that he was receiving meat that was free from living trichinae."

In the opinion of Ober (*9*), the growing popularity of deep-freeze cabinets in individual homes may be an important factor in encouraging the adoption of refrigeration as a method of destroying trichinae in pork. If the method was adopted generally, a decrease in trichinosis could be anticipated.

CONCLUSIONS

Trichinosis is a serious problem in public health, not only because of an appreciable mortality among the clinically recognized cases, but also because of the widespread invasion by the parasite that apparently escapes recognition and causes undetermined damage to the body over long periods of time.

The committee recognizes that the present regulations of the United States Department of Agriculture concerning processing of pork and pork products apply compulsorily only to those products which are usually eaten without cooking by the consumer, whereas many trichinous infections have been traced to pork products ordinarily cooked at home, such as roast pork or bacon. In using these products, the consumer's only protection against infection with trichinae lies in the thorough cooking of the meat.

The committee has been under the impression that the method of rapid chilling at low temperatures might provide an effective and inexpensive method of killing trichinae. The impression is not supported by the refrigerating engineers to whom the question was submitted.

The committee is of the opinion that a specific recommendation for change in the present requirements of the United States Department of Agriculture with regard to the processing of pork products to be eaten without further cooking is not now warranted. It is apparent that the laboratory observations on the use of low temperatures for short periods to destroy trichinae have not been accepted as justifying a change of method, and there is probably a difference of opinion as to the validity of these observations when low temperatures and brief exposures are applied on a commercial scale to bulk pork products.

There is at present no evidence to justify a broad recommendation that all pork products be frozen immediately after slaughtering and held at a low temperature for a sufficient period to destroy the trichinae. A complication into which the committee has not adequately inquired is that the freezing process may so alter the quality of the fresh pork as to offend the tastes of the purchasing public. Partial dehydration may overcome this objection.

If the statement of the refrigerating engineers is to be accepted without challenge, the adoption of freezing as a processing method for all pork products must be deferred until such time as storage space can be enlarged and the costs of handling can be set at reasonable levels.

From the information available to the committee, it appears that the boiling of garbage fed to hogs is not wholly impractical. The United States Public Health Service has advocated this practice for many years, and the committee favors a trial on a limited scale, possibly under the joint sponsorship of the Public Health Service, and a local department of health.

The committee is of the opinion that the matter is of sufficient importance for The New York Academy of Medicine to take the initiative in stimulating studies to determine whether more effective measures for the destruction of trichinae in pork products can be devised without an undue increase in cost.

RECOMMENDATIONS

The committee recommends that it be authorized to take steps to stimulate fundamental research on the potentialities of quick freezing as a method of processing pork. It proposes that representatives of the United States Public Health Service and the United States Department of Agriculture be invited to confer with representatives of The New York Academy of Medicine to explore the feasibility of research in this long-neglected field.

Without waiting for the completion of the suggested pathological and engineering studies, the committee recommends for consideration by the Commissioner and the Board of Health of New York City certain changes in regulations or methods of enforcement to reduce the danger of recurring outbreaks of trichinosis. Specifically it is recommended that (1) the New York City Department of Health, possibly with the cooperation of the United States Public Health Service, be urged to devise means (*a*) of excluding from New York City all pork from hogs fed on uncooked garbage, and (*b*) of prohibiting the shipment from New York City of garbage intended for the feeding of hogs unless the refuse has been heated to a temperature high enough to destroy trichinae; (2) the Department of Health adopt a regulation

prohibiting the feeding of raw garbage to hogs while they are being held within the city for slaughter; (3) the Department of Health be urged to enforce strictly the provisions of the Sanitary Code relating to the proper cleansing of utensils and machines used in the preparation of pork products; (4) particular vigilance should be exercised in the supervision of the processing of products to be eaten without cooking by the consumer, and (5) the Department of Health should carry on an educational campaign concerning the dangers of eating insufficiently cooked pork, particularly when an outbreak offers occasion for special emphasis.

REFERENCES

(1) Augustine, D. L.: Effects of low temperatures upon encysted Trichinella spiralis. Am. J. Hyg. **17:** 697 (1933).
(2) Blair, J. B., and Lang, O. W.: Effect of low temperature freezing on the encysted larvae of Trichinella spiralis: Studies on muscle of rats, guinea-pigs and hogs. J. Infect. Dis. **55:** 95 (1934).
(3) Dickey, E. S.: Trichinosis as viewed by different interests. J. Am. Vet. M. A. **102:** 359 (1943).
(4) Gould, S. E.: Trichinosis: A major health problem in the United States. What should be done about it? Bull. N. Y. Acad. Med. **21:** 616 (1945).
(5) Gould, S. E.: Control of trichinosis. J. A. M. A. **129:** 1251 (1945).
(6) Gould, S. E.: Trichinosis, Springfield, Ill., Charles C. Thomas, 1945.
(7) Hall, M. C.: Studies on trichinosis: Past and present status of trichinosis in the United States and indicated control measures. Pub. Health Rep. **53:** 1472 (1938).
(8) Meat for millions. Report of N. Y. State Trichinosis Commission. Legislative Document No. 52, 1941.
(9) Ober, R. E.: Trichinosis: A review of cases in Massachusetts. New England J. Med. **235:** 839 (1942).
(10) Raw garbage and trichinosis. Editorial, Am. J. Pub. Health **30:** 1227 (1940).
(11) Shookhoff, H. B., Birnkrant, W. B., and Greenberg, M.: An outbreak of trichinosis in New York City, with special reference to intradermal and precipitin tests. Am. J. Pub. Health **36:** 1403 (1946).
(12) Wright, W. H.: Studies on trichinosis: A survey of municipal garbage disposal methods as related to trichinosis. Pub. Health Rep. **55:** 1075 (1940).
(13) Wright, W. H., and Bozicevich, J.: Experiments in the cooking of garbage for the destruction of trichinae in pork scraps. Pub. Health Rep. **58:** 396 (1943).
(14) Wright, W. H., Jacobs, L., and Walton, A. C.: Studies on trichinosis. Epidemiological considerations based on the examination for trichinae of 5,313 diaphragms from 189 hospitals in 37 States and the District of Columbia. Pub. Health Rep. **59:** 669 (1944).
(15) Wright, W. H., Kerr, K. B., and Jacobs, L.: Summary of the findings of Trichinella spiralis in a random sampling and other samplings of the population of the United States. Pub. Health Rep. **58:** 1293 (1943).

HEALTH OF ARC WELDERS IN STEEL SHIP CONSTRUCTION[1]

A Review

This report presents the clinical and environmental findings of a cooperative investigation into the respiratory health hazards of ship-

[1] Health of arc welders in steel ship construction. By Waldemar C. Dreessen, Hugh P. Brinton, Robert G. Keenan, Thalbert R. Thomas, Edwin H. Place, and James E. Fuller. Pub. Health Bull. 298. Government Printing Office, 1947. For sale by the Superintendent of Documents, Washington 25, D. C. Price 55 cents.

yard arc welders who were working with coated electrodes on bare steel or galvanized steel. The investigation was instituted by the Division of Shipyard Labor Relations, United States Maritime Commission, and was conducted cooperatively from April through December 1944 by the United States Public Health Service, United States Maritime Commission, and United States Navy Department.

Physical examinations were made on 4,650 individuals including 2,950 males and 1,700 females employed in 7 United States Maritime Commission or Navy-contract shipyards located on the Atlantic, Pacific, and Gulf Coasts. About one out of every four persons examined was a nonwelder and the medical findings of this group served to control the clinical observations on welders.

Quantitative measurements were made of the fume and gases contaminating the air of the work places. These data include 1,767 samples for iron and total fume, 278 samples for zinc, 25 samples for lead, and 2,019 samples for the oxides of nitrogen. Ventilation of some type was available in all the shipyards; although it was of various adequacy, extreme degrees of atmospheric contamination were infrequently observed.

Clinical observations were made on the general fitness of the shipyard workers examined. Some of the conditions noted, which were possibly related to welding exposure, include a respiratory symptom-complex (pharyngitis, rhinitis, and conjunctivitis), arc-welder's siderosis, cardiovascular hypotonia, and rather characteristic occupational stigmata of certain arc welders caused by burns of hot slag or molten metal. These conditions were either infrequent or of a low order of severity. Detailed blood studies failed to reveal any marked blood dyscrasias among welders. Gastrointestinal symptoms likewise were infrequent. There was no indication that welding fume, under the conditions observed, predisposed to pulmonary tuberculosis.

In general, the concentrations of welding fume and gas observed in the environmental phase of the study were relatively low, and the clinical findings were minimal. Great variation in the nature of the welder's work precludes reasonable estimates of weighted fume exposures. Safety and ventilating practices in the shipyards investigated seem to have aided materially in keeping diseases of industrial origin at low levels of significance.

INCIDENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED MARCH 20, 1948

Summary

A net decline in the incidence of influenza was reported for the current week (from 7,447 cases last week to 5,941 currently, as compared with an increase for the corresponding week last year from 21,991 to 42,997). The corresponding 5-year (1943–47) median is 4,054. Of the 11 States reporting more than 81 cases, 7 reported a combined decline of 1,745 cases, while 4 (Virginia, West Virginia, Oklahoma, and Colorado) showed an increase from 811 cases to 1,161 (the largest increase in Virginia, 459 to 687). The total for the year to date is 113,008, as compared with 105,579 for the corresponding period last year, which latter figure was also the 5-year median for the period.

Of 30 cases of poliomyelitis reported for the week, as compared with 25 last week, 33 for the corresponding week last year, and a 5-year median of 24, Iowa reported 8 (last 7 weeks 0), Texas and California 5 each (last week 3 and 4 cases respectively). No other State reported more than 2 cases. The current week corresponds with the approximate average date of lowest seasonal incidence of past years. The total to date is 347, as compared with 612 for the corresponding period last year, the highest of the past 5 corresponding periods, 263, the lowest (in 1944), and a 5-year median of 397.

One case of anthrax was reported for the week, in New Jersey, and 1 case of smallpox, in North Carolina. Since the first of the year, totals above the corresponding medians have been reported for amebic and unspecified dysentery, infectious encephalitis, influenza, measles, Rocky Mountain spotted fever, and undulant fever.

Deaths, all causes, recorded during the week in 93 large cities of the United States totaled 10,005, as compared with 9,789 last week, 10,186 and 9,569, respectively, for the corresponding weeks of 1947 and 1946, and a 3-year (1945–47) median of 9,640. The total for the year to date (12 weeks), is 123,298, as compared with 120,645 for the same period last year. Infant deaths totaled 624, as compared with 639 last week and a 3-year median of 650. The cumulative figure is 8,350, as compared with 9,731 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended March 20, 1948, and comparison with corresponding week of 1947 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1943–47	Week ended—		Median 1943–47	Week ended—		Median 1943–47	Week ended—		Median 1943–47
	Mar. 20, 1948	Mar. 15, 1947		Mar. 20, 1948	Mar. 15, 1947		Mar. 20, 1948	Mar. 15, 1947		Mar. 20, 1948	Mar. 15, 1947	
NEW ENGLAND												
Maine	1	0	2				5	186	61	0	1	1
New Hampshire	1	0	0		5		13	32	11	0	3	0
Vermont	0	0	0			1	5	283	173	0	0	0
Massachusetts	5	26	7				784	417	613	4	0	3
Rhode Island	0	1	0				1	196	14	0	0	2
Connecticut	0	0	0	11		3	66	566	407	0	0	3
MIDDLE ATLANTIC												
New York	5	10	10	[1] 25	[1] 9	[1] 6	2,034	319	2,321	4	8	36
New Jersey	5	7	3	54	6	7	1,145	558	1,366	1	0	7
Pennsylvania	5	13	10	([2])	[2] 3	[2] 3	1,070	367	1,258	5	6	16
EAST NORTH CENTRAL												
Ohio	10	7	7	6	91	20	1,599	731	731	4	2	8
Indiana	6	13	7	1	275	9	1,048	39	266	1	0	3
Illinois	1	6	6	6	55	22	2,599	44	963	4	5	18
Michigan [3]	2	8	8		26	7	1,841	74	555	3	4	7
Wisconsin	2	3	1	38	154	46	1,138	247	1,046	0	0	4
WEST NORTH CENTRAL												
Minnesota	4	6	5	1		1	283	65	65	0	7	4
Iowa	3	0	3		970		744	65	213	2	0	0
Missouri	8	13	7	4	208	4	436	15	375	3	4	7
North Dakota	0	5	2		95	4	26	6	20	0	0	1
South Dakota	0	1	0		18		1	15	29	0	0	0
Nebraska	0	2	2	12	178	24	131	5	70	1	1	0
Kansas	2	8	5	54	6,260	5	61	9	513	0	0	1
SOUTH ATLANTIC												
Delaware	0	1	1				43	1	17	0	0	0
Maryland [3]	4	7	7	5	3	4	81	19	73	1	2	9
District of Columbia	0	0	0		4	1	148	24	100	0	0	1
Virginia	5	3	3	687	1,151	551	466	332	463	1	2	12
West Virginia	11	1	3	103	2,099	40	320	80	66	4	1	3
North Carolina	13	8	8				5	400	389	0	3	6
South Carolina	6	2	4	745	1,518	449	108	79	190	1	1	1
Georgia	2	1	4	41	482	24	54	264	187	0	1	4
Florida	2	9	4	2	73	3	172	15	62	3	3	7
EAST SOUTH CENTRAL												
Kentucky	2	4	4	6	29	29	343	10	86	3	1	4
Tennessee	3	4	5	81	341	81	255	127	301	4	4	8
Alabama	6	8	6	272	328	168	82	88	216	1	5	5
Mississippi [3]	1	6	6	21			62	18		1	1	5
WEST SOUTH CENTRAL												
Arkansas	4	3	5	254	5,306	109	238	383	196	0	3	3
Louisiana	2	13	6	13	6	13	34	56	68	2	6	6
Oklahoma	8	3	3	267	1,083	190	24	7	65	2	1	2
Texas	9	25	34	2,579	19,527	1,543	1,579	309	1,160	5	9	13
MOUNTAIN												
Montana	3	2	2	25	193	26	62	147	105	0	1	0
Idaho	9	0	0	33	144	20	68	6	69	0	0	0
Wyoming	2	1	1		20	6	141	21	42	0	0	0
Colorado	3	5	5	104	1,604	39	555	46	350	1	2	0
New Mexico	2	1	1	7	3	1	7	45	20	0	0	1
Arizona	0	6	5	151	394	125	78	47	47	0	0	0
Utah [3]	0	0	0	56	67	8	36	22	104	0	0	1
Nevada	0	0	0	25			4	1	5	0	0	0
PACIFIC												
Washington	0	4	4	9	111		310	55	210	1	3	6
Oregon	1	1	1	135	125	25	26	33	102	0	1	1
California	12	15	23	108	33	51	1,935	217	1,187	9	8	27
Total	170	262	262	5,941	42,997	4,054	22,266	7,091	23,150	71	99	243
11 weeks	2,385	3,233	3,233	113,008	105,579	105,579	153,809	56,072	152,241	938	933	2,791
Seasonal low week [4]	(27th) July 5–11			(30th) July 26–Aug. 1			(35th) Aug. 30–Sept. 5			(37th) Sept. 13–19		
Total since low	8,743	10,799	11,851	156,566	138,554	138,554	188,755	78,959	178,365	1,720	1,905	5,243

[1] New York City only.
[2] Philadelphia only.
[3] Period ended earlier than Saturday.
[4] Dates between which the approximate low week ends. The specific date will vary from year to year.

Telegraphic morbidity reports from State health officers for the week ended March 20, 1948, and comparison with corresponding week of 1947 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1943–47	Week ended—		Median 1943–47	Week ended—		Median 1943–47	Week ended—		Median 1943–47
	Mar. 20, 1948	Mar. 15, 1947		Mar. 20, 1948	Mar. 15, 1947		Mar. 20, 1948	Mar. 21, 1947		Mar. 20, 1948 [5]	Mar. 15, 1947	
NEW ENGLAND												
Maine	0	0	0	11	24	24	0	0	0	0	0	0
New Hampshire	0	0	0	3	17	11	0	0	0	0	0	0
Vermont	0	1	1	0	9	8	0	0	0	0	0	0
Massachusetts	0	2	0	166	134	403	0	0	0	0	5	2
Rhode Island	0	0	0	7	12	14	0	0	0	0	0	0
Connecticut	0	1	0	52	38	69	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	1	1	1	291	387	655	0	0	0	1	2	3
New Jersey	0	0	0	118	166	182	0	0	0	0	0	0
Pennsylvania	0	1	1	330	228	447	0	0	0	3	4	4
EAST NORTH CENTRAL												
Ohio	2	0	0	500	430	430	0	2	0	4	0	2
Indiana	1	0	0	71	158	158	0	1	1	0	3	1
Illinois	0	1	1	161	171	224	0	1	1	1	0	2
Michigan [3]	1	0	0	159	214	214	0	0	0	0	2	2
Wisconsin	0	1	1	65	110	245	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota	1	2	0	39	49	64	0	0	0	0	1	0
Iowa	8	0	0	46	35	64	0	0	0	4	0	0
Missouri	0	0	1	50	23	134	0	0	0	5	1	1
North Dakota	0	1	0	5	23	23	0	0	0	0	0	0
South Dakota	0	0	0	1	7	16	0	0	0	0	0	0
Nebraska	0	0	0	24	31	49	0	0	0	0	0	0
Kansas	0	0	0	30	48	106	0	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	0	0	11	21	16	0	0	0	0	0	0
Maryland [3]	1	1	0	43	38	112	0	0	0	0	1	1
District of Columbia	0	0	0	13	16	30	0	0	0	0	0	0
Virginia	0	0	0	18	49	93	0	0	0	6	0	1
West Virginia	1	0	0	33	26	38	0	0	0	0	4	2
North Carolina	1	0	0	19	29	41	1	0	0	0	0	0
South Carolina	0	0	0	3	17	8	0	0	0	0	1	1
Georgia	0	0	0	12	27	17	0	0	0	1	0	2
Florida	0	1	1	12	17	11	0	0	0	2	2	2
EAST SOUTH CENTRAL												
Kentucky	0	0	0	36	34	49	0	0	0	0	2	2
Tennessee	0	0	0	29	58	58	0	0	0	3	2	0
Alabama	1	1	0	13	20	20	0	0	0	0	1	1
Mississippi [3]	0	0	1	4	14	7	0	0	0	0	2	2
WEST SOUTH CENTRAL												
Arkansas	0	0	0	2	1	12	0	0	0	0	1	2
Louisiana	0	6	0	1	12	15	0	0	0	1	4	1
Oklahoma	0	0	0	17	21	21	0	0	0	1	0	0
Texas	5	1	1	48	53	71	0	0	0	5	2	6
MOUNTAIN												
Montana	2	0	0	9	4	11	0	0	0	0	0	0
Idaho	0	1	0	6	9	12	0	0	0	0	2	0
Wyoming	0	0	0	1	13	13	0	0	0	1	0	0
Colorado	0	0	0	35	64	71	0	1	1	0	0	0
New Mexico	0	1	0	7	8	14	0	0	0	0	0	0
Arizona	0	1	0	2	8	16	0	0	0	0	2	1
Utah [3]	0	0	0	16	17	41	0	0	0	0	0	0
Nevada	0	0	0	0	8	1	0	0	0	0	0	0
PACIFIC												
Washington	0	0	0	78	33	46	0	0	0	0	1	1
Oregon	0	0	0	27	40	40	0	0	0	0	0	0
California	5	9	4	112	167	205	0	0	0	3	3	3
Total	30	33	24	2,736	3,129	4,360	1	5	13	41	48	56
11 weeks	347	612	397	26,038	29,874	42,595	32	45	114	473	485	585
Seasonal low week [4]	(11th) Mar. 15–21			(32d) Aug. 9–15			(35th) Aug. 30–Sept. 5			(11th) Mar. 15–21		
Total since low	10,558	25,409	13,803	48,577	56,560	80,916	53	99	197	3,882	4,013	5,200

[3] Period ended earlier than Saturday.
[4] Dates between which the approximate low week ends. The specific date will vary from year to year.
[5] Including paratyphoid fever reported separately, as follows: Ohio 1, Virginia 1, Georgia 1, Tennessee 1, Texas 1, California 1.

Telegraphic morbidity reports from State health officers for the week ended March 20, 1948, and comparison with corresponding week of 1947 and 5-year median—Con.

Division and State	Whooping cough			Week ended March 20, 1948							
	Week ended—		Median 1943-47	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
	Mar. 20, 1948	Mar. 15, 1947		Amoebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	6	22	36								1
New Hampshire	8	5	1								
Vermont	43	6	18								1
Massachusetts	51	198	169		4		1				2
Rhode Island	4	10	30								
Connecticut	16	48	66								1
MIDDLE ATLANTIC											
New York	157	165	165	14	2		3				2
New Jersey	49	132	132								
Pennsylvania	91	242	205	1							3
EAST NORTH CENTRAL											
Ohio	138	147	147	3					1		13
Indiana	24	29	22				1				5
Illinois	36	73	73	3	1		5				9
Michigan [3]	131	281	120	9							10
Wisconsin	79	152	63	1							3
WEST NORTH CENTRAL											
Minnesota	19	8	20	2		1					4
Iowa	26	21	18								17
Missouri	34	9	10								1
North Dakota	5		1								
South Dakota	7	5	1								
Nebraska	2	2	10								
Kansas	75	21	28								3
SOUTH ATLANTIC											
Delaware	1	2	1								
Maryland [3]	13	90	59			1					5
District of Columbia	6	6	3								
Virginia	61	129	55			32					1
West Virginia	24	31	41								
North Carolina	45	64	115		1				1		
South Carolina	91	37	43		5					3	
Georgia	29	10	12		2				1	1	1
Florida	40	28	27	4						1	
EAST SOUTH CENTRAL											
Kentucky	16	30	37		1						
Tennessee	46	24	21	6			2		2		2
Alabama	22	34	34	2						1	1
Mississippi [3]	2	16		2					2		1
WEST SOUTH CENTRAL											
Arkansas	106	19	19	6					1		1
Louisiana	6	2	2	2							1
Oklahoma	28	16	16	2							1
Texas	362	481	230	12	199	43				3	6
MOUNTAIN											
Montana	10	4	4								
Idaho	6	2	3								
Wyoming	10		1								
Colorado	83	8	24								5
New Mexico	22	12	9								
Arizona	65	12	23			16					
Utah [3]	13	17	17								3
Nevada	3										
PACIFIC											
Washington	38	51	32	3		1					
Oregon	17	7	14	1							
California	103	183	183	9	1		1				2
Total	2,269	2,891	2,709	82	216	94	13	0	8	9	105
Same week: 1947	2,891			55	279	317	7	1	21	48	105
Median, 1943-47	2,709			27	275	90	9	0	14	34	[6] 86
11 weeks: 1948	24,659			676	2,777	2,348	104	6	208	159	992
1947	27,919			504	3,740	2,536	74	10	438	508	1,112
Median, 1943-47	26,139			297	3,195	1,212	94	4	218	533	[6] 923

[3] Period ended earlier than Saturday.

[6] 3-year median 1945-47.

Anthrax: New Jersey 1.

Alaska: Common respiratory diseases 54, erysipelas 1, influenza 8, mumps 2, pneumonia 7, measles 10, scarlet fever 5, whooping cough 6, septic sore throat 3, rheumatic fever 3.

Territory of Hawaii: Rabies 0, bacillary dysentery 6, leprosy 2, measles 3, paratyphoid fever 1, whooping cough 18.

WEEKLY REPORTS FROM CITIES *

City reports for week ended March 13, 1948

This table lists the reports from 90 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

Division, State, and City	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	-------	0	1	0	5	0	0	7
New Hampshire:												
Concord	0	0	------	0	-------	0	0	0	0	0	0	------
Vermont:												
Barre	0	0	------	0	-------	0	0	0	0	0	0	2
Massachusetts:												
Boston	8	0	------	1	385	1	14	0	55	0	0	5
Fall River	0	0	------	0	6	0	2	0	1	0	1	3
Springfield	0	0	------	0	-------	0	0	0	0	0	0	3
Worcester	0	0	------	0	4	0	5	0	11	0	0	6
Rhode Island:												
Providence	0	0	1	0	-------	0	6	0	5	0	0	10
Connecticut:												
Bridgeport	0	0	------	0	-------	0	0	0	7	0	0	------
Hartford	0	0	------	0	3	0	2	1	3	0	0	------
New Haven	0	0	1	0	-------	3	0	0	5	0	0	4
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	4	1	4	0	8	0	0	5
New York	7	0	29	0	1,414	3	78	1	107	0	1	27
Rochester	0	0	------	0	1	0	3	1	7	0	0	3
Syracuse	0	0	------	0	20	0	1	0	7	0	0	5
New Jersey:												
Camden	0	0	1	1	3	0	4	0	3	0	0	------
Newark	0	0	1	0	93	0	3	0	16	0	0	2
Trenton	0	0	------	0	1	0	7	0	8	0	0	------
Pennsylvania:												
Philadelphia	3	0	------	0	346	3	18	0	79	0	0	27
Pittsburgh	1	0	------	0	-------	2	15	1	32	0	0	15
Reading	0	0	------	0	7	0	6	0	13	0	0	2
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	2	0	------	0	45	2	5	0	9	0	0	6
Cleveland	0	0	1	0	9	1	5	0	33	0	0	23
Columbus	1	0	1	1	122	0	1	0	10	0	0	6
Indiana:												
Fort Wayne	0	0	------	1	14	0	6	0	6	0	0	------
Indianapolis	0	1	------	0	187	1	7	0	10	0	0	3
South Bend	0	0	------	0	2	0	0	0	0	0	0	------
Terre Haute	1	0	------	0	5	0	1	0	0	0	0	3
Illinois:												
Chicago	1	0	------	0	969	2	22	0	62	0	0	23
Springfield	0	0	------	0	141	0	1	0	0	0	0	2
Michigan:												
Detroit	3	0	------	0	314	0	9	0	92	0	0	29
Flint	0	0	------	0	1	1	2	0	3	0	0	3
Grand Rapids	0	0	------	0	368	0	1	0	2	0	0	3
Wisconsin:												
Kenosha	0	0	------	0	141	0	0	0	0	0	0	------
Milwaukee	0	1	------	0	28	0	6	0	14	0	0	4
Racine	0	0	------	0	203	0	0	0	2	0	0	------
Superior	0	0	------	0	22	0	0	0	1	0	0	2
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	86	0	2	0	8	0	0	6
Minneapolis	0	0	------	0	54	0	4	0	14	0	0	4
St. Paul	0	0	------	0	54	0	7	0	4	0	0	7
Missouri:												
Kansas City	0	0	3	1	24	0	6	0	5	0	0	9
St. Joseph	0	0	------	0	-------	0	0	0	2	0	0	------
St. Louis	8	0	2	1	175	2	10	0	17	0	1	4

* In some instances the figures include nonresident cases.

City reports for week ended March 13, 1948—Continued

Division, State, and City	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo	0	0	.....	0	5	0	2	0	4	0	0	.....
Nebraska:												
Omaha	0	0	.....	0	63	0	1	0	5	0	0	.....
Kansas:												
Topeka	0	0	.....	0	12	0	1	0	0	0	0	.....
Wichita	0	0	.....	0	1	0	2	0	1	0	0	3
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	.....	0	19	0	3	0	2	0	0	.....
Maryland:												
Baltimore	3	0	6	2	26	2	8	0	13	0	0	12
Cumberland	1	0	.....	0	.....	0	0	0	3	0	0	.....
Frederick	0	0	.....	0	.....	0	0	0	0	0	0	.....
District of Columbia:												
Washington	0	0	.....	0	175	0	11	0	9	0	0	4
Virginia:												
Richmond	1	0	1	0	.....	1	0	0	3	0	0	5
Roanoke	0	0	.....	0	.....	0	0	0	1	0	0	.....
West Virginia:												
Charleston	0	0	.....	0	16	0	3	0	0	0	0	.....
Wheeling	0	0	.....	0	8	0	2	0	2	0	0	.....
North Carolina:												
Raleigh	0	0	.....	0	.....	0	2	0	0	0	0	.....
Wilmington	0	0	.....	0	.....	0	2	0	0	0	0	.....
Winston-Salem	0	0	.....	0	.....	0	0	0	0	0	0	.....
South Carolina:												
Charleston	1	0	60	0	1	0	3	0	0	0	0	.....
Georgia:												
Atlanta	0	0	2	0	1	0	4	0	6	0	0	.....
Brunswick	0	0	.....	0	1	0	0	0	0	0	0	.....
Savannah	0	0	.....	0	.....	0	0	0	0	0	0	1
Florida:												
Tampa	0	0	3	0	44	0	2	0	0	0	0	10
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	.....	0	142	0	9	0	2	0	0	3
Nashville	1	0	.....	1	.....	0	1	0	3	0	0	2
Alabama:												
Birmingham	0	0	7	0	2	0	9	0	0	0	1	.....
Mobile	0	0	52	1	.....	3	4	2	2	0	0	.....
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	.....	1	2	0	1	0	1	0	0	2
Louisiana:												
New Orleans	0	0	10	1	1	2	11	0	0	0	0	2
Shreveport	0	0	.....	0	.....	0	4	0	0	0	0	.....
Oklahoma:												
Oklahoma City	0	0	22	0	3	0	2	0	0	0	0	.....
Texas:												
Dallas	1	0	.....	0	66	0	2	0	2	0	0	1
Galveston	2	0	.....	0	1	0	5	0	0	0	0	.....
Houston	1	0	5	2	32	1	6	0	1	0	0	1
San Antonio	0	0	.....	0	3	0	6	0	1	0	0	.....
MOUNTAIN												
Montana:												
Billings	0	0	.....	0	.....	0	2	0	0	0	0	1
Great Falls	0	0	.....	0	2	0	1	0	0	0	0	1
Helena	0	0	.....	0	.....	0	0	0	0	0	0	.....
Missoula	0	0	.....	0	7	0	0	0	2	0	0	.....
Idaho:												
Boise	0	0	.....	0	.....	0	1	0	0	0	0	.....
Colorado:												
Denver	2	0	1	0	310	0	2	0	5	0	0	19
Pueblo	0	0	.....	0	75	0	1	0	2	0	0	.....
Utah:												
Salt Lake City	0	0	.....	0	14	0	1	1	0	0	0	.....

City reports for week ended March 13, 1948—Continued

Division, State, and City	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	0	0	-----	2	14	0	6	0	14	0	0	2
Spokane	0	0	-----	0	3	0	2	0	3	0	0	-----
Tacoma	0	0	-----	0	60	0	0	0	1	0	0	-----
California:												
Los Angeles	3	0	11	1	129	2	11	1	10	0	0	23
Sacramento	0	0	1	0	-----	0	3	0	1	0	0	1
San Francisco	4	0	10	0	424	0	7	0	6	0	0	9
Total	55	2	231	17	6,913	33	407	8	771	0	4	365
Corresponding week, 1947[1]	62	-----	441	27	1,455	-----	422	-----	787	0	6	622
Average 1943-47[1]	69	-----	220	[2] 30	[3] 5,701	-----	[2] 438	-----	1,547	1	10	633

[1] Exclusive of Oklahoma City. [2] 3-year average, 1945-47. [3] 5-year median, 1943-47.

Rates (annual basis) per 100,000 population, by geographic groups, for the 90 cities in the preceding table (latest available estimated population, 34,591,500)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	20.9	0.0	5.2	2.6	1,040	10.5	78.4	2.6	240	0.0	2.6	105
Middle Atlantic	5.1	0.0	14.3	0.5	874	4.2	64.3	1.4	130	0.0	0.5	40
East North Central	4.9	1.2	1.2	1.2	1,563	4.3	40.1	0.0	148	0.0	0.0	65
West North Central	15.9	0.0	9.9	4.0	943	4.0	69.6	0.6	119	0.0	2.0	66
South Atlantic	9.9	0.0	119.2	3.3	482	5.0	66.2	0.6	65	0.0	0.0	53
East South Central	5.9	0.0	348.2	11.8	850	17.7	135.7	11.8	41	0.0	5.9	30
West South Central	10.2	0.0	94.0	10.2	274	7.6	94.0	0.0	13	0.0	0.0	15
Mountain	15.9	0.0	7.9	0.0	3,241	0.0	63.5	7.9	71	0.0	0.0	167
Pacific	11.1	0.0	34.8	4.7	966	3.2	45.9	1.6	55	0.0	0.0	55
Total	8.3	0.3	34.9	2.6	1,045	5.0	61.5	1.2	117	0.0	0.6	55

Dysentery, amebic.—Cases: Buffalo 1, New York 7, Cleveland 1, Washington 1, Memphis 1, New Orleans 1, Spokane 1, Los Angeles 1.
Dysentery, bacillary.—Cases: Worcester 1, Nashville 1.
Dysentery, unspecified.—Cases: Baltimore 2, San Antonio 1.
Tularemia.—Cases: Memphis 1, Little Rock 1.
Typhus fever, endemic.—Cases: Tampa 1.

TERRITORIES AND POSSESSIONS

Panama Canal Zone

Notifiable diseases—January 1948.—During the month of January 1948, certain notifiable diseases were reported in the Panama Canal Zone and terminal cities as follows:

Disease	Residence [1]									
	Panama City		Colon		Canal Zone		Outside the Zone and terminal cities		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chickenpox	8		1				3		12	
Diphtheria	8				1		8	1	17	1
Dysentery:										
Amebic			1				3		4	
Bacillary	2		1		5		1		9	
Hepatitis, infectious					4				4	
Malaria [2]	8			1	4		201	1	213	2
Measles	1		1		4		1		7	
Meningitis, meningococcus			1		1				2	
Mumps	1				2		1		4	
Pneumonia		13		1	22	1		6	(3)	21
Tetanus	1								1	
Tuberculosis		19		5	2			9	(3)	33
Typhoid fever								1		1
Whooping cough						1			(3)	1
Yaws							2		2	

[1] If place of infection is known, cases are so listed instead of by residence.
[2] 11 recurrent cases.
[3] Reported in the Canal Zone only.

DEATHS DURING WEEK ENDED MAR. 13, 1948

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended Mar. 13, 1948	Corresponding week, 1947
Data for 93 large cities of the United States:		
Total deaths	9,789	10,310
Median for 3 prior years	9,622	
Total deaths, first 11 weeks of year	113,293	110,459
Deaths under 1 year of age	639	777
Median for 3 prior years	663	
Deaths under 1 year of age, first 11 weeks of year	7,726	9,010
Data from industrial insurance companies:		
Policies in force	66,819,835	67,329,528
Number of death claims	14,725	12,210
Death claims per 1,000 policies in force, annual rate	11.5	9.5
Death claims per 1,000 policies, first 11 weeks of year, annual rate	10.3	9.8

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended February 28, 1948.—During the week ended February 28, 1948, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		44	3	312	394	59	27	52	182	1,073
Diphtheria				27			3			30
Encephalitis, infectious				1						1
German measles				20	49		1	13	13	96
Influenza		94			6	7			60	167
Measles		2	5	1,470	1,329	12	12	25	138	2,993
Meningitis, meningococcus				4	1				1	6
Mumps		23	1	431	311	48	91	25	40	970
Poliomyelitis					2	1		1		4
Scarlet fever		5	3	49	72	1	3	5	7	145
Tuberculosis (all forms)			7	156	32	25	15	4	78	317
Typhoid and paratyphoid fever				9				1		10
Undulant fever				7						7
Venereal diseases:										
Gonorrhea	1	18	7	91	83	30	20	34	83	367
Syphilis		11	6	126	57	9	7	9	32	257
Whooping cough				48	28	10	2	45	27	160

CUBA

Habana—Communicable diseases—4 weeks ended February 28, 1948.—During the 4 weeks ended February 28, 1948, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chickenpox	4		Scarlet fever	1	
Diphtheria	25		Tuberculosis	5	2
Measles	12		Typhoid fever	6	

Provinces—Notifiable diseases—4 weeks ended February 28, 1948.—During the 4 weeks ended February 28, 1948, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana [1]	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer	5	7	10	22	3	27	74
Chickenpox		5	35		7	6	53
Diphtheria	1	26		1	1	5	34
Leprosy		4		2			6
Malaria	4			3	4	17	28
Measles		17	4	14		14	49
Scarlet fever		2					2
Tuberculosis	6	18	10	21	2	45	102
Typhoid fever	5	13	1	6	3	18	46

[1] Includes the city of Habana.

FINLAND

Notifiable diseases—January 1948.—During the month of January 1948, cases of certain notifiable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	13	Poliomyelitis	8
Diphtheria	527	Scarlet fever	342
Dysentery	4	Syphilis	330
Gonorrhea	1,046	Typhoid fever	40
Paratyphoid fever	226		

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during recent months. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

Plague

China—Yunnan Province—Paoshan.—Plague has been reported in Paoshan, Yunnan Province, China, as follows: For the period January 1–10, 1948, 3 cases; for the period January 11–20, 1948, 11 cases with 4 deaths; for the period January 21–31, 1948, 6 cases with 2 deaths.

Peru.—For the month of January 1948, 1 case of plague was reported in the District of Santa Maria, Chancay Province, Huacho Department, Peru, and for the same period 4 cases with 2 deaths were reported in Leticia, Lima Province in Lima Department.

Rhodesia (Northern).—For the week ended March 6, 1948, 8 cases of plague, with 6 deaths, were reported in Northern Rhodesia.

Smallpox

Belgian Congo.—For the week ended February 14, 1948, 115 cases of smallpox (including 113 cases of alastrim) were reported in Belgian Congo.

Burma.—For the week ended March 6, 1948, smallpox was reported in Burma as follows: In Moulmein, 34 cases, in Rangoon, 31 cases.

China—Shanghai.—For the week ended March 6, 1948, 89 cases of smallpox were reported in Shanghai, China.

India—Calcutta.—For the week ended March 6, 1948, 358 cases of smallpox were reported in Calcutta, India.

Iraq.—For the week ended February 28, 1948, 43 cases of smallpox, with 3 deaths, were reported in Iraq, and for the week ended March 6, 1948, 52 cases, with 2 deaths, were reported, including 46 cases, 1 death in Baghdad.

Mexico.—For the month of January 1948, 138 cases of smallpox were reported in Mexico.

Venezuela.—During the period January 11 to March 6, 1948, 892 cases of smallpox (including alastrim), with 12 deaths, were reported in Venezuela, including 181 cases, 2 deaths, in Maracaibo, and 77 cases, 2 deaths, in Puerto La Cruz. For the week ended March 6, 1948, cases and deaths were reported in ports in Venezuela as follows: Maracaibo 22 cases, Puerto La Cruz 16 cases, 1 death, Bolivar 2 cases, Cumaná 2 cases, Puerto Cabello 2 cases, and Carúpano 1 case, 1 death.

Typhus Fever

Mexico.—For the month of January 1948, 188 cases of typhus fever were reported in Mexico.

Yellow Fever

Nigeria—Lagos Island.—On March 2, 1948, 1 suspected case of yellow fever was reported in Igbo Village, Lagos Island, Nigeria.