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HEALTH AGENCIES—THEIR RESPONSIBILITIES AND THEIR OPPORTUNITIES DURING THE PRESENT CRISIS¹

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Last year, when I spoke to this conference, I said that the gravity of the world situation did not permit me to dwell on past accomplishments.

Today this is more emphatically so than it was then. We are now engaged in a "shooting war," and vigorous prosecution of this war must take precedence over everything else. I do not mean prosecution of the war along the civilian or home front, but wherever our troops, ships, or planes are striking at the enemy. In doing their part, health departments, like other civilian agencies, will have to give up personnel for service with the armed forces and on the field of actual combat. While the war is in progress there can be no thought of maintaining present organizations intact.

With such organizations as you can retain or recruit, you will have to discharge your responsibilities along the home front. These responsibilities are indeed numerous and grave. Many new duties are being imposed upon you. With your improvised forces, these duties can be fulfilled only by prodigious effort and possible curtailment of certain activities which are not indispensable to conduct of the war.

One problem which must be attacked immediately and vigorously is industrial hygiene. The world's attention is focussed on the combined man- and machine-power of the United States. On our ability to fabricate and deliver the materials of war are based democracy's best hopes and the enemies' darkest fears. Whatever impedes production diminishes both our hopes and their fears. Any factor which steals the worker's time or saps his energy threatens our national security and gives aid and comfort to the enemy.

Sickness and disability are such factors. The time lost annually to industry through illness and disability is appalling. If this time were spent on the job instead of in the hospital or sick room it would

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give us about 165,000 fighting tanks—40,000 more than the President has asked for during *both* the years 1942 and 1943. It would enable us to send down the ways more than 50 new super-dreadnoughts of the *North Carolina* class—a fleet large enough to protect our shores and also clear the sea lanes for any expeditionary forces we chose to dispatch.

The Government has appointed experts to put our supply system on a sound wartime basis. But supplies alone are not enough. Strong, healthy men and women are needed to transform materials into fighting assets. You are the experts to whom the Government looks for sound wartime management of our human resources. The Nation expects you to see that people are fit to take their places at their machines, on the assembly lines, on the farms, and do a faster and more efficient job than ever before. Your primary responsibility, therefore, is to transfer the largest possible proportion of this lost time from the debit to the credit side of the national ledger.

The development of industrial hygiene as a public health activity is one of the many advances in recent years to which you can point. But in view of present crucial needs not enough effort as yet is devoted to this activity. Considerably greater financial outlays must be made by the States themselves. Of the \$1,006,000 budgeted for industrial hygiene purposes by State and local agencies during the fiscal year 1942, approximately 64 percent was contributed by the Federal Government and only 36 percent was State and local funds. On this basis the States are not yet doing their share.

Money, however, is not all that is needed. Wisdom, initiative, and sustained effort will be required in greater measure than ever before. By the end of the year we expect 10,000,000 more persons to be engaged in war industry than there were at the end of 1941. Many of these new war workers will have to be drawn from the older age groups, the women of the country, and those whose physical condition leaves much to be desired. The time has come when we should launch a rehabilitation program in order to utilize the potential labor power of the physically handicapped. As the labor supply approaches the depletion point, the only way to step up production will be to increase the efficiency of the individual worker. Yet, longer hours and increased working speed will tax the workers' strength and resistance. Mental stresses and strains will become increasingly severe, especially if the months of struggle stretch into years. Nutrition—the primary factor in physical fitness—may be impaired in case America has to become the granary as well as the arsenal of democracy. To all these growing tasks and problems will be added those pertaining to extra-cantonment health and sanitation, large scale migration of workers, and the complicated duties of civilian defense.

The Public Health Service has rendered substantial aid to the

States in supplying a mobile force of more than 600 emergency health and sanitation workers. These trouble-shooters have been sent into areas where needs are most urgent. But the over-all health task for the Nation will have to be done by State and local people. And, as the size and power of our combat forces grow, technical personnel for civilian functions are certain to be even further depleted.

How, then, are you going to manage? As Director of Defense Health and Welfare Services, I have naturally given this question the most serious attention.

In all branches of the Federal Security Agency we have faced the same problem: to see how we can best aid in winning the war. With this end in view, it would seem that health departments have too limited a conception of their possible functions and activities.

The basic importance of health in practically all aspects of civil welfare is universally recognized. Accordingly, health agencies have been given broader legislative and statutory authority than almost any other branch of government. They have the right to make and enforce regulations, and to expend public funds. Again and again these rights have been upheld by judicial decisions. Nevertheless, many health departments continue to operate for the most part within the restricted sphere of duties bequeathed them by tradition—imposition of quarantine, routine inspections, and advice on a broad, impersonal basis. Meanwhile the community may be sorely in need of the kind of additional help the health department is peculiarly equipped to give. Hospital facilities and medical care may be grossly inadequate. Faulty industrial hygiene may be robbing the workers of vitality and the country of needed goods. Sanitary codes may be hopelessly outmoded. Better housing may be the urgent health need. Organized vice may be impeding the military effort.

We must realize that business as usual is out. Inertia and solicitude for special interests cannot be tolerated in our health agencies today.

Failure to be more aggressive and to expand activities in conformity with needs cannot in many instances be attributed to lack of funds. Since passage of the Social Security Act in 1935, the Federal Government has been making substantial grants to the States in order to help them finance their health programs. As a result we now have a framework of organization which permits a very wide latitude of operations. Yet, the States for one reason or another fail to develop essential services while unexpended balances of funds accumulate on their books. Reluctance to undertake operating functions is especially inappropriate at this crucial time. What is needed today are operating agencies which will step in and do the most urgent tasks, regardless of tradition and custom.

The task of most immediate importance today may not, however, be the most important tomorrow. Circumstances and needs are con-

stantly and rapidly changing. Under such conditions a high degree of adaptability is demanded.

Suppose a fleet of enemy bombers should one night elude our coastal patrols, appear over our cities, and unload their deadly cargoes on our homes, factories, and offices. Would your communities be prepared? Has your State health department a clearly defined plan in the event of such a catastrophe? Do the health officers and their staffs know who would do what, and how? Who would man the first-aid stations? Who would organize the ambulance and hospital services? How would hospital bills be paid? Is there a blood bank with sufficient plasma? Are there facilities for the emergency treatment of water? These are questions which should be decided now. If they are not decided now, confusion, recrimination, and an awful sense of responsibility for lives needlessly lost may be the result.

The point I wish to make is this—in the development of the civilian defense program, the Office of Civilian Defense looks to existing agencies for actual operation. Have your State and local health departments come forward and assumed their rightful dynamic roles in the program?

The part played by health agencies in the community facilities program has left much to be desired. The health departments were in a position to give material assistance to the Federal agencies in planning and implementing this program. Many of them, however, remained cautiously on the sidelines, while others showed themselves to be activated more by special pleading than by true civic needs. In some cases the Public Health Service has had to go contrary to State health department policy and recommendations in order to inject an element of reason into the facilities work.

Teamwork and cooperation are today nothing less than matters of national salvation. There is not time for each of us to work out his own problems in his own way. It is for this reason that the Office of Defense Health and Welfare Services has been established as a coordinating agency. We cannot place too much stress upon the necessity for constant and close cooperation between State health authorities and the regional offices of the Office of Defense Health and Welfare Services. State health agencies might well follow the example of the Public Health Service, whose cooperative relationships with other agencies have been developed to a remarkably high degree.

As an administrator, I hold no brief for the creation of new agencies for their own sake. I believe it is sound public administration to work through the fewest agencies possible. If, however, there is an urgent task to do, and no old-line agency is willing or prepared to do it, the only alternative is to set up a new agency. Behind the recent multiplication of governmental agencies is a long history of official com-

placency and neglected opportunity. I believe there are many lessons in this history which existing health agencies might well consider, and in the light of which they might reconstruct their basic philosophies.

It would appear that health departments are sometimes too easily discouraged when confronted by administrative difficulties. One problem now causing much trouble is inability to get personnel which meet merit-system requirements. I admit this has some vexing aspects, but I wonder just how far health departments have gone in trying to work out feasible plans for temporary relief in cooperation with their merit-system administrative bodies.

Then there are legal stumbling blocks. Not infrequently a health agency wants to undertake a new activity, but finds itself faced with a defect in the law. This should not be an insurmountable obstacle, but in practice it is often regarded as such. We live in a democracy and are privileged to try to get rid of a bad law or pass a good one whenever we see fit. Frequently, however, we do not try, and if we do we do not try soon enough. The objectionable features of a law are often not discovered until the need for action is urgent. I believe every health department should periodically review the legal code and initiate revisions that seem desirable in the light of current or anticipated needs.

I would also have you consider in its broader aspects the implications of the increasing financial dependence of the States upon the Federal Government. The purpose of the Federal grants-in-aid is to encourage and assist the States to meet their problems, and to equalize burdens imposed by factors not always subject to State or local control. It was never the intention to relieve the States of their financial responsibilities, nor to extend assistance beyond the amounts which the States might reasonably be expected to meet. Nevertheless, there is an unfortunate tendency to let Uncle Sam shoulder as large a part of the load as possible.

Such a policy is extremely short-sighted for two main reasons. First, it amounts to virtual abdication of State and local autonomy. The present emergency gives a broad national significance to the health problems of each individual State and community. Unless local authorities attack these problems aggressively, and unless they contribute materially to the cost of doing so, they are likely to find that certain essential activities will pass into the hands of those who assume the required initiative.

The second reason is even more important than the first. It is simply a matter of patriotism. At no time in history has the burden on the Federal Treasury even approached its present proportions. And never before has the manner in which Federal funds are expended been so replete with life-and-death significance in the most literal sense.

So far I have spoken mainly about the responsibilities of health agencies. But if the present crisis entails many added responsibilities it also presents some rare opportunities. Under the impetus of war many worth while and long overdue enterprises have been undertaken. Thanks largely to the Public Health Service emergency program, many communities are for the first time experiencing the benefits of full-time public health organization. Thus, the spade work—the most difficult part of the task—has been done, and the way is prepared for the States to carry on permanently. Likewise, the community facilities program is providing first-rate hospitals, health centers, and sanitary installations without which health departments have long been seriously handicapped. The war has aroused people to a new sense of civic duty which can be directed into many useful channels. A spirit of teamwork, unity, and self-sacrifice is manifest throughout the land. Consider the opportunity for health education presented, for example, by the 8,000 local civilian defense organizations with more than 5,000,000 volunteer members! These groups may not remain intact if they are to concern themselves solely with the effects of direct enemy action against their towns. If the air raids which had to be anticipated do not occur, will these organizations be permitted to waste away simply because their programs lack immediately applicable content? If so, health departments will have missed an unprecedented chance for instructing the public and enlisting its support.

I am not unmindful of the great advances in public health achieved in recent years nor of the truly splendid work the official health agencies have done in bringing about these advances. It is precisely because of the effective work you and your predecessors have done that many of the traditional public health problems are no longer of primary concern.

But today new problems have arisen. Upon the way you accept and meet their challenge depends the strength and staying power of America's fighting, toiling millions. You must not let them down.

The struggle into which we are now plunged can have but one of two endings. Either we will join those unfortunate countries who have already been beaten, humiliated, and brutalized or we will continue to hold our heads high in a world of free men and self-governing nations.

Today the decision rests with us—of that I am sure. Tomorrow the power to decide may have passed out of our hands.

When you go back to your home States, I urge you to review your health programs carefully. Weigh every shortcoming and ask yourselves how it affects the progress of the war. Analyze every deficiency and ask what implications it holds for the future of the country you love.

Then, together with your lieutenants, put your commands on a war footing. Map out a strategy of attack and clear the decks for action.

Then, when your course is charted, let Farragut's order be your watchword: "Full speed ahead and damn the torpedoes!"

OPENING REMARKS TO THE FORTIETH ANNUAL CONFERENCE OF THE UNITED STATES PUBLIC HEALTH SERVICE WITH THE CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS¹

By THOMAS PARRAN, *Surgeon General, United States Public Health Service*

In the 11 months since this Conference last met, many important events have occurred. The impact of war has been felt by every person in the country, and this impact in the future will be increasingly severe. Many major readjustments will have to be made. There will be added demands on everyone in the country, particularly upon the State and local health organizations.

It is gratifying to report that so far in this emergency there has been no significant increase in disease and death rates. There was a sharp rise in the prevalence of influenza last winter, but though it caused some concern it did not result in any considerable increase in the mortality rate. During the current winter the communicable disease rates have been lower than the median levels of the previous 5-year period.

This good record has been maintained in spite of the major dislocations which have occurred as a result of mobilization and, later, of war. I know you feel that this is a real tribute to the efficiency of the public health organization in this country.

An exception to the currently favorable communicable disease situation, however, must be noted with regard to the venereal disease statistics. Through routine serological tests made on all selectees and volunteers, we have found many new cases of syphilis and gonorrhoea, but too few of these cases have been brought under treatment. Generally speaking, the States with the highest rates as shown by selective service examinations have had the least effective control organizations. While it is true that venereal disease rates in the armed forces are lower than in the last war, in my opinion they are not low enough. Somewhat disturbing is the increase in the rates of syphilis and gonorrhoea in the Army between 1939 and 1941. As you know, very effective treatment measures have been developed against the venereal diseases, and this improvement should have been reflected in a lower incidence than we now have. One reason for the increase

¹ Washington, D. C., March 25, 1942.

has been the growth of commercialized prostitution incident to mobilization for war. In many places the health agencies have not assumed leadership in persuading the police authorities to take firm repressive action. Moreover, we have been disappointed at the failure of many communities to seek aggressively to provide adequate quarantine and detention facilities for recalcitrant venereal disease patients. This matter is the subject of a letter which has just been sent to you, urging that you sponsor more aggressively than in the past facilities for the care of these patients.

I should like to call your attention also to the substantial aid you are able to secure from the liaison officers of the Public Health Service who are assigned to each of the Army Corps Area headquarters. I urge you to make the fullest possible use of these officers in coordinating military and civilian venereal disease control efforts.

You will recall that at the Special Conference with the State health officers held in September 1940, a comprehensive program for the rehabilitation of physically disabled selectees was recommended. Unfortunately, this program is still in the planning and trial stage. Nothing substantial has been done to rehabilitate the very large number of men found by selective service examinations to be disabled. I hope that each of you in your own State will do what you can to speed this important work.

We shall need to give serious attention to personnel problems. I know how severe has been the impact of mobilization in depleting the ranks of State and local health agencies of their trained personnel. To meet this situation, as you know, a Procurement and Assignment Service has been established. This organization has as its primary purpose the securing of adequate numbers of officers for the Army and Navy, with the least possible disruption of essential civilian health and medical services. The detailed operation of the organization will be described to you later in our session by one of its representatives. A circular is now in the mails requesting all State health officers to list with the State Director of the Procurement and Assignment Service the names of the key personnel who cannot be spared from their present tasks.

In order to meet personnel problems, it has been necessary to alter the administration of the merit system in several ways. This obviously is necessary, in my opinion. In fact, as time goes on it will be necessary to make more and more changes with regard to diluting staffs, improvising methods, reducing the less essential activities, and using volunteer and other kinds of help which we can get to do the necessary jobs.

I have been concerned with the continued indisposition on the part of some States to look beyond the State boundaries for trained personnel. A communication recently received from an eminent teacher

of public health says, "I look with the gravest concern upon the continued trend toward balkanizing public health in this country."

In an effort to help you with your personnel problems the Public Health Service has recruited more than 600 professional health workers. These persons have been assigned to various parts of the country in an attempt to meet the most urgent needs. I can say that in recruiting this personnel last autumn we scraped the bottom of the barrel rather clean. Nevertheless, in connection with a recent examination for the regular corps of the Public Health Service, we had applications from between 150 and 200 extremely well-qualified young doctors. These men have not had training in public health, but basically they are much better qualified than any previous group of applicants.

Our present funds do not, however, permit us to continue to employ additional reserve personnel for assignment in the States unless the States themselves see fit to transfer to their own pay rolls some of the persons whom we are now carrying. Many of the positions in which our personnel are serving are normally State or local positions which are vacant because of the war. I would ask your utmost cooperation in utilizing unexpended funds—funds which otherwise would lapse—to transfer these workers to the State pay rolls in order to enable us to recruit additional personnel and send them to you.

You are aware, I am sure, of the serious shortage of nurses, present and impending. In an effort to remedy this shortage, Congress has appropriated \$1,800,000 which is this year being allotted by the Public Health Service to nursing schools in accordance with rather well established formulae to enable the nursing schools to increase the number of nurses in training. The cost has approximated \$300 per student nurse per year. This program, however, will provide only a small proportion of the total number of nurses needed. It will be necessary also to recruit nurses' aides and less well trained personnel who can carry on some of the more routine nursing tasks.

Much of the time of the Public Health Service staff during the past year has been expended on the problem of community facilities. These facilities, provided in whole or in part by Federal funds, are not intended to make up for years of neglect on the part of the communities, but rather to meet the additional demands caused by the war.

Prior to March 16, the total number of water supply projects, sewer systems, hospitals, and health centers which have been approved by the President is 536, at a total estimated cost of \$122,000,000. The number of projects approved, however, is only about one-third of the total number requested. Sixteen hundred applications have been received asking for aid in connection with health and sanitation projects.

Moreover, because of the shortage of critical materials it is not possible to construct hospitals in accordance with previously accepted standards. Partly as a result of the unavailability of critical materials, a more functional type of construction is being utilized. This is a development which is therefore not without a certain element of benefit.

I have been concerned because, with the increased availability of Federal funds for certain purposes, the States seem to have a tendency to depend more and more on the Federal Government for aid. I think that more substantial State and local contributions are in order in many phases of public health. This is particularly true of industrial hygiene, a field in which a very large proportion of the cost is being met with Federal funds. Needless to say, this is one of the most important activities related to the war.

I regret to report that scarcity of relief labor makes it impossible to continue the WPA community sanitation projects during the ensuing year. Yet it is just as important to provide sanitary installations in many defense areas not suitable for sewer systems as it is to provide water and sewerage facilities for the more densely populated sections. A recent ruling by the Budget Bureau would make the operation of community sanitation projects extremely difficult if not impossible under the Community Facilities Act. Unless this ruling can be modified we may be forced to seek a special appropriation to carry on such projects in defense areas.

Those States which had malaria control programs last year are aware that they were not very successful, due largely to unavailability of WPA labor. During the ensuing year the Public Health Service will have a more direct responsibility in this work. The Service is now authorized to employ labor for the larvicidal program in defense areas. Pest-mosquito or salt-marsh mosquito control will not be carried out under this program. I ask your cooperation in the malaria control program now under way in the defense areas, and your interest and direct action in the nondefense areas where similar measures of control are needed.

Almost every year I bring up the question of unexpended State balances of title VI and Venereal Disease Control Act funds. Some of my colleagues have expressed an opinion that perhaps your fiscal control is not prompt enough to keep you aware of such balances. It is obvious that there are many urgent health needs which should be met, and if funds are available it has been inexplicable to us why the needs have not been met. I recognize that shortage of personnel is of growing concern. This accounts for some of the lag between the appropriation of Federal money and its utilization.

Another problem which has been of concern to many of us, perhaps to all of us, is that of more prompt provision of delayed birth certifi-

ates. This matter is of acute interest to the War Department and to the War Production Board. In fact, so serious is it that several bills have been introduced into Congress which would nationalize certain major aspects of the vital statistics function. This is a matter which I know will be of much concern to you as State health officers. For some reason, we have not been able to impress upon the fiscal authorities the need for additional funds to do this job. They have pointed out the consideration which I have just mentioned, namely, that there are unexpended balances available in many States which could be diverted to this emergency task.

It is inevitable that war will bring you many additional problems. One problem which has been prominently before us is the organization of the Emergency Medical Service. As you know, the Public Health Service has cooperated with the Office of Civilian Defense from the beginning in the organization of the Emergency Medical Service. The administrative aspects of the work have been handled by the OCD, and matters of general medical policy and professional standing have been in the hands of the Public Health Service. Recently a joint arrangement or agreement has been made between the Office of Civilian Defense and the Federal Security Agency under which the various responsibilities of the Public Health Service and the Medical Division of the OCD have been clearly defined. Moreover, in order to meet emergencies arising from enemy action, the President has allotted to the Administrator of the Federal Security Agency some five million dollars, of which a half-million have been made available to the Public Health Service for payment of emergency medical and hospital bills incurred by persons affected by enemy action. Already some parts of this fund have been spent in connection with evacuees from Hawaii and Alaska, and on behalf of injured sailors and other persons on both coasts.

It has been necessary for the Public Health Service substantially to increase its reserve corps. We shall have two categories of reserve officers on inactive duty. With one of these you are familiar, that is, State or local health personnel who are given commissions with the understanding that they will be available for active duty in the event of an epidemic or other serious emergency. Another group of approximately 2,000 will be commissioned in the near future as an Emergency Medical Service reserve available to man emergency base hospitals and to take care of evacuees in reception areas. Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, will discuss this problem in more detail with you.

War will bring us many shortages. It is inevitable that there will be rationing of many things. Rationing on the food front may have to be extended. The advice of medical and health authorities will be

an important factor in assuring that systems of rationing do not impair the health and strength of the population.

It is difficult to know what all of our problems during this next year will be. We need to keep an open mind and an effectual organization to meet emergencies as they develop. In fact, today the health agencies of the country face their supreme test, that of adapting themselves to a much broader purpose than that for which they were organized. This purpose is not only to help decide the national destiny, but, we may even say, to aid in shaping the future pattern of our human institutions.

STATE AND TERRITORIAL HEALTH OFFICERS CONFER ON WARTIME TASKS

The Fortieth Annual Conference of the United States Public Health Service with the State and Territorial Health Officers was held in Washington, D. C., on March 25 and 26, 1942.

The Conference was devoted almost entirely to consideration of wartime tasks and duties. Throughout the sessions a strong note of determination to make the health services of the country contribute most effectively to success in the war was apparent. Most of the recommendations of the Conference were directed to this end.

The opening remarks of Surgeon General Parran and Administrator McNutt's address, "Health Agencies—Their Responsibilities and Their Opportunities During the Present Crisis," are printed in full in this issue.

STATUS OF LEGISLATION AND APPROPRIATIONS

Assistant Surgeon General E. R. Coffey discussed legislative measures and appropriations pertaining to public health.

Two of the more important measures which have become law since the last Conference are H. R. 2475, introduced by Mr. May, of Kentucky, prohibiting prostitution within such reasonable distance of military and naval establishments as the Secretaries of War and Navy shall determine; and H. R. 4545, introduced by Mr. Lanham of Texas, authorizing expenditure of \$150,000,000 for defense public works. The authorization was made effective by Public Law 150, appropriating this sum. Subsequently, Public Law 371 appropriated an additional \$150,000,000 for the same purpose.

Of the bills introduced since the last Conference but not yet enacted, the following are the most important:

H. R. 70, H. R. 3463, H. R. 3492, H. R. 3968, and S. 195, providing for Federal aid in the control of tuberculosis.

S. J. Res. 104, establishing an Encephalitis Control Board and appropriating \$3,000,000 for encephalitis control. The bill passed the Senate on August 21, 1941.

H. R. 1007, amending the National Cancer Institute Act and providing Federal aid in cancer control.

S. 194, authorizing the Surgeon General to conduct, foster, and coordinate research relating to the cause, diagnosis, and treatment of dental diseases, and authorizing the necessary funds. The bill passed the Senate on May 23, 1941.

S. 489, adding a new title to the Social Security Act providing for health insurance under State plans.

H. R. 1791, establishing a new executive department to be known as the Department of Health.

S. 2999, providing that the Director of the Census shall issue certified birth records to persons furnishing proof of birth within a State or the District of Columbia. Seven other bills on this subject have been introduced.

H. R. 1110, **H. R. 3778**, **H. R. 4106**, **H. R. 5676**, **S. 1121**, and **S. 1913**, all establishing a Division of Water Pollution Control in the Public Health Service.

H. R. 584 and **S. 1230**, providing for promotion of the general welfare through the construction of needed hospitals.

S. 193, authorizing Federal aid to States having approved prevention and compensation plans relative to dust diseases.

S. 509, providing for Federal aid to States with approved plans for promoting industrial hygiene.

H. R. 1074, authorizing Federal aid to States for the purpose of promoting physical education and recreation through schools and school camps.

S. 797, creating a National Physical Fitness Institute in the Federal Security Agency.

The following appropriation bills have been enacted:

Public Law 9, approved March 1, 1941, appropriates \$525,000 for emergency health and sanitation activities in connection with defense.

Public Law 146, approved July 1, 1941, appropriates \$35,480,700 for the Public Health Service during the fiscal year 1942. Of this amount, \$565,000 is for cancer control activities, \$11,000,000 is for grants to States under title VI of the Social Security Act, \$6,250,000 is for venereal disease control activities, \$1,235,000 is for emergency health and sanitation activities in connection with defense, and \$1,200,000 is for training of nurses as a defense measure.

Public Law 150, approved July 3, 1941, appropriates an additional \$1,940,000 for emergency health and sanitation activities pertaining to defense.

Public Law 463, approved February 21, 1942, provides additional amounts of \$2,500,000 for venereal disease control, \$77,481 for disease and sanitation investigations, \$1,295,000 for emergency health and sanitation defense activities, and \$600,000 for defense nurse training.

EMERGENCY MEDICAL SERVICES

Dr. George Baehr, chief medical officer, Office of Civilian Defense, addressed the Conference on the "Role of State and Local Health Officers in Emergency Medical Service."

Dr. Baehr outlined the organization of the OCD's Emergency Medical Service which was established to safeguard the population against the results of direct enemy action. The Service is organized on a regional, State, and local basis. The national, regional, and State organizations are planning and advisory agencies; operations are performed by the local organizations. Experience has shown that a full-time director or deputy director is necessary at the State level in order to organize local resources for effective action.

Local organizations are responsible for the operation of field cas-

ualty services which should be carefully coordinated with the casualty receiving hospitals. Hospitals receiving casualties will be reimbursed at a rate of \$3.75 per day per patient.

Emergency base hospitals must be established in strategic locations to receive patients from the casualty receiving hospitals as well as from other hospitals which may be evacuated by military order. These hospitals also will receive per diem reimbursement of \$3.75 per patient. In addition to existing and affiliated staffs in institutions selected as emergency base hospitals, physicians in the various specialties will be enrolled in the reserve corps of the Public Health Service and placed on full-time duty at the base hospitals. Provision has also been made for part-time medical consultants to serve at such hospitals. The Federal Government will assist in a measure in providing equipment for field casualty stations and hospitals but delivery of equipment cannot be promised at any specific date. States and localities are urged to secure equipment themselves without delay.

Larger hospitals in target areas will be assisted in the establishment of blood banks. Regional consultants who are expert in this field will be designated to assist these hospitals. The National Research Council has prepared a technical manual on the organization and operation of blood banks. Hospitals which are aided financially in the development of banks will be expected to accumulate, in addition to their current needs of blood and plasma, a reserve of not less than 250 cc. of plasma per bed within the next 2 or 3 months. This plasma may be preserved in either liquid or frozen state. An additional reserve of about 50,000 units of dried plasma is being set up for use in case local reserves should be exhausted.

Discussion of Dr. Baehr's remarks brought out the fact that State health officers could aid in choosing hospitals which were so located that they should have plasma banks and which were eligible for assistance in establishing such banks. Large reserves of plasma are not being accumulated because of technical developments which may reveal other forms of blood substitutes to be satisfactory. In order not to interfere with the Red Cross campaign of blood collection for the armed forces, blood should be obtained through expansion of an existing Red Cross collection station or through establishment of a new collection center in a locality which will not interfere with the Red Cross effort.

At the request of Dr. Baehr, Dr. Dean A. Clark, Chief of the Emergency Medical Section of the Public Health Service, described the Service's program for immediate care of seamen and others from vessels sunk near our coasts by enemy action, as well as of persons evacuated from Hawaii, Alaska, and other danger areas. Under an allotment from the President's emergency fund, the Service defrays physicians', hospital, and burial costs for casualties of this type. Bulletins have been issued giving reimbursement schedules and other details.

The afternoon of March 25 was devoted to the meetings and deliberations of the Conference committees.

The session on March 26 opened with an address, "Are We Meeting the Crisis?" by Assistant Surgeon General Joseph W. Mountin.

ACCOMPLISHMENTS AND SHORTCOMINGS

Dr. Mountin cited the Public Health Service reconnaissance surveys undertaken in approximately 300 communities to evaluate existing health and sanitation facilities and determine war-connected needs. Some progress has been made in meeting these needs. Full-time local health service has been extended to 106 more counties than had such service on June 30, 1941. On March 21, 1942, 565 health and sanitation projects involving a total estimated cost of more than \$132,000,000 had been approved for construction under the Community Facilities Act. Approximately 630 physicians, engineers, nurses, and other specialists have been recruited by the Public Health Service and sent to State and local health departments for duty in defense areas. Another group of about 75 will be assigned in May. The States have been assisted in the prosecution of malaria control and community sanitation projects under the Work Projects Administration. Plague and typhus fever control activities have been expanded. It is impossible to measure exactly the results of all these accomplishments in terms of disease incidence, but we do know that in a period of abnormal strains and disruption no unusual amount of illness has occurred.

Nevertheless, certain shortcomings have been apparent, and more aggressive action along many lines is clearly indicated. Prevailing rates of venereal disease among the armed forces show the need for stricter law enforcement and better control programs, including facilities for the detention and treatment of infected prostitutes. Acute personnel shortages, present and impending, make it necessary for health departments to "dilute" their staffs with substandard personnel. New tasks require a more flexible interpretation of health department functions. So far, the States have shown little or no disposition to transfer to their own pay rolls the emergency personnel assigned to them by the Public Health Service; this the States should do in order that Public Health Service funds may be utilized in recruiting new personnel.

The malaria control and community sanitation programs during the past year were severely handicapped by inability to secure relief labor. During the ensuing year the Public Health Service will operate the malaria control program in defense areas with labor hired in the open market, and a more successful program is anticipated. Negotiations looking toward improved organization of the community sanitation projects have been undertaken.

The failure of State health departments during the past year to carry out successfully the work of delayed birth registration indicates the need for simplifying and accelerating the process, and for certain changes in the basic law in a few States.

The present crisis makes it imperative for health departments to broaden the scope of their activities, to assume leadership in getting necessary things done without fear of offending special groups or interests, and to adopt a flexibility of approach consistent with rapidly shifting needs.

Discussion of Dr. Mountin's address centered chiefly about the subject of "lend-lease" personnel. There was general agreement that the recruiting program had been highly successful and that the personnel recruited had done good work. Certain considerations were cited which made the transfer of personnel to State pay rolls difficult, the chief ones being civil service regulations and disparity in salary rates. It was made clear that personnel now paid by Federal funds for duty in defense areas could be employed in nondefense areas if transferred to the State pay roll.

PROCUREMENT AND ASSIGNMENT SERVICE

The next discussion was led by Lt. Col. Sam F. Seeley, Executive Director of the Procurement and Assignment Service, Federal Security Agency. Colonel Seeley outlined the history of organization of the Service, which was established to procure an adequate number of physicians, dentists, and veterinarians for the armed forces with the least possible disruption of civilian health services.

Utilizing the data already gathered by professional societies concerning the availability of professional personnel for military service, the Procurement and Assignment Service is setting up its central information and control mechanism in Washington. In each of the nine Army Corps Areas an advisory committee has been appointed consisting of representatives of hospitals, medical colleges, and the various professional associations. In each State a chairman of Procurement and Assignment Service has been named to set up and maintain a roster of all practitioners within the State.

When the information gathered concerning practitioners everywhere in the country is compiled in a national roster, the Procurement and Assignment Service will, by means of coding and punch card machine procedures, be able to fill requisitions of the armed forces and other government agencies for any specified types of practitioners. Practitioners claiming to be specialists are rated as to qualifications by outstanding specialists and by the boards of specialties in the various fields of practice. Before a practitioner will be commissioned or employed by the government services, however, he must be certified as "available" by the Procurement and Assignment Service. In this

way it is intended to prevent the induction of men necessary to the maintenance of civilian health.

State health officers have been asked to draw up a list of persons essential to the maintenance of public health. Such men may be commissioned as reserve officers in the Public Health Service. The list of essential personnel must be maintained currently and the State chairman of the Procurement and Assignment Service must be notified of all changes. Criteria for use in determining who is "essential" will be sent to State health officers. Essential personnel will be certified to the armed forces and Selective Service for deferment by the Procurement and Assignment Service, and deferments will be granted as long as the needs of the Army and Navy are met.

Physical requirements for active service have been lowered since the outbreak of war. Medical officers with certain physical handicaps may now serve in the "zone of the interior." For this reason, all men under 45 should be considered as eventually available for military service, and arrangements should be made to replace them with men over 45, women practitioners, and others definitely not qualified for military service.

In answer to questions after his remarks, Colonel Seeley stated that it was planned to utilize women physicians wherever they could relieve men, particularly in hospitals, teaching institutions, and civilian defense activities. He said that the Procurement and Assignment Service was not organized to handle the procurement and assignment of engineers or nurses. He also stated that commissions were granted on the basis of age and professional or military experience, but that the higher commissions, of which there were a limited number, must necessarily be filled chiefly from men already in service rather than from men newly inducted. As far as the Army and Navy are concerned, it is a physician's basic medical training which will be utilized most of the time during service; a physician cannot, therefore, expect to practice his specialty except under circumstances in which special skill may be called for.

THE PUBLIC HEALTH SERVICE RESERVE

Assistant to the Surgeon General Warren F. Draper outlined the history and organization of the reserve corps of the Public Health Service. He read correspondence with Selective Service Director General Hershey, indicating that Public Health Service reserve officers were not exempt from registration, training, and service under the Selective Service Act, but that Selective Service was not unmindful of the importance of the reserve and that this fact would be considered by local boards in making classifications.

In order to have trained personnel available for wartime emergency duty, the Service is granting inactive reserve commissions to qualified

public health personnel (physicians, engineers, and dentists) who will be called to temporary active duty when and where needed upon request by the State health officer to the Surgeon General. Salary and travel will be paid by the Service.

State health officers have been requested by the Surgeon General to recommend personnel for such reserve commissions. It is expected that approximately 2,000 persons will be needed to meet possible needs.

With the assistance of the Office of Civilian Defense, the Service is also recruiting for inactive reserve commissioned status, approximately 2,000 physicians who will be available for temporary active duty in emergency base hospitals, or in case of any emergency requiring the services of Public Health Service physicians.

Discussion of Dr. Draper's remarks revealed that the rank granted to reserve officers would be dependent upon age, qualifications, and ratio of reserve officers to regular officers. Pay and allowances will be equal to those of medical officers in the Army. Physical requirements ordinarily in force are being waived, the criterion being ability to do the task required. No definite upper age limit has been established.

The question of whether or not men in the inactive reserve might be allowed to wear uniforms was raised. Dr. Draper indicated that this was not possible under existing regulations. When called to active duty reserve officers can, and must, wear the uniform.

Reports of Conference Committees

At the afternoon session on March 26 the reports of the six committees of the Conference were presented. After discussion by the members, the reports were adopted in the form indicated in the following abstracts. The full reports of the committees will be included in the Proceedings of the Conference.

COMMITTEE ON INTERSTATE AND FOREIGN QUARANTINE

Section I of the committee's report deals with interstate quarantine, and recommends:

1. That, in States where the health department does not have authority to create and operate health districts to cope with emergency health problems, consideration be given to the provision of legislative authority for such action, including authority to unite two or more existing health units. A suggested form of a legislative bill for this purpose is being formulated by the Federal Security Agency, and will be available soon.
2. That activities for control of plague and typhus fever be continued and expanded.
3. That the Public Health Service be authorized to supply technical guidance for malaria control programs in nondefense areas where such programs are deemed essential for protection of the public health.

4. That consideration be given to extension of the use of yellow fever vaccines to sections of the civilian population which may be exposed to infection.

Section II of the report deals with foreign quarantine, and recommends:

1. The maintenance of a high state of efficiency in the foreign quarantine service in order to cope with the increasing hazards of importation of infectious diseases.

2. Provision in advance for control of refugees and immigrants at points of debarkation. While such control is not now urgent, it will be when conditions permit increased immigration.

3. Consideration of problems of sanitation and communicable disease control which may arise as a result of the importation of prisoners of war and the establishment of internment camps.

COMMITTEE ON HEALTH PROGRAMS

The committee emphasized the necessity for conservation of human resources as a war measure. Towards this end it made the following recommendations:

1. That the public give increased attention to personal health and to the correction of existing physical defects while medical services are still available; and that the medical, dental, and nursing professions give more intensive thought to the preventive aspects of their work.

2. That all media for mass public health education be utilized; that State health department programs of health education be strengthened; that local health education programs be stimulated; and that technical and advisory facilities of the Public Health Service with regard to health education continue to be made available to the States.

3. That in view of a probable war-engendered increase in the incidence of tuberculosis, present control measures be maintained and expanded; that additional facilities for early case finding and care be made available; that State health departments insure that cases discovered by Selective Service examinations be reported to them, followed up, and given appropriate treatment; and that the Surgeon General of the Public Health Service take steps to secure the cooperation of Selective Service boards and Army medical authorities in prompt and complete reporting of tuberculosis cases.

4. That more adequate home nursing services be made available in order to lessen the strain on hospital facilities; that the programs of all public and private agencies employing public health nurses be coordinated and their resources pooled.

5. That it is a proper function of State and local health authorities to assist in the establishment and operation of wartime emergency medical services.

6. That State health departments take steps to increase the efficiency of their vital statistics bureaus so as to perform more expeditiously the work of delayed birth registration; that Federal funds be granted to the States for this purpose.

7. That outbreaks of Vincent's infection be reported to the Public Health Service.

8. That State health departments place more emphasis on programs for dental care and industrial hygiene.

9. That the State health departments assist the Public Health Service in prosecuting its malaria control program.

10. That the Public Health Service seek an appropriation to enable it to carry out a community sanitation program; that the States assist in such a program if it is instituted.

11. That the Public Health Service be encouraged to expand its program of recruiting and supplying emergency health and sanitation personnel; that, to this end, State and local health departments, wherever possible, transfer such personnel temporarily or permanently to their own staffs.

COMMITTEE ON PERSONNEL

This committee submitted its report in two sections.

Section I deals with the qualifications of 19 classes of public health personnel. These qualifications will later be published in a booklet together with information concerning training of personnel financed by title VI and Venereal Disease Control Act funds.

Section II contains seven recommendations:

1. Establishment by State health agencies of interim classes for professional personnel, with minimum qualifications which will permit recruitment of personnel with lower qualifications than would be desirable under normal conditions.

2. Listing by the Committee on Public Health, Procurement and Assignment Service, of physicians engaged in part-time or full-time public health work who might not be qualified for active military service but who might be qualified to perform certain services in State health departments.

3. That the Army be requested to consider the granting of provisional commissions in the Sanitary Corps to undergraduates in approved schools of engineering who are preparing especially for careers in public health or sanitary engineering.

4. That State health agencies increase the enrollment of trainees in university schools of public health through the use of available Federal funds; and that public health scholarships in approved schools be established through individual State health agencies for the purpose of enabling undergraduates in medical schools to pursue training in public health after graduation in medicine.

5. That the normal courses for the "M. P. H.," "Dr. P. H.," and equivalent degrees be continued by university schools of public health on approximately the present basis.

6. That university schools of public health offer short courses in appropriate specialized fields as may be required by military or civilian emergency needs, with or without academic credit, depending on the circumstances.

7. That State health departments establish brief apprentice or orientation courses in the more general fields of public health.

COMMITTEE ON BUSINESS MANAGEMENT

This report was submitted as a joint report of the Committee on Business Management and the Committee on Records, Reports, and Administrative Practices of the Conference of State and Provincial Health Authorities.

The report states that satisfactory progress has been made toward development of a joint budget form for use by the Public Health Service and the United States Children's Bureau, and that the new form may be adopted for use during the fiscal year beginning July 1, 1943.

The report cites the need for a simplification of budgetary proce-

dures, and makes the following recommendations, to become effective July 1, 1942:

1. Eliminate the line item control now required in budget revisions.
2. Substitute for the present budget revision document a simple notification letter for changes involving addition of new activities, discontinuance of projects, and transfers of more than \$100 between personal services and other items of expense.
3. Permit States to use lapsed salaries or other salary items without prior authorization by the Public Health Service, provided the States submit, at the end of the quarter, a list of the positions established or abolished during the quarter.
4. Eliminate the detailed quarterly financial report and substitute a quarterly summary of individual project totals for all funds.
5. Establish an annual detailed financial report reflecting all items of expenditure for all projects.

In view of the increased fiscal responsibility placed upon the Public Health Service by the above changes in procedure, the report recommends that none of the changes shall be effected in any State whose accounting, purchasing, property, and personnel controls are not found to be adequate by the Public Health Service.

The report further recommends the extension to other States of a plan, adopted experimentally in one State during the past year, whereby a proportionate charge-off is made of all expenditures in accordance with the contribution of each agency to the total of the individual project.

Another recommendation is that for the duration of the war the States report weekly to the Public Health Service certain diseases which might become epidemic under wartime conditions.

Recognizing that time devoted to preparing detailed reports may often be more profitably spent in extending health services directly to the individual, the committee recommends three basic types of reports for submission by the States to the Public Health Service and the Children's Bureau:

1. An annual report of facilities, services, and personnel in each county.
2. An annual report of health department activities for the State as a whole.
3. A combined annual narrative report and plan which will be kept cumulatively and which will not have to be repeated from year to year.

The committee endorses the principle of State responsibility for actual operation of programs and Federal responsibility for providing financial assistance, consultative service, and audit control. While recognizing that the heads of Federal agencies must determine what information is essential, it recommends that the Federal agencies as soon as possible make their reporting requirements consistent with the principles advanced by the committee.

In conclusion, the report asserts that each State should take a more active part in impressing upon its representatives in Congress the

benefits resulting from the continuation of well-planned public health programs.

COMMITTEE ON FEDERAL-STATE RELATIONS

The report recommends that the allotment formula governing grants to States be continued in its present form insofar as it refers to the amount to be appropriated by the Congress and the amount remaining unpaid to the States at the end of a fiscal year. As an equalizing factor, however, it recommends that the basic allotments, as determined by the allotment formula, be increased or decreased so as to effect a distribution to each State of a proportionate share of the total unexpended balances in all of the State treasuries.

The report also recommends that the Surgeon General's rules and regulations governing payments to States be revised so as to embody the following general principles:

- (a) Addition of a new section providing for the formulation by each State of the objectives to be achieved under its program.
- (b) Quarterly payments which will provide for operating programs plus a contingent reserve.
- (c) Clarification of provisions for withholding payments in the event of violation of budget provisions or failure to develop and maintain a standard of public health commensurate with available resources.
- (d) Development of basic rules and regulations which will remain in force from year to year subject to modification through amendment rather than through reformulation of the entire regulations.

A further recommendation is that budget revision procedures be minimized and simplified.

The committee recommends that the States take all necessary steps to insure effective cooperation with the Public Health Service in the conduct of its malaria control program in defense areas.

COMMITTEE ON VENEREAL DISEASE CONTROL

This committee submitted its report in six sections.

Section I calls attention to the increasing shortage of medical and nursing personnel for control activities, which has resulted in failure in many places to follow up cases of venereal disease uncovered by Selective Service examinations, and in neglect of treatment for contacts of such selectees. It recommends the employment for the duration of the war of such keen, industrious, and intelligent persons without technical training in public health as might be available for follow-up work under competent supervision.

Section II recommends that the Surgeon General continue for the duration of the war the policy of employing medical and other personnel to serve on a loan basis with State and local health departments in their venereal disease control programs.

Section III approves the "Recommendations for a Venereal Disease Control Program in State and Local Health Departments" made by the Advisory Committee to the Public Health Service and published in *The Journal of the American Medical Association*, June 7, 1941.

Section IV recognizes the policy adopted by the Surgeon General of not requiring that State or local funds be made available as matching credits to obtain that part of the Venereal Disease Control Act allotment which is made for war needs. It recommends that State health officers do everything possible to develop matching credits for venereal disease control funds within their respective States even though such matching credits are not at present required on so high a level as before the war.

Section V recommends that the rules established in the past with regard to the allotment and payment of funds provided under the Venereal Disease Control Act be continued throughout the fiscal year 1943, but that, in view of war needs, changes may be made in the proportion of funds allotted to States, subject to the amounts appropriated for this purpose by Congress. Such changes shall be made only after consultation with the State health officers.

Section VI recommends such "supplemental activities" as those of the Division of Social Protection, Office of Defense Health and Welfare Services, and expansion of such activities by the appropriate Federal, State, and local official and voluntary agencies.

THE USE OF MUCIN IN EXPERIMENTAL INFECTIONS OF MICE WITH *VIBRIO CHOLERAE*¹

By JAMES J. GRIFFITTS, *Assistant Surgeon, United States Public Health Service*

Koesoemadilaga (1) has reported the use of mice in the study of experimental cholera infections. Following the injection of several hundred million vibrios, intraperitoneally, organisms may be found throughout the tissues of the animal.

The enhancement, by mucin, of the mouse-killing capacity of human pathogenic organisms is well known. Pacheco and Noronha Peres (2) reported that mucin opposed the bactericidal action of cholera antiserum on the vibrio *in vitro*. It is the purpose of this report to describe the influence of mucin on the action of the cholera vibrio in mice.

METHODS

Description of organisms.—Strains No. 35 (Inaba) and No. 41 (Ogawa) were forwarded from India in April 1941. These strains had been isolated from recent cases of cholera. The effect of a 3½-month interval en route, without transfer, on the virulence and other prop-

¹ From the Division of Biologics Control, National Institute of Health.

erties of these strains cannot be determined. On arrival, the cultures were dried in vacuo from the frozen state at minus 72°C., and no changes in their properties have been noted since drying.

Strain No. 6 was originally obtained from Manila, P. I. The date of isolation is unknown. It was forwarded to the National Institute of Health in 1941 by Dr. C. E. Dolman of Vancouver.

Strain No. 34-1 was isolated from a case during an epidemic at Hong Kong in 1939. It was sent to the National Institute of Health by Doctor Dolman in 1941.

Strain No. 82 has been at the Institute since 1921. It has been transferred to fresh nutrient agar at 6-week intervals. The history of isolation is not available.

Strain No. 530 has been at the National Institute of Health since 1927. The history of isolation is not available.

All strains examined produced acid from mannose and saccharose, while none fermented arabinose (Type I Heiberg). The strains were agglutinable with "O" antisera, prepared from boiled suspensions of strain No. 35. No hemolysis of goat red cells was produced by any of the above strains (3).

Test animal.—Female, white Swiss mice, weighing 12-14 gm., of a closely inbred strain, have been used throughout. It has been noted that larger mice are not as uniformly susceptible to smaller doses of organisms.

The organism.—A dried culture is suspended in beef infusion broth and, after 2 to 3 hours' incubation at 37°C., beef infusion agar slants are inoculated and incubated overnight. A second transfer is made to agar slants. The growth resulting from 5 hours' incubation is washed from the slant with physiological saline and diluted with saline so that the suspension of vibrios is equal in turbidity to 500 p. p. m. of silica standard (4). This represents the undiluted test dose, and contains 2 to 3 billion vibrios per cc. by chamber count. Pour plate colony counts made from the 10⁻⁷ dilution of this suspension average 110 organisms per cc.

Mucin.—Granular mucin is suspended in distilled water to make a 5-percent suspension. The pH of the mixture is adjusted to 7.2-7.4. The suspension is strained through four thicknesses of gauze, distributed into small flasks, and autoclaved at 15 pounds pressure for one-half hour. Mucin suspensions kept at 5° C. may be used for several weeks.

Procedure.—A series of tenfold dilutions, in normal saline, is made from the original suspension. The final dilutions for the test doses are made with 5 percent mucin.

All animals are inoculated intraperitoneally with 0.5 cc. of the indicated dilution. The procedure is complete within 1 hour of the preparation of the inocula. The mice are observed for 72 hours.

RESULTS

The injection of several hundred million living vibrios in saline is followed in 2 to 3 hours by signs of illness, i. e., ruffling of the fur, quiescence, and huddling. At this time vibrios may be cultured from the heart's blood. Deaths occur usually within 18 hours. Post-mortem examination reveals injection of the peritoneal surfaces with purulent, blood-tinged fluid. Smears of the peritoneal fluid reveal many vibrios, intracellularly and extracellularly. The organisms may be recovered by culture from the spleen, liver, lungs, and brain of the mouse.

Four to six hours after the introduction of several thousand living vibrios, in mucin, into the peritoneal cavity of a mouse, vibrios may be recovered from the heart's blood. After 12 to 14 hours, when the animal is moribund, larger numbers of organisms may be found by culturing the lungs, spleen, liver, and kidney. Death usually occurs in 16 to 18 hours with the larger infecting doses, while with smaller numbers of vibrios, death occurs in 24 to 48 hours.

The extreme loss of fluids which characterizes cholera infections in man has not been noted in mice. There is increased defecation, but the fecal material is formed. This infection in mice is a fulminating bacteremia, and it is thought that death of the animal is due in part to the toxic action of the vibrios.

The degree of enhancement, by mucin, of the lethal action of *V. cholerae* is shown in table 1. The data given represent experiments made over a 4-month period.

TABLE 1.—Summary of experiments. The effect of mucin on the lethal action of six strains of *V. cholerae*. (Mice, females, 14 to 16 gm.)

Strain No.	Year of isolation	Suspending media							
		Saline		5 percent mucin					
		Approximate number of viable organisms injected intraperitoneally ¹							
		500 million	50 million	500 thousand	50 thousand	5,000	500	50	5
35.....	1941	² 28/28	1/30	76/77	84/105	54/70	36/80	19/40	4/39
41.....	1941	30/30	2/30	37/40	54/60	38/60	21/30	16/20	15/20
34-1.....	1939	16/17	0/17	10/17	-----	6/17	-----	-----	-----
6.....	?	14/17	0/17	13/17	-----	6/17	-----	-----	-----
530.....	1927	12/17	0/17	2/17	-----	1/17	-----	-----	-----
82.....	1921	3/17	0/17	1/17	-----	0/17	-----	-----	-----

¹ Based on the average of pour plate colony counts from the 10⁻⁷ dilution of all experiments.

² Numerators give the number of deaths in 72 hours; denominators, the total number of mice injected.

The lethal dose of strains Nos. 35 and 41 is approximately 500,000,000 organisms in saline. One-tenth of this number in saline is not fatal for mice. The injection of as few as 5,000 organisms, in mucin, kills approximately 80 percent of the mice within 72 hours.

Strain Nos. 6 and 34-1 kill mice when large doses in saline are injected. Mucin enhances the lethal action of these vibrios.

Strain 530 is lethal for mice in the larger doses in saline, but its virulence for mice is not enhanced by mucin. Strain 82 is avirulent for mice, with and without mucin. These are the older strains from the standpoint of isolation.

SUMMARY

Recently isolated strains of *Vibrio cholerae* are capable of proliferating and killing mice when relatively small numbers of organisms suspended in mucin are injected intraperitoneally. This enhancing effect of mucin has not been noted with two remotely isolated strains.

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PREVALENCE OF POLIOMYELITIS IN THE UNITED STATES IN 1941

By C. C. DAUER, M. D., *Epidemiologist, District of Columbia Health Department*

In 1941 the number of cases of poliomyelitis reported for the entire country was only slightly less (9 percent) than the number in 1940. The number of cases in 1940 was 9,826, or a rate of 7.4 per 100,000 population, and in 1941 the provisional total¹ was 8,947, or a rate of 6.8. In 1940 (1) the disease occurred in epidemic form in several large areas in the north central and northwestern sections of the country, and in several of these areas small localized outbreaks had occurred late in the fall of 1939. In 1941 poliomyelitis was most prevalent in the East South Central and South Atlantic States. Four States in this region, Alabama, Florida, Georgia, and Tennessee, accounted for approximately one-fourth of all the cases reported in the entire country. In the Middle Atlantic States and in Minnesota the incidence of the disease was slightly higher than for the country as a whole.

As shown in table 1, the highest rates of incidence occurred in the following States: Alabama 30.5, Georgia 23.5, Tennessee 18.4, Florida 14.4, and Maryland 13.1. The District of Columbia and Minnesota each had a rate of 10.1. Alabama reported more than twice as many cases in 1941 (836) as in 1936 (391), the only other year in which the disease occurred in widespread epidemic form in that State, insofar

¹Numbers of cases and case rates for 1941 throughout this report are provisional.

as records are available. There were 735 cases reported in Georgia in 1941; the greatest number reported in any previous year was 157 in 1936. Tennessee reported 123 cases in 1929, 385 in 1936, and 536 in 1941. Florida never reported as many cases in any one year as in 1941 when 273 were recorded; the greatest incidence previously reported was 59 cases in 1925, 42 in 1936, and 66 in 1939. In these four States the incidence of poliomyelitis was greater in 1941 than in any previous year for which records are available.

TABLE 1.—*Poliomyelitis case rates per 100,000 population by States, 1936-41*

	1936	1937	1938	1939	1940	1941
United States.....	3.5	7.3	1.3	5.6	7.4	6.8
New England:						
Maine.....	5.0	16.1	1.7	.5	1.3	4.8
New Hampshire.....	.8	4.9	.2	.8	.4	6.3
Vermont.....	2.1	7.6	2.3	8.4	1.7	3.9
Massachusetts.....	1.3	7.9	.4	1.7	1.0	4.2
Rhode Island.....	.7	3.2	.9	.4	1.2	5.2
Connecticut.....	.9	6.2	1.2	1.6	1.1	6.7
Middle Atlantic:						
New York.....	1.5	4.9	1.1	8.0	1.6	8.2
New Jersey.....	.6	3.6	.9	5.3	1.5	8.4
Pennsylvania.....	1.3	3.3	.8	4.2	1.7	7.4
East North Central:						
Ohio.....	5.1	7.9	.8	2.3	9.5	7.0
Indiana.....	1.5	4.2	.4	1.6	19.9	3.4
Illinois.....	8.8	9.9	1.4	2.4	7.6	4.8
Michigan.....	3.2	9.0	1.2	19.1	23.0	5.1
Wisconsin.....	1.5	11.4	1.7	3.8	15.7	3.1
West North Central:						
Minnesota.....	1.2	12.6	1.6	20.5	8.4	10.1
Iowa.....	3.0	9.4	1.5	7.7	36.9	1.7
Missouri.....	2.7	9.9	.6	.7	8.3	1.1
North Dakota.....	2.7	.9	1.1	1.9	3.9	2.6
South Dakota.....	1.9	5.7	4.0	3.6	12.7	4.3
Nebraska.....	1.7	16.0	.7	3.6	14.0	1.0
Kansas.....	5.0	12.9	.6	2.3	30.1	2.7
South Atlantic:						
Delaware.....	.4	3.1	.8	3.1	.8	1.0
Maryland.....	2.2	4.8	1.0	1.6	.9	13.1
District of Columbia.....	1.1	4.8	4.3	3.0	1.2	10.1
Virginia.....	2.2	2.4	2.0	1.8	9.3	5.9
West Virginia.....	3.4	3.7	.8	3.5	34.8	2.5
North Carolina.....	1.5	3.1	1.4	3.3	2.1	4.7
South Carolina.....	1.2	1.2	1.4	23.8	1.0	8.7
Georgia.....	4.8	2.7	1.9	3.1	.9	23.5
Florida.....	2.5	1.8	1.8	4.0	1.7	14.4
East South Central:						
Kentucky.....	3.1	4.4	1.3	5.9	7.8	7.7
Tennessee.....	13.2	4.4	1.1	1.1	1.9	18.4
Alabama.....	14.6	2.9	3.4	1.5	1.9	30.5
Mississippi.....	9.5	21.0	3.4	1.3	2.0	6.9
West South Central:						
Arkansas.....	2.7	16.2	1.6	2.4	1.5	3.0
Louisiana.....	1.6	6.2	2.0	.9	5.5	2.9
Oklahoma.....	5.0	18.1	1.1	2.2	4.9	2.1
Texas.....	1.1	10.7	1.0	3.8	2.7	2.0
Mountain:						
Montana.....	2.6	5.8	2.6	1.1	19.1	5.3
Idaho.....	4.3	3.9	2.4	7.2	13.0	1.9
Wyoming.....	3.0	16.7	.4	3.5	16.3	4.7
Colorado.....	6.3	19.4	1.3	13.0	3.5	2.5
New Mexico.....	7.4	6.1	2.6	26.1	4.3	1.9
Arizona.....	3.4	6.8	2.2	22.4	1.4	3.0
Utah.....	1.3	6.4	.8	19.0	11.3	7.4
Nevada.....	2.0	5.0	.0	2.0	1.0	.0
Pacific:						
Washington.....	4.7	5.3	1.1	1.7	24.6	4.1
Oregon.....	3.6	6.0	1.5	5.2	5.8	7.5
California.....	6.4	11.5	2.2	16.6	6.7	3.5

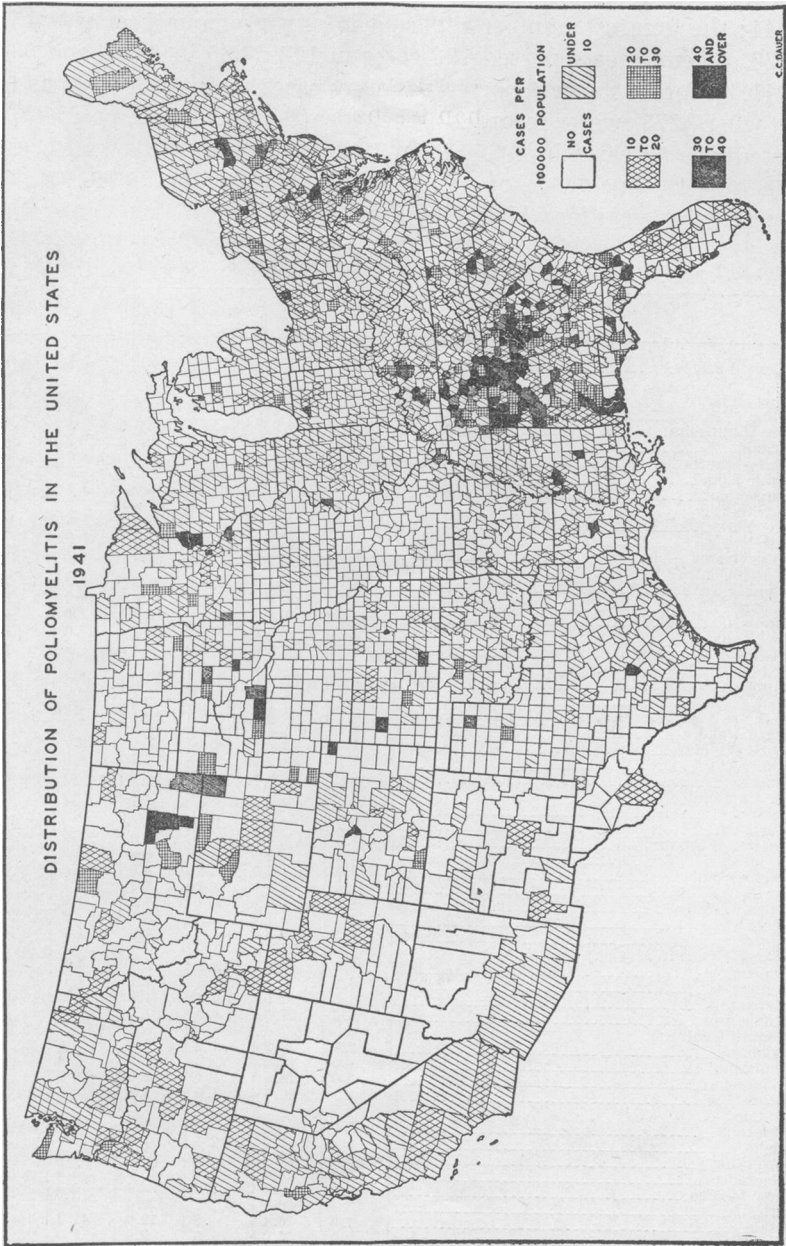


FIGURE 1

The incidence of poliomyelitis was comparatively high in Maryland and the District of Columbia but not in excess of that reported in certain other years. Although the incidence in Minnesota was not excessively high in 1941 it is worth noting in relation to the record of previous years. In no less than 9 separate years from 1916 to 1941, inclusive, as shown in table 2, this State has had a case rate of 10 or more. California has reported a comparatively high incidence in 7 different years during this same period and a few States have had fairly high rates of incidence in 6 separate years. In Minnesota the incidence for the State as a whole has decreased and the intervals between outbreaks have apparently diminished. The case fatality rates given in table 2 would suggest that some decline has occurred in fatality rates but this may have been the result of more complete reporting or the inclusion of a larger proportion of nonparalytic cases in recent years.

The distribution of cases of poliomyelitis by counties² in the United States in 1941 is shown in the accompanying map. It shows but one fairly extensive area of high incidence which was spread over the northern parts of Alabama and Georgia, across central Tennessee and a few counties in central Kentucky. In 1936 an outbreak of the disease occurred in the same general region at which time the epidemic area extended across the northwestern part of Alabama and the western end of Tennessee and Kentucky. A few of the counties in northern Alabama which had a high incidence in 1941 were also included in the area of high incidence in 1936. The 1936 outbreak did not involve nearly so large an area as that in 1941.

TABLE 2.—Case rates and case fatality rates in Minnesota

Year	Case rate per 100,000 population	Case fatality rate (percent)	Year	Case rate per 100,000 population	Case fatality rate (percent)
1916.....	40.1	11.55	1933.....	14.4	9.81
1921.....	29.5	13.45	1937.....	12.6	14.36
1925.....	37.5	15.07	1939.....	20.5	9.40
1930.....	18.4	8.45	1941.....	10.1	-----
1931.....	31.8	8.03			

Several small groups of counties located in west central Mississippi, northern Florida and southern Alabama, and north central North Carolina also had localized outbreaks of poliomyelitis in 1941. These small groups were not far from the periphery of the larger area of high incidence. Just what relationship, if any, the smaller groups bore to the larger is not evident.

Florida began reporting poliomyelitis cases in small numbers each week from early in January 1941, a large proportion of them being

² Morbidity data by counties used in this report were obtained from reports submitted by State departments of health to the United States Public Health Service.

from Miami. The number of cases reported for the State as a whole increased slightly in March, and late in June the number increased sharply, the peak of incidence being reached late in July. However, the peak in Miami was reached in May. Only a few cases were reported in Alabama and Georgia before the latter part of June when the number of cases reported increased sharply and simultaneously in the two States. A significant increase in cases was not noted in Tennessee until July.

In Alabama the highest incidence of poliomyelitis in 1941 occurred in Walker County where 124 cases were reported, or a rate of 193 per 100,000 population. Lawrence County also had a high rate of incidence—35 cases, or a rate of 125. Twenty other counties, which had rates ranging between 30 and 100, reported a total of 556 cases. One of the 22 counties with a rate in excess of 30 in 1941 had reported no more than one case in any one year from 1933 to 1940, inclusive; two of the counties had reported none during this 8-year period. Three of the 22 counties had higher rates in 1936 and 2 had approximately the same number in each outbreak.

In 1941 38 counties in Georgia reported more than 30 cases per 100,000 population, and only one of these had a rate in excess of 100. Twelve of the 38 counties had reported no cases during the preceding 8 years, and 11 had reported no more than one case in any one year. Only one county had reported more cases in a single year from 1933 to 1940, inclusive, but in this instance only a few cases were reported in a county with a small population.

In 1941 Tennessee had 18 counties with rates in excess of 30; 3 of these counties exceeded 100—Franklin with 64 cases and a rate of 267, Trousdale with 9 cases and a rate of 147, and Grundy with 12 cases and a rate of 103. Four of the 18 counties had never reported more than one case in any one year and two had reported no cases from 1933 to 1940, inclusive. One county, which was included in the epidemic of 1941, experienced a much higher rate in 1936 when an outbreak occurred in that area.

One of the group of 5 counties in Kentucky with rates in excess of 30 in 1941 reported 28 cases, or a rate of 311. This county had reported a total of only 12 cases from 1921 to 1940, inclusive, and no more than two cases in any one year during the two decades.

The 7 counties located in Alabama, Georgia, Tennessee, and Kentucky, which had 100 or more cases of poliomyelitis per 100,000 population in 1941, reported a total of 284 cases, and a total of only 37 cases during the 8 years immediately preceding, or an average of less than one case per county per year.

Small groups of counties, or isolated counties, also experienced high incidence rates in other sections of the country. The actual number of cases reported in many of the isolated counties with high rates was

small but owing to small populations the rates are relatively high.

A number of cities with populations of 100,000 or more reported fairly large numbers of cases. Outbreaks occurred in Miami and Jacksonville, Fla., Birmingham, Ala., Atlanta, Ga., and Chattanooga and Nashville, Tenn., an unusual number of cities in a single epidemic area to have outbreaks in one year. In other sections of the country cases were reported in significant numbers in Washington, D. C., Baltimore, Md., New York City and Albany, N. Y., Cleveland, Ohio, St. Paul, Minn., and Chicago with some of its suburbs.

During 1941 a number of contributions of varying importance to the understanding of the epidemiology of poliomyelitis appeared in the medical literature. Unfortunately none of the observations recorded have served to clear all of the differences regarding the usual or most frequent portal of entry of the virus in man or the mode of spread of the disease. The observations of Bodian and Howe (2) and Sabin (3) present laboratory evidence which seems to indicate that the olfactory area is infrequently the portal of entry in human beings. It also appears from their observations that the nasopharynx is the portal of entry in some instances and the intestinal tract in others, but the relative frequency of these routes has not been determined. Experimental air-borne infection of rhesus and cynomolgus monkeys was reported by Faber (4) but the conditions under which these observations were conducted were such that some portal other than the lower respiratory tract could not be excluded. Even if Faber's observations, as well as those quoted above, should be confirmed, it could not be concluded that infection takes place in man in the same manner.

No evidence has yet been found to prove that water is a means of transmitting the virus of poliomyelitis. It is interesting to note an observation made in Walker County, Ala., during the 1941 outbreak (5). Three towns, all obtaining their water supplies from the same source, reported wide differences in prevalence of the disease. Two of the towns reported an incidence 7 and 8 times that recorded for the third, which would seem to indicate that drinking water was not a factor of importance in transmission of the infection in these towns during the summer of 1941. The water is taken from a river, coagulated with lime and alum, allowed to settle, and then filtered through a rapid sand filter. It is then chlorinated with liquid chlorine and delivered through a closed distribution system to the three towns.

It was reported by Rosenau and Brues (6) in 1912 that the stable fly (*Stomoxys calcitrans*) could transmit poliomyelitis in rhesus monkeys. Anderson and Frost (7) in the same year confirmed this observation but were never able to repeat their results and no further evidence that flies might act as vectors was produced until the summer of 1941. Several investigators (8, 9, 10) recently have reported the recovery of poliomyelitis virus from flies caught in areas where the

disease was prevalent in the summer of 1941. Such samples included a number of species of flies, and the areas from which they were obtained included rural or urban communities in Alabama, Connecticut, Georgia, and Ohio. Whether flies are of any importance in the transmission of the disease is not yet evident from these observations.

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LIVE MOUSE FOUND ON AIRPLANE AT MIAMI QUARANTINE STATION

What is believed to be the first reported instance, at least in this country, of a live mouse being found on an airplane at quarantine has been reported by Surgeon G. L. Dunnahoo, medical officer in charge of the Miami (Fla.) quarantine station. Dr. Dunnahoo states that, on April 16, 1942, a live mouse was recovered from the galley of a plane on inspection after its arrival at Miami from San Juan, P. R. The mouse was identified as *Mus musculus musculus*. A careful search revealed no ectoparasites.

Quarantine officers have frequently considered the possibility that rats may become undesirable and dangerous stowaways on airplanes, and thus add to the potential hazard of introducing plague from infected areas by this rapidly expanding means of transportation. Considering the increase in the size of transport planes, the carrying of foodstuffs that are attractive for rats, and the ingenuity of these animals in boarding vessels, seeking food supplies, establishing nesting places and avoiding man's devices for destroying them, the possibility

of rats boarding airplanes is certainly not remote. And should an infected rat, harboring *Xenopsylla cheopsis* or other species of flea transmitter of plague, succeed in stowing away for the trip, the danger of human infection developing would also not be remote. That danger could be completely eliminated only by eliminating the rat and its fleas, including those which may have left the host. Before this shall have been accomplished, however, the infection may have been transmitted to some of the passengers or members of the crew.

The finding of a mouse aboard a transport plane at its destination indicates the possibility that rats may well emulate their smaller brother, and it definitely emphasizes the necessity for greater vigilance on the part of airplane companies and quarantine officers in combating this danger. The value of prevention with reference to plague, as well as to other quarantinable diseases, is predicated upon the fact that, while it may be comparatively easy to keep the disease out of a seaport, it would require much time and effort to eradicate the infection when once it has gained a foothold.

DEATHS DURING WEEK ENDED APRIL 25, 1942

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Apr. 25, 1942	Correspond- ing week, 1941
Data from 88 large cities of the United States:		
Total deaths.....	8,281	8,307
Average for 3 prior years.....	8,486	-----
Total deaths, first 16 weeks of year.....	145,055	148,708
Deaths per 1,000 population, first 16 weeks of year, annual rate.....	12.7	13.0
Deaths under 1 year of age.....	563	539
Average for 3 prior years.....	518	-----
Deaths under 1 year of age, first 16 weeks of year.....	9,096	8,558
Data from industrial insurance companies:		
Policies in force.....	64,965,053	64,547,387
Number of death claims.....	12,361	12,510
Death claims per 1,000 policies in force, annual rate.....	9.9	10.1
Death claims per 1,000 policies, first 16 weeks of year, annual rate.....	10.2	10.7

PREVALENCE 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 MAY 2, 1942

Summary

The incidence of measles continues somewhat high in view of the fact that last year was one of the severest of "measles years" on record for the United States as a whole, if not the severest, so far as indicated by reported cases. The present high incidence of the disease, however, is maintained largely by localized epidemics in California, where more than one-fourth of the current cases were reported. Of a total of 25,479 during the current week, California reported 6,524, as compared with 355 cases for the corresponding week last year and 259 in 1940. The incidence is also higher than last year in the New England, West Central, and Mountain areas.

A total of 80 cases of meningococcus meningitis was reported, 18 of which occurred in New York, 14 in New York City, where the incidence has been unusually high during the current season, especially in March and April. For the country as a whole, the number of cases reported currently is above that for the corresponding week of any other year since 1937. The peak was probably reached during the week ended April 11, when 112 cases were reported.

Smallpox incidence continues at a record low, with 15 scattering cases reported, as compared with 71 cases for the same week last year (a previous low for the week), and with a 5-year (1937-41) median of 363 cases. Diphtheria, poliomyelitis, scarlet fever, typhoid fever, and whooping cough are also below the 5-year median expectancy.

Other current reports include 1 case of anthrax (in Pennsylvania), 14 cases of amebic dysentery, 86 of bacillary dysentery (49 in Texas), 37 of unspecified dysentery (18 in Arizona, 15 in Virginia), 12 cases of Rocky Mountain spotted fever (11 in the Northwestern States, 1 in Indiana), 10 cases of tularemia, and 20 cases of endemic typhus fever.

The death rate for 88 large cities of the United States, which increased slightly during the current week, is 12.0 per 1,000 population, as compared with 11.6 for both the preceding week and the 3-year (1939-41) average for the corresponding week. This is the fourth week of the current year with a rate above the 3-year average.

Telegraphic morbidity reports from State health officers for the week ended May 2, 1942, and comparison with corresponding week of 1941 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41
	May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941	
NEW ENG.												
Maine.....	1	0	1	1	3	3	148	199	166	3	0	0
New Hampshire.....	0	0	0				22	89	31	2	1	0
Vermont.....	0	1	1				134	72	72	0	0	0
Massachusetts.....	3	1	4				1,559	975	667	5	1	2
Rhode Island.....	1	2	0		2		323	3	26	1	0	0
Connecticut.....	0	1	2		1	3	447	302	302	2	0	0
MID ATL.												
New York.....	20	19	19	17	15	115	611	5,619	1,705	18	7	7
New Jersey.....	5	2	12	5	6	6	817	2,698	1,211	1	1	1
Pennsylvania.....	7	19	32				1,297	5,624	1,113	6	1	5
E. NO. CEN.												
Ohio.....	4	16	16	7	9	9	380	4,638	1,086	1	3	3
Indiana.....	3	6	9	11	13	14	148	1,066	332	0	0	0
Illinois.....	23	22	27	4	11	18	620	2,148	282	1	1	1
Michigan ¹	1	3	8		2	3	438	3,503	629	0	1	1
Wisconsin.....	0	0	0	52	37	38	1,183	1,873	765	1	0	1
W. NO. CEN.												
Minnesota.....	1	3	3	1	2	2	1,015	25	116	0	0	0
Iowa.....	7	2	3	1	3	3	273	218	191	0	0	0
Missouri.....	1	3	7	3	5	5	473	633	40	2	0	2
North Dakota.....	3	1	1	7	6	6	42	31	31	0	0	0
South Dakota.....	0	0	1				20	14	5	0	1	1
Nebraska.....	7	0	0	13			363	12	35	0	0	0
Kansas.....	3	4	4	1	8	8	616	990	605	0	1	0
SO. ATL.												
Delaware.....	0	0	0				13	158	25	1	0	0
Maryland ¹	4	2	4	3	3	4	489	403	348	7	3	1
Dist. of Col.....	0	0	4				84	299	75	4	0	0
Virginia.....	5	5	5	162	109	109	180	1,518	634	1	3	3
West Virginia.....	2	5	7	14	14	41	78	777	123	2	1	2
North Carolina.....	5	13	10	38	3	14	686	1,792	716	1	2	2
South Carolina.....	3	5	5	291	270	270	150	987	120	1	1	1
Georgia.....	10	5	5	29	58	53	211	717	148	0	0	1
Florida.....	2	0	4	1	61	1	363	468	220	0	0	0
E. SO. CEN.												
Kentucky.....	6	2	6	1	4	12	142	1,025	405	2	3	3
Tennessee.....	2	1	3	51	27	30	168	565	190	4	1	1
Alabama.....	2	5	8	65	22	45	263	626	178	4	0	1
Mississippi ²	3	5	5							0	1	0
W. SO. CEN.												
Arkansas ¹	4	0	3	44	75	63	133	370	132	1	0	1
Louisiana.....	5	2	8	3	3	14	320	47	17	1	0	0
Oklahoma.....	2	7	2	46	61	61	242	148	127	0	0	0
Texas.....	24	18	31	544	511	479	1,720	1,456	930	4	0	2
MOUNTAIN												
Montana.....	2	2	2	1		10	158	51	51	0	0	0
Idaho.....	0	0	0			2	28	10	22	0	0	0
Wyoming.....	0	0	0	116			86	34	42	0	0	0
Colorado.....	8	11	9	22	18	10	308	636	356	0	0	0
New Mexico.....	5	0	1		1		72	246	74	0	0	0
Arizona.....	0	1	1	89	124	69	178	98	98	0	0	0
Utah ¹	0	4	0	5	13		1,446	29	93	0	0	0
Nevada.....	0	0						2		0	0	
PACIFIC												
Washington.....	1	2	1	2	14		318	44	53	2	0	0
Oregon.....	0	3	2	17	20	27	190	226	75	0	1	1
California.....	6	8	12	84	312	81	6,524	355	355	2	0	1
Total.....	191	211	355	1,741	1,831	1,698	25,479	43,819	15,087	80	34	47
17 week².....	4,878	4,736	7,885	71,036	474,282	151,146	305,155	577,618	226,989	1,311	856	856

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 2, 1942, and comparison with corresponding week of 1941 and 5-year median—
Continued

Division and State	Polio-myelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41
	May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941		May 2, 1942	May 3, 1941	
NEW ENG.												
Maine.....	1	0	0	18	4	12	0	0	0	0	0	0
New Hampshire.....	0	0	0	17	1	4	0	0	0	0	0	0
Vermont.....	0	0	0	2	12	7	0	0	0	2	0	0
Massachusetts.....	0	0	0	326	196	196	0	0	0	0	5	3
Rhode Island.....	0	0	0	19	6	16	0	0	0	0	0	0
Connecticut.....	0	0	0	36	76	93	0	0	0	0	2	1
MID. ATL.												
New York.....	0	0	0	478	507	675	0	0	0	8	6	6
New Jersey.....	0	0	0	153	294	246	0	0	0	0	3	3
Pennsylvania.....	0	0	0	513	377	377	0	0	0	3	7	7
E. NO. CEN.												
Ohio.....	0	2	1	283	296	340	0	1	1	5	3	6
Indiana.....	0	1	0	90	103	114	1	6	10	0	0	2
Illinois.....	0	0	1	191	287	487	1	2	19	2	4	4
Michigan ¹	0	0	0	148	285	412	0	6	6	2	3	3
Wisconsin.....	0	0	0	171	92	184	1	3	3	0	1	1
W. NO. CEN.												
Minnesota.....	1	0	0	72	44	88	0	2	2	1	0	0
Iowa.....	0	0	0	40	40	116	1	2	36	2	1	2
Missouri.....	0	0	0	87	141	141	1	17	18	1	0	2
North Dakota.....	0	0	0	9	3	12	0	1	7	0	2	0
South Dakota.....	0	0	0	18	19	15	0	1	2	0	0	0
Nebraska.....	0	0	0	19	29	29	0	0	8	0	0	0
Kansas.....	0	0	0	75	46	68	0	0	1	1	1	1
SO. ATL.												
Delaware.....	0	0	0	32	17	9	0	0	0	0	0	0
Maryland ¹	0	0	0	96	40	40	0	0	0	3	0	1
Dist. of Col.....	0	0	0	13	13	18	0	0	0	1	2	0
Virginia.....	1	0	0	17	12	17	0	0	0	3	0	2
West Virginia.....	0	0	0	24	46	41	0	0	0	4	9	8
North Carolina.....	0	0	0	19	23	23	1	0	1	2	0	2
South Carolina.....	0	0	1	1	7	3	0	0	0	1	3	4
Georgia.....	2	0	0	15	15	10	1	1	0	8	7	2
Florida.....	0	1	0	5	1	5	0	0	0	6	3	2
E. SO. CEN.												
Kentucky.....	1	3	0	54	108	42	0	0	0	9	10	5
Tennessee.....	1	1	0	44	66	53	2	0	0	3	4	2
Alabama.....	2	0	0	13	12	8	1	0	3	0	1	1
Mississippi ¹	2	0	0	0	1	4	0	4	1	1	1	2
W. SO. CEN.												
Arkansas ¹	0	1	0	1	5	6	2	0	4	1	2	4
Louisiana.....	0	0	1	4	4	9	1	0	0	7	2	6
Oklahoma.....	0	0	0	5	24	24	2	0	12	0	0	4
Texas.....	3	1	1	27	57	57	0	5	13	6	6	8
MOUNTAIN												
Montana.....	0	0	0	18	24	24	0	0	3	0	2	1
Idaho.....	0	0	0	0	5	5	0	0	5	0	1	1
Wyoming.....	0	0	0	5	3	5	0	0	0	1	0	0
Colorado.....	0	0	0	12	29	34	0	0	2	0	1	0
New Mexico.....	0	0	0	6	6	11	0	0	0	0	0	1
Arizona.....	0	0	0	2	4	8	0	5	4	0	0	1
Utah ¹	0	0	0	11	13	13	0	0	0	0	2	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	2	0
PACIFIC												
Washington.....	0	0	0	32	15	35	0	0	1	0	0	1
Oregon.....	0	0	0	6	16	26	0	15	15	1	1	1
California.....	1	3	2	107	126	169	0	0	17	3	6	5
Total.....	15	13	16	3,334	3,549	4,577	15	71	363	87	100	115
17 weeks ²	358	377	355	66,364	64,109	86,301	377	786	5,485	1,303	1,308	1,890

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 2, 1942—Continued

Division and State	Whooping cough		Week ended May 2, 1942								
	Week ended—		An-thrax	Dysentery			En-cephalitis infectious	Lep-rosy	Rocky Mt. spotted fever	Tu-la-remia	Ty-phus fever
	May 2, 1942	May 3, 1941		Ame-bic	Bacil-lary	Un-specified					
NEW ENG.											
Maine.....	17	8	0	0	0	0	0	0	0	0	0
New Hampshire.....	0	28	0	0	0	0	0	0	0	0	0
Vermont.....	37	11	0	0	0	0	0	0	0	0	0
Massachusetts.....	240	225	0	0	7	0	0	0	0	0	0
Rhode Island.....	39	21	0	0	0	0	0	0	0	0	0
Connecticut.....	83	73	0	0	0	0	0	0	0	0	0
MID. ATL.											
New York.....	499	285	0	2	13	0	1	0	0	0	2
New Jersey.....	350	116	0	0	0	0	0	0	0	0	0
Pennsylvania.....	246	334	1	1	4	0	0	0	0	0	0
E. NO. CEN.											
Ohio.....	171	404	0	0	0	0	0	0	0	0	0
Indiana.....	83	47	0	0	0	0	0	0	1	0	0
Illinois.....	217	91	0	2	6	0	1	0	0	0	0
Michigan ¹	150	440	0	0	1	0	0	0	0	0	0
Wisconsin.....	197	94	0	0	0	0	0	0	0	0	0
W. NO. CEN.											
Minnesota.....	40	103	0	0	0	0	0	0	0	1	0
Iowa.....	16	55	0	0	1	0	0	0	0	0	0
Missouri.....	16	56	0	0	0	2	0	0	0	0	0
North Dakota.....	3	36	0	0	0	0	1	0	0	0	0
South Dakota.....	0	23	0	0	0	0	0	0	0	0	0
Nebraska.....	3	17	0	0	0	0	0	0	0	0	0
Kansas.....	41	146	0	0	0	0	0	0	0	0	0
SO. ATL.											
Delaware.....	1	5	0	0	0	0	0	0	0	0	0
Maryland ¹	45	88	0	0	0	2	0	0	0	1	0
Dist. of Col.....	27	14	0	0	0	0	0	0	0	0	0
Virginia.....	52	96	0	0	0	15	0	0	0	0	0
West Virginia.....	14	48	0	0	0	0	0	0	0	0	0
North Carolina.....	105	291	0	0	0	0	0	0	0	0	0
South Carolina.....	81	165	0	0	0	0	0	0	0	0	0
Georgia.....	32	20	0	1	3	0	0	0	0	1	10
Florida.....	30	26	0	1	0	0	0	0	0	0	2
E. SO. CEN.											
Kentucky.....	91	99	0	0	0	0	0	0	0	0	0
Tennessee.....	42	42	0	0	0	0	2	0	0	0	1
Alabama.....	16	47	0	0	0	0	0	0	0	0	2
Mississippi ¹	0	-----	0	0	0	0	0	0	0	0	0
W. SO. CEN.											
Arkansas ¹	13	27	0	0	1	0	0	0	0	3	0
Louisiana.....	12	3	0	0	0	0	0	0	0	0	0
Oklahoma.....	58	33	0	0	0	0	0	0	0	0	0
Texas.....	213	429	0	7	49	0	0	0	0	5	3
MOUNTAIN											
Montana.....	14	10	0	0	0	0	1	0	3	0	0
Idaho.....	0	3	0	0	0	0	0	0	1	0	0
Wyoming.....	19	1	0	0	0	0	0	0	3	0	0
Colorado.....	22	217	0	0	0	0	0	0	1	0	0
New Mexico.....	33	7	0	0	0	0	0	0	0	0	0
Arizona.....	24	43	0	0	0	18	1	0	0	0	0
Utah ¹	22	96	0	0	0	0	0	0	0	1	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington.....	56	153	0	0	0	0	0	2	0	0	0
Oregon.....	44	27	0	0	0	0	0	1	0	0	0
California.....	375	658	0	0	1	0	1	0	0	0	0
Total.....	3,889	5,272	1	14	86	37	8	1	12	10	20
17 weeks.....	65,384	76,911	-----	-----	-----	-----	-----	-----	-----	-----	-----

¹ New York City only.

² Period ended earlier than Saturday.

³ Corrected report from Arkansas, Mar. 1 to Apr. 25: Increases, 53 cases of measles, 1 case of poliomyelitis, 1 of smallpox, and 1 of typhoid fever; deductions, 71 cases of influenza and 1 case of meningitis.

WEEKLY REPORTS FROM CITIES

City reports for week ended April 18, 1942

This table lists the reports from 88 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.

	Diphtheria cases		Enecephalitis, 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	Cases	Deaths	Cases	Deaths								
Atlanta, Ga.....	1	0	9	0	0	0	0	0	3	0	3	0	0	1
Baltimore, Md.....	2	0	6	2	379	6	6	28	0	0	17	0	1	39
Barre, Vt.....	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Billings, Mont.....	0	0	0	0	7	0	0	0	0	0	0	0	0	1
Birmingham, Ala.....	1	0	5	2	3	0	0	3	0	0	4	0	0	8
Boston, Mass.....	0	0	0	0	261	2	2	24	0	107	0	0	0	60
Bridgeport, Conn.....	0	0	0	0	13	0	0	2	0	3	0	0	0	2
Brunswick, Ga.....	0	0	0	0	11	0	0	0	0	1	0	0	0	0
Buffalo, N. Y.....	0	0	0	0	16	0	0	4	0	13	0	0	0	3
Camden, N. J.....	0	0	0	0	0	0	0	1	0	7	0	0	0	0
Charleston, S. C.....	0	0	24	0	1	0	0	4	0	0	0	1	1	1
Charleston, W. Va.....	1	0	1	0	0	0	0	0	0	1	0	0	0	1
Chicago, Ill.....	9	1	1	1	128	0	37	0	94	0	0	0	0	89
Cincinnati, Ohio.....	3	0	1	0	0	0	0	4	0	23	0	0	0	15
Cleveland, Ohio.....	2	0	3	1	12	0	6	0	71	0	0	0	0	17
Columbus, Ohio.....	0	0	1	1	24	0	6	0	10	0	0	0	0	6
Concord, N. H.....	0	0	0	0	0	0	2	0	1	0	0	0	0	0
Cumberland, Md.....	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Dallas, Texas.....	2	0	2	2	178	0	2	0	3	0	0	0	0	3
Denver, Colo.....	3	0	8	0	135	0	5	0	4	0	0	0	0	19
Detroit, Mich.....	1	1	0	0	35	4	14	0	110	0	0	0	0	61
Duluth, Minn.....	0	0	0	0	2	0	1	0	9	0	0	0	0	0
Fall River, Mass.....	1	0	1	1	72	0	1	0	56	0	0	0	0	0
Fargo, N. Dak.....	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Flint, Mich.....	0	0	0	0	0	0	1	0	2	0	0	0	0	0
Fort Wayne, Ind.....	0	0	0	0	0	0	2	0	0	0	0	0	0	3
Frederick, Md.....	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Galveston, Texas.....	0	0	0	0	7	0	1	0	0	0	0	1	0	0
Grand Rapids, Mich.....	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Great Falls, Mont.....	0	0	0	0	42	0	3	0	0	0	0	0	0	9
Hartford, Conn.....	0	0	0	0	37	0	1	0	2	0	1	0	1	8
Helena, Mont.....	0	0	0	1	0	0	0	0	1	0	0	0	0	0
Houston, Texas.....	1	0	0	0	79	0	8	0	6	0	0	0	0	5
Indianapolis, Ind.....	2	0	0	0	48	0	10	0	27	0	0	0	0	15
Kansas City, Mo.....	0	0	0	0	134	0	3	0	45	0	0	0	0	0
Kenosha, Wis.....	0	0	0	0	18	0	1	0	2	0	0	0	0	19
Little Rock, Ark.....	0	0	8	0	27	0	0	0	0	0	0	0	0	2
Los Angeles, Calif.....	4	1	16	1	828	1	13	1	14	0	0	0	0	23
Lynchburg, Va.....	0	0	0	0	1	0	2	0	0	0	0	0	0	12
Memphis, Tenn.....	0	0	13	2	18	0	9	0	7	2	0	0	0	12
Milwaukee, Wis.....	0	1	0	0	152	0	0	0	33	0	0	0	0	34
Minneapolis, Minn.....	1	0	0	0	376	0	7	0	13	0	0	0	0	8
Missoula, Mont.....	0	0	2	0	0	0	1	0	1	0	0	0	0	0
Mobile, Ala.....	0	0	1	3	0	0	3	0	0	0	0	1	0	0
Nashville, Tenn.....	0	0	0	0	1	0	3	0	1	0	0	0	0	2
Newark, N. J.....	0	0	1	0	288	4	7	0	10	0	0	0	0	21
New Haven, Conn.....	0	0	0	0	276	0	0	0	0	0	0	0	0	6
New Orleans, La.....	4	0	3	3	79	0	5	16	4	0	2	2	2	6
New York, N. Y.....	18	0	14	1	116	14	75	2	284	0	4	0	4	225
Omaha, Nebr.....	1	0	0	0	180	0	2	0	2	0	0	0	0	0
Philadelphia, Pa.....	1	0	2	0	57	2	31	0	262	0	1	0	1	106
Pittsburgh, Pa.....	0	0	0	0	10	1	12	0	23	0	0	0	0	23
Portland, Maine.....	0	0	1	1	12	2	4	0	2	0	0	0	0	3
Providence, R. I.....	0	0	0	0	177	0	6	1	3	0	0	0	0	22
Pueblo, Colo.....	0	0	0	0	6	0	1	0	1	0	0	0	0	0
Racine, Wis.....	0	0	0	0	236	0	0	0	2	0	0	0	0	22
Reading, Pa.....	0	0	1	5	0	0	3	0	1	0	0	0	0	5
Richmond, Va.....	0	0	0	0	2	0	3	0	5	0	0	0	0	3

City reports for week ended April 18, 1942—Continued

	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								
Rosnoke, Va.....	0	0	0	0	0	1	0	0	0	0	0	0
Rochester, N. Y.....	0	0	0	0	1	0	2	0	4	0	0	3
Sacramento, Calif.....	0	0	0	0	128	0	2	0	1	0	0	25
St. Joseph, Mo.....	0	0	0	0	3	0	1	0	0	0	0	0
St. Louis, Mo.....	1	0	1	1	201	0	13	0	20	0	1	5
St. Paul, Minn.....	0	0	1	1	237	0	5	0	1	0	0	15
Salt Lake City, Utah.....	0	0	0	0	70	0	4	0	1	0	0	8
San Antonio, Tex.....	2	0	3	3	22	0	2	0	4	0	0	10
San Francisco, Calif.....	0	0	7	1	314	0	15	0	4	0	0	27
Savannah, Ga.....	0	0	4	0	5	0	1	0	0	0	0	5
Seattle, Wash.....	0	0	3	3	36	1	1	0	3	0	0	28
Shreveport, La.....	0	0	1	2	0	0	0	0	0	0	0	0
South Bend, Ind.....	0	0	0	3	0	1	0	0	10	0	0	0
Spokane, Wash.....	0	0	1	1	24	0	7	0	1	0	0	7
Springfield, Ill.....	0	0	0	0	247	0	2	0	5	0	1	1
Springfield, Mass.....	0	0	0	0	28	0	8	0	13	0	1	4
Superior, Wis.....	0	0	0	0	0	0	2	0	1	0	0	0
Syracuse, N. Y.....	0	0	0	0	87	0	0	0	2	0	0	30
Tacoma, Wash.....	1	0	0	0	6	0	1	0	0	0	0	1
Tampa, Fla.....	0	0	0	0	58	0	2	0	0	0	1	1
Terre Haute, Ind.....	0	0	0	0	0	0	1	0	0	0	0	0
Topeka, Kans.....	0	0	0	0	18	0	0	0	2	0	0	1
Trenton, N. J.....	0	0	0	0	1	0	1	0	9	0	0	5
Washington, D. C.....	0	0	2	1	82	2	15	0	15	0	0	19
Wheeling, W. Va.....	0	0	0	0	6	0	2	0	0	0	0	1
Wichita, Kans.....	0	0	0	0	94	0	3	0	4	0	0	3
Wilmington, Del.....	0	0	0	3	1	1	0	0	9	0	0	0
Wilmington, N. C.....	0	0	0	4	0	1	0	0	0	0	1	0
Winston-Salem, N. C.....	0	0	0	0	74	0	1	0	0	0	0	0
Worcester, Mass.....	0	0	0	0	3	0	16	0	10	0	0	46

Dysentery, amebic.—Cases: Fargo, 2; St. Louis, 1; San Antonio, 1.

Dysentery, bacillary.—Cases: New York, 1.

Encephalitis, infectious.—Cases: Chicago, 1; Detroit, 1; Los Angeles, 1; Milwaukee, 1.

Typhus fever.—Cases: Charleston, S. C., 4.

Rates (annual basis) per 100,000 population for the group of 88 cities in the preceding table (estimated population, 1942, 34,015,616)

Period	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Typhoid fever cases	Whooping cough cases
		Cases	Deaths						
Week ended Apr. 18, 1942....	9.50	20.54	5.21	965.73	72.05	215.99	0.31	2.61	179.35
Average for week, 1937-41....	14.54	36.05	8.66	1722.00	90.66	268.54	2.78	2.94	187.51

¹ Median.

FOREIGN REPORTS

AUSTRALIA

Infectious diseases—52 weeks ended December 27, 1941.—During the 52 weeks ended December 27, 1941, cases of infectious diseases were reported in the Commonwealth of Australia as follows. The figures are provisional:

Disease	Cases	Disease	Cases
Anthrax	2	Lethargic encephalitis	27
Cerebrospinal fever	1,470	Malaria	44
Chickenpox	11	Measles	424
Coastal fever	22	Poliomyelitis	254
Dengue	1,446	Puerperal fever	528
Diphtheria	9,199	Scarlet fever	10,015
Dysentery	67	Tetanus	11
Erysipelas	97	Tuberculosis	3,882
Filariasis	2	Typhoid fever	169
German measles	23	Typhus fever, endemic	76
Hookworm disease	13	Undulant fever	5
Influenza	76	Well's disease	28
Leprosy	55	Whooping cough	1,073

Estimated population, approximately 7,500,000.

CANADA

Provinces—Communicable diseases—Week ended April 4, 1942.—During the week ended April 4, 1942, 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
Cerebrospinal meningitis		1		3	6		1	1		12
Chickenpox		15		105	194	28	24	24	119	509
Diphtheria	2	16		20	3			1		46
Dysentery				1						1
German measles		1		17	40		14	8		124
Influenza		7			2	7	55		20	100
Measles			1	388	155	155	145	12	14	870
Mumps	1	3		275	333	117	312	44	343	1,428
Pneumonia	6			2	29		2		18	55
Poliomyelitis			2	2						4
Scarlet fever	2	24	7	109	298	51	82	44	35	652
Smallpox										1
Trachoma									4	4
Tuberculosis	2	5	17	122	50		2		8	206
Typhoid and paratyphoid fever				17	2		2			21
Undulant fever				2	2					4
Whooping cough	4	19		146	102	2	6	6	26	311
Other communicable diseases	9	7		7	206	6	12		7	254

COSTA RICA

Communicable diseases—March 1942.—During the month of March 1942, certain communicable diseases were reported in Costa Rica as follows:

Disease	Cases	Deaths
Diphtheria.....	21	3
Measles.....	241	3
Typhoid fever.....	14	1
Whooping cough.....	63	.....

FINLAND

Notifiable diseases—January 1942.—During the month of January 1942, cases of certain notifiable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria.....	185	Poliomyelitis.....	2
Dysentery.....	4	Scarlet fever.....	351
Influenza.....	2,458	Typhoid fever.....	44
Paratyphoid fever.....	115		

SWEDEN

Notifiable diseases—November–December 1941.—During the months of November and December 1941, cases of certain notifiable diseases were reported in Sweden as follows:

Disease	Novem-ber	Decem-ber	Disease	Novem-ber	Decem-ber
Cerebrospinal meningitis.....	11	10	Poliomyelitis.....	62	39
Diphtheria.....	60	70	Scarlet fever.....	1,555	1,434
Dysentery.....	71	24	Syphilis.....	34	28
Epidemic encephalitis.....	2	2	Typhoid fever.....	10	3
Gonorrhoea.....	866	1,002	Undulant fever.....	1	4
Paratyphoid fever.....	17	21	Weil's disease.....	.....	1

SWITZERLAND¹

Notifiable diseases—September–October 1941.—During the months of September and October 1941, cases of certain notifiable diseases were reported in Switzerland as follows:

Disease	Septem-ber	Octo-ber	Disease	Septem-ber	Octo-ber
Cerebrospinal meningitis.....	14	16	Mumps.....	26	64
Chickenpox.....	60	96	Paratyphoid fever.....	3	13
Diphtheria.....	92	106	Poliomyelitis.....	409	439
Dysentery.....	1	.....	Scarlet fever.....	268	292
German measles.....	8	7	Tuberculosis.....	227	349
Influenza.....	.....	1	Typhoid fever.....	4	5
Lethargic encephalitis.....	1	1	Undulant fever.....	7	11
Malaria.....	1	.....	Whooping cough.....	71	93
Measles.....	86	124			

¹ Figures for the months of November and December are published on page 682 of the PUBLIC HEALTH REPORTS, issue of May 1, 1942.

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

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

A cumulative table showing the reported prevalence of these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

Plague

Peru.—During the month of February 1942, plague was reported in Peru as follows: Lambayeque Department, 2 cases; Libertad Department, 1 case; Lima Department, 6 cases, 4 deaths; Piura Department, 1 case.

Typhus Fever

Bulgaria.—For the week ended March 21, 1942, 81 cases of typhus fever were reported in Bulgaria. For the week ended March 14, 54 cases were reported, and for the week ended March 7, 62 cases were reported.

France—Marseille.—During the week ended April 18, 1942, 17 cases of typhus fever were reported in Marseille, France.

Irish Free State.—County Wicklow—Tinahely—Knockshanrock.—During the week ended April 11, 1942, 1 case of typhus fever was reported in Knockshanrock, Tinahely, County Wicklow, Irish Free State.

Morocco.—During the week ended April 11, 1942, 1,512 cases of typhus fever were reported in Morocco. During the preceding week 1,509 cases were reported.

Rumania.—During the week ended April 11, 1942, 189 cases of typhus fever were reported in Rumania, 74 cases being reported for the preceding week.

Spain.—During the week ended March 28, 1942, 406 cases of typhus fever were reported in Spain (73 in Madrid and 118 in Barcelona).

Tunisia.—During the week ended April 4, 1942, 800 cases of typhus fever were reported in Tunisia (55 in Tunis and 9 in Sfax). During the preceding week 871 cases were reported (84 in Tunis and 6 in Sfax).

COURT DECISION ON PUBLIC HEALTH

Liability of keeper of dog for death of bitten person from rabies.—(Oklahoma Supreme Court; *Tidal Oil Co. v. Forcum et al.*, 116 P.2d 572; decided May 13, 1941, rehearing denied July 8, 1941, and application for leave to file second petition for rehearing denied Sept. 9, 1941.) A wife brought an action for damages arising from the wrongful death of her husband, alleged to have been caused by a dog bite terminating in rabies. The defendants were an oil company and one

of its district superintendents. The evidence showed that the superintendent had charge of the company's general operations over a wide area near Kiefer, Okla., that he was provided by the company with a house and an office which were both within a fenced enclosure, and that he kept the dog involved in the case within this enclosure. The husband of the plaintiff was an employee of the company and was bitten while apparently getting the dog from under the house, although there was a conflict in the evidence on this point. He received anti-rabic treatment but death ensued.

The plaintiff's action was predicated on the theory that one who keeps and harbors a dog which he knows to be vicious is liable for injuries which it may inflict. In the trial court the plaintiff had judgment and the oil company appealed. The Supreme Court of Oklahoma affirmed this judgment. Briefly stated, some of the conclusions reached by the supreme court were: (a) The plaintiff presented sufficient evidence to justify the jury in finding that the superintendent kept the dog with knowledge of its viciousness and that the employee's death proximately resulted from the dog's bite; (b) the premises on which the deceased was injured were maintained as a part of the operations of the defendant company and the keeping and harboring of the dog by the superintendent constituted a keeping and harboring by the company; and (c) the superintendent's knowledge of the vicious nature of the dog was the knowledge of the company.

In the course of the opinion the court stated that, if the keeper of a known vicious dog permits it to live, he is liable for injuries inflicted by it when suddenly becoming rabid, although he had no time to kill or confine it after learning of its condition before the injuries were inflicted, and cited a Missouri case in support thereof.

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