

Mr. TREADWAY. In other words, is not this the case, that the Public Health Service is more or less a child of the old marine hospital system, and in a sense has now outgrown its parentage and is entitled to a separate set-up?

Dr. WALLER. I should not say that it is entitled to a separate set-up, but that its public-health activities ought to be increased.

Mr. TREADWAY. And there is a very good opportunity for Congress, whether through this committee or other committees, to take up the merits of the case of the separation of the two activities of the Government?

Dr. WALLER. Yes, sir; for the purpose of considering additional appropriations for public-health work.

(Dr. Waller subsequently submitted the following:)

Estimated regular Federal expenditures for activities related to public health, fiscal year ending June 30, 1935¹

Bureau of the Census, Department of Commerce, vital statistics...	\$279, 600. 00
Pan American Sanitary Bureau, cooperation of United States in maintenance.....	30, 236. 51
Office of Education, Department of the Interior, school hygiene...	10, 000. 00
Children's Bureau, Department of Labor, maternal and infant hygiene (includes publications).....	118, 855. 00
Bureau of Animal Industry, Department of Agriculture, meat inspection.....	4, 530, 795. 00
Office of Food and Drug Administration, Department of Agriculture, food and drug control.....	725, 000. 00
Bureau of Home Economics, Department of Agriculture, studies of nutrition.....	62, 728. 00
Public Health Service, Treasury Department:	
National quarantine service.....	1, 316, 000. 00
Medical examination of aliens.....	65, 000. 00
Mental hygiene.....	142, 500. 00
Vital statistics and publications.....	85, 000. 00
Public-health research (including field investigations).....	949, 395. 00
Cooperation with States:	
(a) Interstate quarantine service.....	35, 495. 00
(b) Preventing the spread of epidemic diseases.....	76, 802. 00
(c) Control of venereal diseases.....	29, 000. 00
(d) Rural health work (including salaries of officers)....	59, 875. 00
(e) Detail of officer acting as State health commissioner during reorganization of State health department..	4, 000. 00

The CHAIRMAN. We thank you, Doctor, for your appearance and for the testimony you have given the committee. Also the Chair will extend the thanks of the committee to Miss Roche for her presence and the information and help she has given the committee.

General Cumming is the next witness.

STATEMENT OF HUGH S. CUMMING, SURGEON GENERAL, UNITED STATES PUBLIC HEALTH SERVICE

General CUMMING. Did you want me to make a statement, or answer questions?

The CHAIRMAN. If you have a general statement, we will be pleased to receive it, and then we will ask you questions.

General CUMMING. In the first place, I feel that this particular part of the bill, title VIII, which pertains to the Public Health Service, will be a very wise provision. It is not entering upon any new ground for the Federal Government at all. It is well-tried ground, something that we have entered into in this country a good many years ago in

¹ Does not include expenditures from Emergency Relief and Public Works funds.

an experimental way. The experiment has proven such a success, Mr. Chairman, that other countries have sent over here and have studied this Federal "grant-in-aid," to use an English expression, to local communities. Basing my opinion on some 40 years' work in public health, and having had an opportunity to observe public-health work not only here but abroad, I think that is the wisest part of the bill. Perhaps I am a little prejudiced, however.

About the question of marine hospitals, I think there was a little misunderstanding there, in a way. Before the country was started, Mr. Chairman, the two Colonies of Massachusetts and Virginia provided hospitals for their seamen. In the first or second message of Mr. Washington to the Congress, he recommended encouraging the seamen; and at his suggestion there was appointed a joint committee of the Congress, out of which grew the taking over by the Federal Government of the hospitals in Norfolk, Va., and in Boston—Chelsea.

Mr. TREADWAY. The Chelsea hospital?

General CUMMING. Yes; the old hospital, still there.

Each collector of customs then had to select a medical man to take care of seamen. At that time the seamen included the Navy, the Coast Guard, and the merchant marine. Each one paid 20 cents a month hospital tax, and that constituted the oldest health insurance, so to speak, in this country. It was not until afterward, in 1824, I think it was, the Navy had a medical service separate from the Marine Hospital Service.

Along about 1883 or 1884, the collection of the hospital tax from the individual seaman was discontinued. There are really very few seamen alive now who ever contributed a cent to the hospital tax. In lieu thereof the Congress imposed on vessels entering our ports a tonnage tax which was to be devoted to the maintenance of the Marine Hospital Service. That persisted until about the time of the Spanish War, when the Congress said these tonnage dues should merge into the general receipts of the Treasury, and that there should be an annual appropriation for the marine hospitals.

As to the connection between the marine hospitals and the Public Health Service, it is an old name. Public Health Service hospitals is what they really are. The service originally was the Marine Hospital Service. I have been on the President's board to study this coordination of hospitals for some years. You have probably heard of the President's board. In the first place, we showed that we ran the hospitals cheaper if not better than any of the other Government services. I had to organize as best we could out of nothing—and some of you older gentlemen will remember it—the hospitalization of the ex-service men after the World War. President Harding saw fit to make them separate, much to my relief, I might say, and set up a different organization; we had to organize that.

These marine hospitals are not only an essential part of our maritime quarantine system in the ports, but they are training schools for our Public Health Service medical officers. You cannot take an ordinary doctor; he is not a useful Public Health man to start out with. You realize that. In my days of yellow fever in the South, every officer was taken out of the marine hospitals, leaving them with the internes, to go fight the epidemic. Right now the marine hospital is a reservoir to which we go for emergency to get trained medical officers. I cannot see any possible object in separating them, unless you can see somebody else who can run them better.

There was a statement made here that there were some thirty-odd bureaus engaged in public health.

The CHAIRMAN. That is the point the Chair was going to ask you to explain.

General CUMMING. That was an old statement made in the days when people were coming in wanting a big department of public health, which I am not in favor of.

Mr. TREADWAY. I did not hear that.

General CUMMING. That was an old statement which was the result of a survey many years ago.

The CHAIRMAN. How many bureaus are there now?

General CUMMING. Mr. Chairman, you yourself helped us—and so did Mr. Treadway and Mr. Reed and the others—in passing what is called “the Parker bill”, about 6 years ago. That Parker bill took care of that situation. It provides that upon the request of the head of any department or bureau—you gentlemen passed it unanimously—the Public Health Service could furnish medical officers and other trained personnel. Under that law nearly every Government Department, with the exception of the Children’s Bureau, and they have not asked us for one, uses our trained officer personnel to supervise or perform their medical work; the State Department uses our officers in the consulates abroad—that is under an old statute, the act of July 3, 1893—and ever since there has been an immigration law the Public Health Service has furnished the Labor Department with medical officers for the Immigration Service.

At the request of the Department of the Interior, under the terms of the Parker Act, we furnish all the medical service and sanitary engineering service for the National Park System. We furnish supervision of the Indian Medical Service. We do nearly a million and a half dollars’ worth of work for the Government for patients for the Employees’ Compensation Commission, C. C. C. cases, and all that, in addition to the regular ones. We furnish all the medical service for the Employees’ Compensation Commission, which has now grown from a 1-man job to a job which, as you know, under the present conditions, takes a good number of medical officers.

Consequently, the Service is a reservoir of trained medical officers. The States come to us, corporations and labor come to us, to settle industrial medical questions. The reason they do it is because they have confidence in our trained men.

The CHAIRMAN. Just why is this Service in the Treasury Department?

General CUMMING. That is an historical connection, Mr. Chairman, and personally I think it is a very fortunate one, because we have a professional and scientific outlook, and it is perhaps just as well to have some business—

The CHAIRMAN. You think it fits in better with the Treasury Department than with any other department of the Government?

General CUMMING. I really think so.

The CHAIRMAN. In your opinion, from your knowledge of this service—

General CUMMING. I see no advantage in changing.

The CHAIRMAN. Is there unnecessary duplication of the health work, to your knowledge?

General CUMMING. There may be a little bit. There is in all human activities, but practically there is comparatively little, I think except in one or two instances.

Mr. TREADWAY. Have you concluded, doctor, so that I may ask you a question or two?

General CUMMING. I shall be glad to try to answer your questions, Mr. Treadway.

Mr. TREADWAY. While it may not be a part of this bill, it is very informative to us to bring out these various details that Mr. Cooper and Mr. Vinson and others have brought out here about the Public Health affairs. I would like to know as a matter of record how many professional men or women are under your service. I mean physicians, probably nurses, if you divide it up, not just clerical help. You say you furnish to various activities of the Government professional advice and aid.

General CUMMING. Yes, sir.

Mr. TREADWAY. Can you tell us as to the number?

General CUMMING. We have at the present time a little under 400 commissioned medical officers and 700 to 800 others. I can enter the exact amount in the record.

Mr. TREADWAY. I would appreciate it if you would put it in the record.

General CUMMING. Yes; then in addition to that we have sanitary engineers, whom we have loaned to, well, Mr. Justice Hughes and to the State authorities in connection with, for instance, the Chicago Drainage Canal and all the various big harbor projects involving pollution, the study of pollution. We have a dental corps. We have one of the great laboratories of the world, as you know, here in Washington, and branch laboratories elsewhere. In addition to the people on our pay roll, I suppose it may sound a little egotistical, but I have not found anybody in the United States, doctors or sanitary men, who are not very glad to give us their services and allow themselves to be used as consultants whenever we need such work. We have that background, I think.

Mr. TREADWAY. Your department, Doctor, either under your control or previously, has gone into the breach when there have been great emergencies of epidemics?

General CUMMING. We have tried to do that, Mr. Treadway; yes.

Mr. TREADWAY. As a part of your equipment you are prepared to step in if an emergency arises anywhere in the country or in our possessions, are you not?

General CUMMING. Yes, sir; I am very proud to say that the service is looked on abroad as being the great medical service of the world.

Mr. TREADWAY. When you say you have 400 medical employees, does that include those connected with the marine hospitals?

General CUMMING. Yes, sir; they are commissioned. They are career men who come into the service for life. In addition to that, we have about 700 or 800 men who come in through civil service. We use them largely in the hospitals.

Mr. TREADWAY. Professional men?

General CUMMING. Doctors; yes, sir.

Mr. TREADWAY. I mean doctors, with degrees.

General CUMMING. But we feel it is an unnecessary expense, Mr. Chairman, to have all of the men whom we need from time to time in a permanent service. It is comparable under our system of government to the small highly trained Regular Army, plus your National Guard Reserve.

Mr. TREADWAY. How many marine hospitals are there now?

General CUMMING. Twenty-six.

Mr. TREADWAY. I want to ask you one or two questions more, directly on the bill before us.

When your assistant, Dr. Waller, was testifying, I inquired about title VII of the bill, and he said that your interest or his interest—and I suppose his interest is identical with yours—is confined to title VIII. I would like your opinion whether there might arise any possibility of duplication, if not of conflict. I have before me page 54, section 702. In the first place, how do you designate a crippled child? What would be a fair definition of that general language there as applying to crippled children in section 702 of this act?

General CUMMING. I have not studied this. The term "crippled", of course, is one which would possibly need be legally defined. It is a rather broad term which might very well involve mental condition as well as physical condition.

Mr. TREADWAY. That is what I had in mind. Of course, when you speak of a cripple to an ordinary layman like myself, it means one having lost the power of locomotion to a large extent.

General CUMMING. That is the usual meaning; yes.

Mr. TREADWAY. But medicinally it is much broader than that, is it not?

General CUMMING. I should rather think that in our modern conception of looking out for the health, so to speak, the child with deficient mentality is crippled. But that would be something for definition.

Mr. TREADWAY. Another section, the very first paragraph on page 50 of title 7, has to do with maternal and child health. Certainly care of crippled children has to do with health. I am sorry we did not get this information from Miss Lenroot, who was a very excellent witness the other day, but I do not find under the Children's Bureau any designation of medical aid. This is more or less cooperative with States, it appears in here. What I had in mind is this, whether or not one bureau, either yours or hers, so far as that is concerned, could not care for the questions of health, whether of adults or children.

General CUMMING. That is a question for congressional determination, I think. We could do so.

Mr. TREADWAY. Is it not deserving of careful examination and of very critical opinion from men just like yourself?

General CUMMING. There is no reason why there cannot be thorough cooperation. There needs be no conflict at all.

Mr. TREADWAY. Of course, title VII in the bill is a provision for a cooperative system with States the same as you have.

General CUMMING. Yes.

Mr. TREADWAY. It is for the same general purpose, public health. Is there not a very distinct possibility of duplication there?

General CUMMING. Looking to what the Children's Bureau is really primarily organized for, there is a good deal here pertaining to the welfare, is there not, of children?

Mr. TREADWAY. I have before me a list of the officials of the Children's Bureau as published in our directory. The chief, of course, is Miss Lenroot. Her assistant is Dr. Eliot. Then there are Divisions of Child and Maternal Health, Social Service, Delinquency, Statistical, Social Statistics, Industrial, and Editorial. Those are

the branches. It is a coincidence, possibly, that there is a vacancy now in the head of the Child and Maternal Health Division; just when we are talking about health, there is nobody at the head of that branch, evidently. But I do not see very much reference to the actual health of the mother or of the child or the crippled child.

General CUMMING. I would much rather you asked them.

Mr. TREADWAY. Probably if we asked them they would prefer to have you asked. In other words, it is pretty difficult to get opinions, is it not, when we are trying to study these problems?

General CUMMING. I really have not studied that section of the bill, sir.

The CHAIRMAN. Doctor, we want to get the true number of employees attached to your staff. You spoke of 400, then you spoke of 700 or 800 additional.

General CUMMING. Yes.

The CHAIRMAN. Please explain what the 400 do and what the 700 or 800 do, what their connection is.

General CUMMING. There are about 350 to 400 trained medical officers who come in as young men and are trained for their life work with the public-health work.

The CHAIRMAN. Are they on full-time work and salary?

General CUMMING. They have commissions and get the same pay as medical officers of the Army and Navy.

The CHAIRMAN. Please differentiate between them and the 700 or 800 you mentioned.

General CUMMING. They are men whom we need at smaller stations or for temporary work, who are picked from the civil-service list. You have in your own State, for instance, some smaller ports where we do not feel justified in putting a medical officer, with the salary attached to that office.

The CHAIRMAN. Are these 700 or 800 people that you are describing now employed on full time?

General CUMMING. Some of them are and some of them are not.

The CHAIRMAN. Are they paid only for what work they do, or are they paid annual salaries?

General CUMMING. No; they are paid salaries, with the exception of a few people. For instance, take a life-saving station along your North Carolina coast, where a man is sent for once a week when somebody is injured; we pay the doctor there so much, a fee.

The CHAIRMAN. You mean the local doctor?

General CUMMING. The local doctor; yes, sir.

The CHAIRMAN. That is not included in this 700 or 800, is it?

General CUMMING. Yes; they are designated under the civil service law.

The CHAIRMAN. Could you give us an estimate of the average salary received by this class of men?

General CUMMING. You mean the career men or the others?

The CHAIRMAN. Both.

General CUMMING. I have it worked out, and I will enter it in the record with your permission.

The CHAIRMAN. Would you mind submitting a table giving the number of employees and the salaries, for the record?

General CUMMING. Yes, sir; I will be glad to do so. We have it all worked out.

(The matter referred to is as follows:)

MEDICAL PERSONNEL OF THE PUBLIC HEALTH SERVICE

1. Commissioned medical officers on active duty, 306; average salary, \$4,016.

In addition to the foregoing there are also in the commissioned corps 52 dentists, 22 sanitary engineers, 8 pharmacists, and 1 scientist. The salaries are the same as for the medical officers except in the case of the pharmacists who serve only in the two lowest grades.

The commissioned personnel comprise a mobile corps whose members are subject to constant changes of station to meet the varying requirements within the field of public health and the emergency demands for the control of epidemic diseases. The commissioned personnel is distributed among the various activities of the Service and is interchanged at intervals to insure readiness for any duty to which it may be called.

2. Acting assistant surgeons, 704: (a) Full time, 166; average salary, \$3,200; and (b) part time, 538; 75 of the 538 on a per annum salary basis, ranging from \$120 to \$1,800 per annum, the balance of 463 on per diem when actually employed basis or fee basis. The per diem rates range from 83 cents to \$15 and the fees from \$2 for each examination or each vessel inspected.

The acting assistant surgeons are engaged in hospital, quarantine, and immigration activities under the supervision of commissioned officers.

3. Attending specialists and consultants, 501: (a) Full time, 1 at \$3,000; and (b) part time, 500 at a small per annum basis and on fees in accordance with a schedule outlined by the Bureau, a copy of which is attached.

Closely allied with the medical personnel are 100 scientific and technical workers engaged in investigations of scientific problems, and 540 nurses engaged in hospital and public health nursing activities.

There are 26 marine hospitals and 118 relief stations located throughout the country. The beneficiaries of the hospitals and relief stations are as follows:

1. Persons employed on board in the care, preservation, or navigation of any registered, enrolled, or licensed vessel of the United States, or in the service on board of those engaged in such care, preservation, or navigation.
2. Officers and enlisted men of the Coast Guard.
3. Officers and seamen on vessels of the Coast and Geodetic Survey.
4. Officers and crews of vessels, certain keepers and assistant keepers of the Lighthouse Service.
5. Officers and crews of vessels of the Bureau of Fisheries.
6. Persons detained in hospitals of the Public Health Service under the immigration laws and regulations.
7. Seamen from vessels of the Army Engineer Corps and Army transports, or other vessels belonging to United States Army.
8. Seamen employed on the vessels of the Mississippi River Commission.
9. Beneficiaries of the Employees' Compensation Commission.
10. Patients of the Veterans' Administration.
11. Lepers.
12. Pay patients designated as such under the departmental authority, as officers and enlisted men of the United States Army and Navy, foreign seamen, etc.
13. Officers of the Public Health Service, and those employees of the Public Health Service on field duty.
14. Mental hygiene division beneficiaries.
15. Officers and employees of the Public Health Service at national quarantine stations, on board quarantine vessels, and at foreign ports.

Mr. WOODRUFF. Doctor, the activities of the Public Health Service have to do more with the preventing of communicable diseases, have they not?

General CUMMING. Preventing them and attempting to study their cause so that we may better prevent them and in stamping them out.

Mr. WOODRUFF. I understand; but it has to do with preventing communicable disease?

General CUMMING. Yes.

Mr. WOODRUFF. That is the primary objective of your whole service, is it not?

General CUMMING. That is right; yes. That is the fundamental purpose of the Public Health Service.

Mr. WOODRUFF. Anything having to do with crippled children would hardly come under your supervision unless the child is crippled as the result of some infectious disease?

General CUMMING. Oh, we do not confine ourselves to infectious disease. We, of course, naturally study all diseases.

Mr. WOODRUFF. I understand. When I say "infectious diseases" of course I mean communicable diseases as well.

General CUMMING. We study all diseases so far as we can.

Mr. WOODRUFF. So far as your activities in connection with crippled children are concerned you hardly could take on anything unless it had to do with those disabilities arising from infectious or communicable diseases. Is that correct?

General CUMMING. We have not done so in the past. Of course, any medical service could do that.

Mr. WOODRUFF. But I say, that is not a thing that properly comes before your department insofar as crippled children are concerned?

General CUMMING. It has not in the past. I do not know that I exactly understand you.

Mr. WOODRUFF. Children are crippled from various causes.

General CUMMING. Infantile paralysis is a communicable disease we have studied.

Mr. WOODRUFF. From traumas of various kinds and character.

General CUMMING. Yes; birth traumas accidents, and so on.

Mr. WOODRUFF. That divides them into two classes, at least. What I am trying to get at is whether or not the Public Health Service should invade that field covered by that department at the head of which is Miss Lenroot.

General CUMMING. We are not asking for it.

Mr. WOODRUFF. I understand. I am not trying to put you in a position where you are asking for that, Doctor. All I am trying to secure is some information as to the dividing line between these two activities.

General CUMMING. Yes; I understand.

Mr. WOODRUFF. You appreciate the fact that there is a place, and very properly so, for part of these disabilities of children who come before your department. In other words, your department very properly is greatly interested in the prevention of disease that brings about the crippling of children.

General CUMMING. Exactly; in preventing the child from becoming crippled.

Mr. WOODRUFF. Yes.

General CUMMING. After the child becomes crippled it is very largely, of course, a matter of welfare work. Of course, there are preventive and remedial things which may be done.

Mr. WOODRUFF. In other words, your activities in no way overlap the activities of that other department we spoke of a moment ago, headed by Miss Lenroot?

General CUMMING. I do not think so.

Mr. WOODRUFF. A few moments ago Mr. Knutson brought out in interrogating Dr. Waller the fact that your department was, as the doctor said, a laborstory. Will you tell the committee, Doctor, whether or not the average freighter plying the oceans of the world carries a doctor on board?

General CUMMING. It differs in different countries.

Mr. WOODRUFF. I am speaking now of the American Merchant Marine.

General CUMMING. Oh, the American Merchant Marine. No, they do not have to carry a medical officer unless they have in excess of, I think, 10 passengers. I am not accurate about that, but I think it is 10 passengers.

Mr. WOODRUFF. Any freighter in coming into an American port necessarily must stop at quarantine, must it not?

General CUMMING. From a foreign port; yes.

Mr. WOODRUFF. Is it not a fact that because the smaller boats do not carry a doctor they are just as liable to bring diseases into the country as are the larger boats that do have a doctor? Is it not a fact that by reason of the service that you have at hand available for the seamen on the ships or at quarantine, if any infectious or communicable disease is discovered aboard that ship, that man aboard that ship is immediately transported to your hospital?

General CUMMING. Transported to the marine hospital.

Mr. WOODRUFF. Transported to the marine hospital, where he can probably be given proper care, and where the public itself by reason of the experience and knowledge you have can be properly protected from that particular disease?

General CUMMING. Yes, sir. Not only that, sir, but one of the most dramatic things in connection with the marine hospital is the arrangement we have with the broadcasting stations by which they handle free requests from just such boats as you are describing, without a doctor. It happens every day that a radio message—we have arranged it internationally; it is more or less of a cipher business, describing the physical condition in accidents, and so on—is sent out and is transmitted by the radio people to the nearest marine hospital. We give advice by radio to these sailors, whether foreign seamen or American seamen. That is a very dramatic part of the service at present.

The CHAIRMAN. Doctor, it is not the purpose of any member of the committee, and I am sure it is not the purpose of the Chair, to voice any criticism of your work. Our purpose was to get information as to the scope of your Bureau and other bureaus to see if there is any duplication.

General CUMMING. Yes, I understand, Mr. Chairman.

Mr. KNUTSON. There is one activity that your Service is carrying on that is very important, and which has not been brought out in this hearing. That is your work with lepers down in Louisiana.

General CUMMING. Yes, sir.

Mr. KNUTSON. You have the only leper colony in the United States, have you not?

General CUMMING. Yes, sir. We took over from the several States, under authority from the Congress, the jurisdiction of lepers, and we have a large leper hospital in Louisiana.

Mr. KNUTSON. When did you take over jurisdiction of the leper colony in Louisiana?

General CUMMING. It was not the fault of Congress, but it was a good many years after you gave us the appropriation before we could find a State that was willing to let us build a leper hospital in it. Every State was anxious to have it in some other State. Finally we got the Louisiana people to turn over this place. It was, I should say, about 12 years ago.

Mr. WOODRUFF. It was longer ago than that, Doctor.

General CUMMING. I cannot remember exactly.

Mr. WOODRUFF. I know by reason of the fact that while I was the mayor of my home city more than 20 years ago, we discovered that we had a leper. After your leper colony was established in Louisiana, we sent that man down there and he was returned to us as cured. So I know something about the length of time you have had it.

General CUMMING. The present modern hospital was set up 12 years ago.

Mr. KNUTSON. How many patients do you have there now?

General CUMMING. About 400.

Mr. KNUTSON. Do you effect any cures?

General CUMMING. Oh, yes; a very interesting thing. In speaking of cures, I mean that in the same way one would speak of being cured of tuberculosis, arrested.

Mr. KNUTSON. Yes, arrested cases.

General CUMMING. Every time a man is discharged, they have a leper band of their own, and they escort him to the gate.

Mr. DINGELL. Doctor, I am intensely interested in just the method of cure. This is probably foreign to this hearing but this is an occasion for getting some information. Are you still using ethyl ester chaulmoogra down in the leper colony in Louisiana?

General CUMMING. Yes.

Mr. DINGELL. Or has the theory of its effectiveness been exploded? I understood when I was in the Far East that there was bitter disappointment because chaulmoogra had failed.

General CUMMING. We do not think it is a specific, but it is an aid.

Mr. DINGELL. It has not been discontinued?

General CUMMING. No. We use it as well as other things.

Mr. KNUTSON. What percentage of cases you have had down there have been arrested?

General CUMMING. I am afraid, Mr. Knutson, I could not tell you anything definite about it. The last I remember, about 89 cases were discharged as arrested.

Mr. KNUTSON. From the time the colony was established until today?

General CUMMING. I think that is so.

Mr. KNUTSON. Out of a grand total of how many?

General CUMMING. Oh, seven or eight hundred probably, have been treated. I would like to be a little more accurate and enter it in the record of the hearings.

Mr. LEWIS. Doctor, I have to go to a doctor's office now and then. In looking over his library while waiting, I notice medical books entitled, "Diseases of Children." There is a special field, pathological and therapeutic, is there not, in the practice of medicine, dealing with diseases of children?

General CUMMING. Oh, there are many fields; yes, sir.

Mr. LEWIS. There might be a children's function within the Public Health function?

General CUMMING. Oh, yes.

Mr. LEWIS. Intelligently enough?

General CUMMING. That has been recognized. One of the earliest things I was connected with years ago down here at the laboratory was studying the pasteurized milk versus unpasteurized milk with children. All of our laboratory work, insofar as antitoxins and

seria, and so on, is more intimately connected with diseases of children than adults. There is, as Mr. Lewis says, a distinct field of pediatrics, children's diseases, certainly.

Mr. LEWIS. I hear parents calling in, not the regular physician, but a babies' physician.

General CUMMING. That is true.

Mr. LEWIS. A specialist.

The CHAIRMAN. Doctor, we thank you for your appearance and the information you have given us.

General CUMMING. Thank you, Mr. Chairman, for your courtesy.

Mr. KNUTSON. Doctor, will you put into the record how much you spend each year at your leper colony?

General CUMMING. Yes, sir. If I had known I was going to be called on, I would have had this data. I will be glad to do this.

Mr. KNUTSON. You had no right to expect that we would call upon you for all this extraneous information.

(The statement above referred to is as follows:)

COST OF OPERATING LEPROSARIUM AT CARVILLE, LA.

Average maintenance cost, per patient, for fiscal year 1934, \$2.14 per day.

Relief days, fiscal year 1934, 130,109.

Total expenditure for maintenance, 1934, \$277,814.56.

Ration cost, fiscal year 1934, 52 cents.

APPENDIX A. DETAILED STATEMENTS REGARDING SECTIONS 802 AND 803 (A) AND (B) OF TITLE VIII

STATEMENT REGARDING SECTION 802 OF TITLE VIII

THE NEED FOR FEDERAL AID TO STATES, COUNTIES, AND CITIES

It should not be assumed that the Federal Government, in allotting \$8,000,000 a year to aid the States in the development and maintenance of adequate State and local health service, would be taking over in large part the maintenance of health service for the country as a whole. The financial burden of maintaining such service would still rest largely upon State and local government. In local communities where even reasonably adequate health service is now being maintained, the cost of such service is not less than \$1 per capita per year. Many of the leading authorities on public health in the United States today believe that \$2 per capita would come nearer to meeting the actual need for adequate health service. It will be readily seen, therefore, that the total cost of providing even reasonably adequate health service for every individual in the country will be, when such service is provided, not less than \$120,000,000 a year. While such a sum may seem surprisingly large in the aggregate, it is because we have not been accustomed to considering the cost of health protection for the Nation as a whole and have not given the functions of State and local health organizations the place of importance in governmental activity which they deserved. Reducing the total amount required to per capita cost per year, we find that the amount considered necessary for each individual is small in comparison with other per capita expenditures which must be made for food, shelter, clothing, medical care, education, and the like. Obviously, a contribution of \$8,000,000 a year from the Federal Government toward the cost of health service for the country as a whole will be but a small part of the total. It is likewise obvious that the responsibility for financing health work still will rest largely upon State and local authorities.

In spite of the amazing progress made within recent years in the development of better methods for the prevention of sickness and death, the ravages of diseases that could be controlled have continued to go on among our people in many sections of the country, for the reason that we have lagged behind lamentably in getting to a large proportion of our population, especially in the rural areas, the benefits of discoveries in disease prevention given to us by our research workers.

The first full-time county health unit in the United States was established as long ago as 1911. The soundness of the whole-time county or district health unit plan has been repeatedly demonstrated in many of the States. And yet, although twenty-three years have elapsed since the first full-time county health unit was

established in this country, there are only 550 counties with full-time health service in the United States today. Approximately 2,000 rural counties, containing more than 75 percent of our total rural population, are without any health service worthy of the name. There are two important causes for the existence of this situation:

1. Many counties are too poor to provide adequate health service without aid from some outside source.

2. It is difficult to convince local governing authorities of the need for appropriations for health work until the actual prevention of sickness and deaths through public-health activities can be conclusively demonstrated to them.

Little need be said with respect to the need for outside assistance to certain counties too poor to meet the entire cost of public-health service. In many of our States there are counties in which the taxable wealth or other source of revenue is so small that adequate local appropriations cannot be made for a health department without making the allotment for health out of all reasonable proportion to expenditures for other necessary functions of government. One of the purposes of the proposed \$8,000,000 appropriation is to aid State health departments in giving assistance to the counties in this group, to the end that the people in these communities may enjoy the benefits of health protection to which they are—certainly from a humane standpoint—entitled as citizens of this country.

With regard to the need for outside aid for demonstration purposes, it is well known to all national and State agencies who have endeavored to promote the expansion of full-time health service in the past that it is almost impossible to induce local boards of county commissioners to make the initial appropriation for the establishment of a new full-time county health unit unless financial aid can be offered from an outside source. The reason is not hard to understand; health work, to a large extent, does not deal with material things. It has for its objective the prevention of things that might happen in the future. The wisdom of expending public funds for school buildings and roads and for maintenance of our schools is apparent to anyone, because we see and use the buildings and roads and know that our children use the schools. Except to statisticians, who are trained to use death rates and other "measuring sticks" for demonstrating the effectiveness of health work, the anticipated results of such work are often not tangible. It is difficult therefore to persuade local appropriating bodies to provide funds to support an activity the result of which cannot be readily demonstrated in advance of the expenditure.

The situation in many of our smaller cities, and in some of the larger ones, is almost as bad as that existing in a large part of our rural area. There are numerous urban communities throughout the country in which such health activities as are being carried on today are under the direction of part-time physicians engaged in private practice or lay health officers, neither with training in modern public-health administrative practice. In some of these communities such health protection as has been afforded has been largely incidental to improvements instituted for economic and esthetic reasons, or to ready access of the population to good medical care, rather than a credit to activity of the health department. In many of our cities the chief health-department activity still consists largely in the inspection of private premises for nuisances having little bearing on public health and an attempt to control communicable diseases through quarantine procedure—admitted by leading health workers, in this day of scientific control methods, to be of little avail in reducing the incidence of communicable diseases. More specifically it may be pointed out that many of the milk supplies for urban communities are still far from being as safe as they should be, and that the unsightly, open-back, insanitary privy still exists in the outlying sections of most of our small cities, with the result that typhoid fever is rapidly becoming more prevalent in towns and small cities than in the rural areas.

Nor is the need for Federal aid confined to rural and urban health organizations. Not more than half of the State health departments are adequately staffed or satisfactorily equipped to render the service which they alone can give regardless of the extent to which local facilities may be developed. Specific reference is made to divisions of vital statistics, laboratories, and sanitary engineering service for the supervision of local water supplies, sewage disposal, and other environmental sanitation activities. At least a third of the States are not now able to promote the establishment of full-time local health departments or to give proper supervision to local health work, because of the lack of properly trained scientific personnel, capable of performing such duty, on the State health department staff.

Before any worth-while progress can be made in the extension of full-time local health service, there must be created in each State a reserve of trained health

officers, public-health nurses, sanitary engineers, and inspectors to fill the positions which will be established in the new units.

In spite of the curtailment of appropriations for health work in recent years there is at present a shortage of individuals trained for health work. The public-health field has not heretofore attracted a surplus of trained workers for the reason that the slow development made opportunity for employment too uncertain.

Should the Federal, State, and local governments join in a movement for rapidly extending full-time local health service throughout the country, the first step must be the training of a large number of workers. It would be useless and wasteful to attempt further expansion without first creating a reservoir of trained workers. It is believed that the Federal Government should do its part toward the training of this personnel, and since the types of young physicians and nurses usually selected for health work are not usually able to provide support for themselves during the training period, it is considered proper that they should, while training, receive a small stipend sufficient to meet their living expenses. The Rockefeller Foundation, which has for some years contributed annually to the training of selected groups of young physicians for health work, has made a practice of allowing a living stipend to trainees.

Need for permanent appropriation for Federal aid.—One of the chief obstacles to extension of county health work in the United States has been the uncertainty of Federal aid in the past. The comparatively small amounts available to the Public Health Service up to this time in its regular appropriations for rural health work have served only to assist with demonstrations in a limited number of counties. Even when larger amounts have been made available to meet emergencies such as existed following the Mississippi flood and the drought of 1930, little permanent good resulted because many of the health organizations created through the use of these funds collapsed when the emergency appropriations were exhausted. The State health officers hesitate to attempt the extension of services dependent upon Federal aid when they cannot be assured that such aid will not be withdrawn at any time. To go forward with expansion of full-time health service on a broad scale, there must be some assurance, such as this measure will give, of continuity of program. Only when this assurance is given will it be possible for the State health authorities to plan a sound program for further development and to obtain funds from their own legislatures for the extension of local health work.

Preventable illness and mortality in the United States.—While it is true that the general death rate and the rates for tuberculosis and infant mortality for the country as a whole declined to the lowest figures on record in 1933, we should not be misled by this fact into the belief that further safeguards of the Nation's health are unnecessary. These death rates do not tell the whole truth. As Dr. Edgar Sydenstricker,¹ one of the leading public-health statisticians in the United States, recently said: "The plain fact must be faced that notwithstanding great advances in medicine and public health protection, the American people are not so healthy as they have a right to be. Millions of them are suffering from diseases and thousands annually die from causes that are preventable through the use of existing scientific knowledge and the application of common social sense. Ample evidence exists to support this sweeping statement".

Approximately 120,000 infants under 1 year of age died in 1933. Although our infant death rate has been reduced by half during the past 25 years, many of the leading sanitarians in this country believe that mortality in the infant-age group can again be reduced by 50 percent. It is also confidently believed by some of the leading authorities on tuberculosis that the 74,000 deaths which occurred from this disease in 1933 could again be cut in half; and there is good reason to assume that, with proper health protection for prospective mothers, at least two-thirds of the 13,000 mothers who die each year in childbirth could be saved.

Examination of the following table, compiled from mortality figures of the United States Bureau of the Census, shows that, in spite of the low general death rate, a total of 246,272 deaths occurred in the United States, in 1933, from causes that may be classed as preventable.

¹ Health in the New Deal, Edgar Sydenstricker, The Annals of the American Academy of Political and Social Science, November 1934.

Number of deaths in the United States, preventable diseases, 1933

Typhoid fever.....	4, 389
Paratyphoid fever.....	84
Typhus fever.....	81
Undulant fever.....	72
Smallpox.....	39
Measles.....	2, 813
Scarlet fever.....	2, 546
Whooping cough.....	4, 463
Diphtheria.....	4, 936
Influenza.....	33, 193
Dysentery.....	2, 814
Erysipelas.....	2, 017
Acute poliomyelitis, acute polioencephalitis.....	797
Epidemic encephalitis.....	1, 357
Epidemic cerebrospinal meningitis.....	1, 482
Anthrax.....	11
Rabies.....	65
Tetanus.....	1, 253
Tuberculosis of the respiratory system.....	67, 417
Other forms of tuberculosis.....	7, 419
Leprosy.....	27
Syphilis.....	11, 039
Gonococcus infection and other venereal diseases.....	998
Purulent infection, septicemia (nonpuerperal).....	931
Malaria.....	4, 678
Other diseases due to protozoal parasites.....	61
Ancylostomiasis.....	20
Scurvy.....	28
Beriberi.....	1
Pellagra.....	3, 955
Ricketts.....	339
Pneumonia, all forms.....	86, 947
Total.....	246, 272

Typhoid fever and diphtheria, both now regarded as diseases easily prevented when known control measures can be applied, each took toll of more than 4,000 lives. Measles and whooping cough, often regarded by the uninformed as simple and relatively harmless diseases of childhood, killed respectively 2,800 and 4,400 in 1933.

So far as the public was concerned, these appalling unnecessary losses of life went unnoticed, because of the lack of spectacular circumstances attending their occurrence; yet, had similar losses occurred in a series of single disasters, such as an earthquake or the sinking of an ocean liner, the Nation would have been shocked and our newspapers would have carried front page headlines for days.

Nor do deaths alone tell the whole story. It is estimated that for each death from typhoid fever there are 10 cases; for each death from diphtheria, 12 cases. Although accurate figures are not available with respect to cases of preventable diseases for the country as a whole, for the reason that reporting of cases is not complete where satisfactory health organizations do not exist, it is believed that a conservative estimate will place the number of cases of typhoid fever at 43,000, and of diphtheria at 58,800, in the United States in 1933.

A recent survey by the Public Health Service showed by actual blood test of only 200,000 people in 11 Southern States a total of 14,000 known cases of malaria. This survey was made during the winter when malaria is least active, and included only school children. It is estimated that in the whole population in the malarious section of the South, there are, every year, at the height of the malaria season, probably 6,750,000 cases of malaria.

Coming to the venereal diseases, we find that 750,000 cases of syphilis seek treatment annually in the United States. Unfortunately, however, largely on account of ignorance of the nature of the disease or of the high cost of treatment and the lack of facilities for treatment at a cost that can be borne by the patient, more than half of these cases do not obtain treatment during the first 2 years of their infection. This 2-year period is the interval of greatest communicability and is of vast importance in the control of syphilis. Adequate treatment during

this time will not only prevent the spread of this disease but also make possible the cure of the individual. For this reason it is of the utmost importance that adequate treatment facilities be made available for all indigent and borderline economic cases in both rural and urban districts of the United States.

The same factors in connection with the control of gonorrhoea exist as in the case of syphilis control. About 679,000 new cases of gonorrhoea annually seek treatment in this country. This number does not give a true picture of the actual number of gonorrhoeal infections usually because many more patients with gonorrhoea than with syphilis do not seek treatment. While the late and crippling manifestations of the gonorrhoeal process are not as marked as in the case of syphilis the vast prevalence of gonorrhoea makes the disease one of primary importance.

Economic loss from preventable illness.—As has been pointed out, nearly 250,000 of the 1,342,073 deaths that occurred in 1933 were from preventable causes. These deaths alone represented a money loss in human-life value conservatively estimated at \$738,716,000. This does not take into account the enormous amount of preventable disabling illness that did not show in the mortality figures. More than 43,000 cases of typhoid fever alone caused an estimated loss of \$8,600,000 for medical care. Nearly 60,000 cases of diphtheria caused a loss of \$2,961,000. These two diseases are now regarded as almost entirely preventable if known methods of prevention could be universally applied.

The figures presented above do not take into account the enormous annual loss in man power and wages and the cost of drugs for self-medication caused by preventable disabling illness.

There recently was brought to the attention of the medical director of the Federal Emergency Relief Administration an instance in which \$784 was paid by a local relief administrator for medical and nursing care for two severe cases of typhoid fever in two relief beneficiaries who could not be placed in a hospital. Considering the severity of the cases, the amount paid for this service was not considered unreasonable. And yet the expense to the Government for this medical care might have been avoided through immunization of these two individuals at a cost of not to exceed \$2 each, including overhead, if health service had been available to them.

RESULTS OF HEALTH WORK IN THE PAST

There can be no doubt that the knowledge of scientific preventive methods in our possession today, if universally applied, would enable us to go far toward eliminating much of the unnecessary economic loss now chargeable to preventable diseases in this country. That intensive application of known scientific measures for communicable disease control can completely eradicate certain diseases has been demonstrated repeatedly. The complete banishment of yellow fever from the United States, Cuba, and Panama afforded an excellent example. Bubonic plague was completely stamped out in San Francisco some years ago through the intensive application of rat control. Many other examples could be cited.

Even in face of the lack of adequate health service in much of our rural area and in many of our cities remarkable progress has been made in the reduction of deaths from communicable diseases in the United States during the past half century. Fifty years ago infectious diseases prevailed to such an extent and were accompanied by such a high case fatality rate that fifteen-sixteenths of all deaths were chargeable to this group. Today, as a result of only a partial application of known scientific methods, deaths from communicable diseases have dropped to less than 50 percent of the total.

As has already been pointed out, the infant mortality rate in this country has been cut in half during the past 25 years, and leading authorities on public health confidently believe that it could be reduced by another 50 percent. The intensive treatment of syphilis cases in England has brought about a remarkable reduction in the prevalence of this disease in recent years in that country.

Numerous instances could be cited where intensive health work carried on by county health organizations has reduced sickness and mortality rates. A few examples will serve to illustrate what can be done when adequate health service is provided:

In Williamson County, Tenn., the health department conclusively demonstrated between 1927 and 1932 that maternal deaths could be greatly reduced in number when prenatal cases came under supervision of the department. With only 10.8 percent of mothers under supervision in 1927, the maternal mortality rate (deaths per 1,000 births) was 7.4, whereas in 1932, with 74.1 percent of mothers under supervision, the rate was 2.2 per 1,000 births.

In Sunflower County, Miss., through the operation of prenatal clinics for expectant mothers by the health department, the white maternal death rate was reduced from 7.4 to 0, and the colored from 16.9 to 8.4, between 1928 and 1931.

In the spring of 1911 an officer of the Public Health Service was detailed, at the request of the local government authorities and the State health department, to make a study of typhoid fever in the city of North Yakima, and the county of Yakima, in the State of Washington. The chamber of commerce of the city and county promised in advance to give active support to the measure which would be recommended for the control of the disease. The studies were made in cooperation with representatives of the State health department and the local part-time health agencies. The high rate of prevalence of typhoid fever with an annual death rate of about 200 per 100,000 population (over 5 times that for the United States as a whole) in Yakima city and county during the several previous years was obviously due to local insanitary conditions, the operation of which was augmented by climatic, irrigation, and soil factors.

A campaign of county-wide sanitation was inaugurated and carried out along lines in some respects comparable to those of a political campaign. The citizens generally became enthusiastically interested and in remarkable proportion applied at their homes the sanitary measures recommended. The home improvements, along with the mass sanitary measures carried out in North Yakima and in the towns and villages in the course of a few weeks, effected, in Yakima County as a whole, a radical change. As the sanitary improvements proceeded, the typhoid fever incidence in the county, instead of rapidly increasing as usual in the early summer, markedly diminished. With a view to having the sanitary program continued, an effort was made, through organization of the aroused public sentiment for sanitation, to bring about the establishment of a permanent health-service unit for the county and city. By formal action of the county commissioners and the city council a full-time county health department for Yakima County was established and began operating as such on July 1, 1911. At the head of the unit was a physician trained in sanitary science, engaged under contract to serve in his official capacity on a whole-time basis. His assistants consisted of health nurses, sanitary inspectors, a bacteriologist, and an office clerk, each of whom also was engaged to serve on a whole-time basis. The whole-time health unit in Yakima County has continued in operation without interruption since its original establishment.

The Yakima County health department force continued the program of sanitation begun in the early summer of 1911 and performed other activities making for a well-rounded comprehensive program of county-city health work. In North Yakima, with a population of 14,082 in 1910 and of about 18,700 in 1914, the number of deaths from typhoid fever reported in the period of 7 years, including the year of the campaign (1911), was as follows:

In 1908, 25; in 1909, 20; in 1910, 30; in 1911, 6; in 1912, 4; in 1913, 3; in 1914, 2. Of the deaths in 1911, 1912, 1913, and 1914, 2, 4, 3, and 2, respectively, were of persons who had contracted the disease elsewhere and who were brought to the city for treatment. Thus in the period of 3 years following the sanitary campaign and the establishment of the county health department not a death from typhoid fever of local origin was reported in that city. In the county, outside North Yakima, deaths from typhoid fever were reported as follows: In 1910, 25; in 1911, 11; in 1912, 3; in 1913, none. Besides the notable reduction in typhoid fever, there was a considerable reduction in the death rates from other preventable diseases. In the country as a whole the annual number of deaths from all causes averaged for the 3 years 1912-14 over 100 less than the number in 1910.

USE OF THE PROPOSED FUND FOR AID TO STATES

It is proposed that the \$8,000,000 to be appropriated annually for aid to States would be used in the following manner:

1. To strengthen service divisions of State health departments.
2. To assist in providing adequate facilities in State health departments especially for the promotion and supervision of full-time city, county, and district health organizations.
3. To give, through the State health departments, direct aid towards the development and maintenance of adequate city, county, and district health organizations.
4. To assist in developing trained personnel for positions to be established in the extension of city, county, and district health organizations.

5. To provide, through the State health departments, aid in the purchase of biological products and other drugs needed for individual immunization and other preventive activities among the poor.

While it is considered unlikely that all of that part of the amount allocated to aid of local health organizations which would be used for the development and maintenance of full-time county or district health units could be utilized satisfactorily in the organization of such units during the first year, it is proposed that the funds available for this purpose could be used to great advantage temporarily to aid the most needy of the 2,000 counties now without any health service whatever in providing at least a public-health nursing service until adequate full-time health service under full-time specially trained medical health officers can be established.

With respect to the basis for distribution of the \$8,000,000 fund among the several States, the bill provides that the allotments should be made according to the demonstrated need in each State. In determining such need, it is proposed that consideration be given to size of population, but with due regard to other factors involved.

It is proposed that funds would be allotted to the States on the basis of budgets showing contributions from State and local sources for each project for each year, and that the maintenance of certain generally accepted standards of personnel qualifications and service would be required. There is appended a sample of the report form used by State health departments and the Public Health Service in determining the efficiency with which the work is being carried out in each project.

The attached diagram, chart, and poster show the organization and functions of a county or district health unit.

REGULATIONS GOVERNING THE PARTICIPATION OF THE PUBLIC HEALTH SERVICE IN THE ESTABLISHMENT, DEVELOPMENT, OR MAINTENANCE OF LOCAL HEALTH SERVICE IN RURAL AREAS, IN THE FISCAL YEAR 1935

1. Through the State health departments the Public Health Service will give financial aid:

(a) In the maintenance of existing full-time county or district health units, when State and/or local funds available are insufficient to provide for adequate health service.

(b) In the establishment of new full-time county or district health units, when State and local funds available are insufficient to meet the entire cost of adequate health service.

(c) In the establishment of facilities in the State health department for adequate promotion and supervision of county and district health service, where such facilities do not now exist and where State funds are not available to meet the entire cost of such facilities.

2. The Public Health Service will not contribute to any project in which less than 50 percent of the total cost is borne by State or local authorities.

3. Where State or local authorities can meet more than 50 percent of the total cost of a project they will be expected to do so.

4. The Public Health Service will not contribute to any local project in which less than 25 percent of the total cost is borne by the local authorities.

5. Grants in aid to existing State or local projects will be supplemental to funds now being expended and in no case will serve to replace existing State or local allotments to such projects for the purpose of relieving State or local authorities from expenditures now being made.

6. Contributions will be made by the Public Health Service toward the establishment or maintenance of county or district health service only under the following conditions:

(a) The county or district unit shall be under the direction of a whole-time medical health officer, whose training shall meet the requirements recommended by the Joint Committee on Qualifications of County Health Officers and adopted by the conference of State and Territorial health officers.

(b) The personnel of county health units shall consist of not less than a whole-time medical-health officer, one public-health nurse, and a clerk.

(c) The personnel of district health units shall consist of not less than a whole-time medical-health officer for the district and 1 public-health nurse and 1 clerk for each component county or other governmental unit.

(d) Public-health nurses shall have had special training in public-health work at a recognized public-health nursing school, or not less than 5 years of successful experience in health work in the field under the supervision of a competent health agency; provided, that where nurses with previous training or experience cannot be secured, other competent nurses may be employed on condition that they will be given field training in an existing health unit or other suitable place for instruction.

(e) Sanitary inspectors without previously demonstrated successful experience shall be given field training in an existing health unit or other suitable place for instruction.

7. The State health officers will submit to the Public Health Service a statement of the situation in each county or district recommended for assistance and will attach a proposed budget showing the distribution of funds from all sources and indicating the items required from the Public Health Service for the period ending June 30, 1935. (Budget forms will be supplied by the Public Health Service and instructions will be issued as to details of preparation.) The Surgeon General shall review such budgets and shall have discretion in the approval or disapproval of any project submitted for consideration.

8. The contributions of the Public Health Service will be made only to salary items on the budgets.

9. Quarterly reports will be required from State health officers to the Public Health Service for each project, on the form provided for this purpose, showing the activities carried on by the unit and presenting a statement of expenditures incurred by the several participating agencies for the quarter.

H. S. CUMMING,
Surgeon General.

Approved:

HENRY MORGENTHAU, Jr.
Secretary of the Treasury.

RECOMMENDATIONS OF COMMITTEE ON QUALIFICATIONS OF LOCAL HEALTH OFFICERS

With regard to the qualifications for health officers in charge of counties, districts or other communities having a population of less than 50,000 the committee submits the following recommendations:

(1) That the health officer shall have a degree of doctor of medicine from a reputable medical school and be eligible to take the examination for a license to practice in the State where he is to serve. It is not, however, recommended that the health officer shall actually be licensed, except of course where licensure is required by statute as is the case in certain States.

It is regarded as highly desirable that any candidate for appointment shall have had at least 1 year of clinical experience, including 3 months in pediatrics and 3 months in infectious diseases, gained preferably in a hospital of acceptable standards.

(2) The candidates for appointment be not more than 35 years of age when first specializing in public-health work.

(3) That wherever practicable the candidate be required to have had special training in the theory and practice of public health work as follows: (a) Not less than 1 year in residence at a recognized university school of public health and (b) not less than 6 weeks of field experience under proper supervision in a local health organization.

(4) That pending the development of a reserve of personnel with qualifications specified in item 3, appointing officers at their discretion may accept—

(a) Carefully selected personnel which either shall have already had or shall agree to take from 3 to 6 months training in a local health organization in a position to supervise a course of field training, and

(b) Personnel who have taken in a university a graduate course of instruction in public health of not less than 3 months duration, 6 weeks of which shall be spent in a well organized local health department that is in a position to give adequate supervision to training.

(5) That all persons holding the position of health officer, in such areas as are here under consideration, at the time these standards are adopted by a State, be required to meet the standards specified in item 4 (b).

PART I.—General report—Continued

	Item no.	Number during month	Number previously reported	Total to date
II. COMMUNICABLE DISEASE CONTROL—continued				
1. Cases reported—Continued.				
<i>p.</i> Streptococcal sore throat.....	29			
<i>q.</i> Syphilis.....	30			
<i>r.</i> Tuberculosis.....	31			
<i>s.</i> Tularemia.....	32			
<i>t.</i> Typhoid fever.....	33			
<i>u.</i> Typhus.....	34			
<i>v.</i> Undulant fever.....	35			
<i>w.</i> Whooping cough.....	36			
2. Cases placed under effective control measures.....	37			
3. Visits by physician for investigation or control.....	38			
4. Visits by nurse for investigation or control.....	39			
5. Secondary cases (in contacts).....	40			
6. Carriers (to be managed as cases).....	41			
7. Cases hospitalized.....	42			
8. Tuberculosis:				
<i>a.</i> New cases under supervision.....	43			
<i>b.</i> New suspects under supervision.....	44			
<i>c.</i> New contacts under supervision.....	45			
<i>d.</i> Cases discharged from supervision.....	46			
<i>e.</i> Number clinics held.....	47			
<i>f.</i> Number examinations (medical).....	48			
<i>g.</i> Number diagnosed tuberculous.....	49			
<i>h.</i> Number persons X-rayed for tuberculosis.....	50			
<i>i.</i> Number visits to clinics (patients).....	51			
<i>j.</i> Children tuberculin tested.....	52			
<i>k.</i> Number children positive reactors.....	53			
<i>l.</i> Cases hospitalized (total).....	54			
<i>m.</i> Cases receiving home care.....	55			
9. Immunity service:				
<i>a.</i> Persons vaccinated against smallpox.....	56			
<i>b.</i> Persons vaccinated against diphtheria (complete).....	57			
<i>c.</i> Persons vaccinated against typhoid (complete).....	58			
<i>d.</i> Persons vaccinated against rabies (complete).....	59			
<i>e.</i> Persons given Schick test.....	60			
<i>f.</i> Persons given Dick test.....	61			
III. CHILD HYGIENE				
1. Prenatal:				
<i>a.</i> New registrations.....	62			
<i>b.</i> Consultations.....	63			
<i>c.</i> Number supplied with full course of prenatal literature.....	64			
<i>d.</i> Number given instruction in group conference.....	65			
<i>e.</i> Home visits by nurse (ante or post partum).....	66			
<i>f.</i> Examinations by physicians:				
(1) Family physician.....	67			
(2) Health unit physician.....	68			
2. Midwife control:				
<i>a.</i> Number under instruction (standard course).....	69			
<i>b.</i> Number completing standard course.....	70			
<i>c.</i> Number prohibited from practice.....	71			
<i>d.</i> Supervisory conferences.....	72			
3. Infant and preschool children:				
<i>a.</i> New registrations.....	73			
<i>b.</i> Children examined by physician.....	74			
<i>c.</i> Consultations with parents.....	75			
<i>d.</i> Persons instructed in group conferences.....	76			
<i>e.</i> Home visits by nurse.....	77			
4. School children:				
<i>a.</i> Number children surveyed.....	78			
<i>b.</i> Number children inspected.....	79			
<i>c.</i> Number children examined.....	80			
<i>d.</i> Persons instructed in group conferences.....	81			
<i>e.</i> Number children with parents present at examination.....	82			
<i>f.</i> Consultations with parents.....	83			
<i>g.</i> Number schools visited.....	84			
<i>h.</i> Number of visits to schools.....	85			
<i>i.</i> Home visits by nurse.....	86			

PART I.—General report—Continued

	Item no.	Number during month	Number previously reported	Total to date	
III. CHILD HYGIENE—continued					
4. School children—Continued.					
j. Children excluded from school in interest of communicable disease control.....	87				
k. Number children awarded health project certificates.....	88				
5. Defects (preschool and school children):					
		Found	Corrected	Found	Corrected
a. Major:					
(1) Tonsil and adenoid (xx and over).....	89				
(2) Dental (permanent teeth).....	90				
a. Caries.....	91				
b. Sordes.....	92				
c. Infectious.....	93				
(3) Defective vision (requiring correction).....	94				
(4) Defective hearing.....	95				
(5) Malaria (all forms including carriers).....	96				
(6) Hookworm.....	97				
(7) Tuberculosis.....	98				
(8) Mental defectives.....	99				
(9) Nutritional defects (goiter, pellagra, rickets, obesity, undernourishment, etc.).....	100				
(10) Cardiac.....	101				
(11) Other.....	102				
(12) Major defects.....	103				
(13) Number children defective.....	104				
b. Minor:					
(1) Dental (deciduous teeth).....	105				
a. Caries.....	106				
b. Sordes.....	107				
c. Infectious.....	108				
(2) Tonsil and adenoid (x).....	109				
(3) Skin disease (parasitic and infectious).....	110				
(4) Vermin.....	111				
(5) Under or overweight (10 percent without organic disease).....	112				
(6) Other.....	113				
c. Minor defects.....	114				
d. Number children defective.....	115				
IV. SANITATION					
1. Persons instructed in group conferences.....	116				
2. Complaints investigated.....	117				
3. Nuisances corrected.....	118				
4. Inspection service:					
a. Water supplies.....	119				
b. Excreta disposal.....	120				
c. Camp sites.....	121				
d. Common carriers.....	122				
e. Mosquito breeding places.....	123				
f. Others (list).....	124				
	125				
	126				
	127				
5. a. Dairies, total (noncumulative).....	128				
(1) Grade A.....	129				
(2) Grade B.....	130				
(3) Grade C.....	131				
(4) Grade D.....	132				
b. Percent market milk pasteurized.....	133				
c. Total dairy inspections.....	134				
d. Cows tuberculin tested.....	135				
(1) Percent dairy cows tuberculin tested.....	136				
(2) Number positive reactors.....	137				
(3) Number tuberculin reactors destroyed.....	138				
5. Excreta disposal:					
a. Approved pit privies installed (in accordance with U. S. Public Health Service standard).....	139				
b. Other type approved units installed (includes septic tanks).....	140				
c. Approved type of privies restored to sanitary conditions.....	141				
d. New sewer connections.....	142				
e. Homes made accessible to sewer by new system or extension.....	143				
f. Improvement to existing sewer plant (sanitarian hours or equivalent).....	144				

PART I.—General report—Continued

	Item no.	Number during month	Number previously reported	Total to date
IV. SANITATION—continued				
7. Water supplies:				
a. Private wells or springs protected against pollution.....	145			
b. New connections to approved public water supply.....	146			
c. Maintenance service to public water supply (sanitarian hours or equivalent).....	147			
d. Homes made accessible to water supply by new system or extension.....	148			
8. Mosquito control:				
a. Homes mosquito proofed.....	149			
b. Anopheline breeding places eliminated (each unit of 100 square feet or less to be considered a separate breeding place).....	150			
c. Anopheline breeding places controlled (same unit as above).....	151			
d. Artificial containers destroyed (estimated).....	152			
9. School sanitation (noncumulative):				
a. Number white schools in jurisdiction.....	153			
b. Number colored schools in jurisdiction.....	154			
c. Number white schools with approved excreta disposal.....	155			
d. Number colored schools with approved excreta disposal.....	156			
e. Number white schools with approved water supply.....	157			
f. Number colored schools with approved water supply.....	158			
g. Number white schools with approved lavatory facilities.....	159			
h. Number colored schools with approved lavatory facilities.....	160			

Short narrative report of any special activities this month:

PART II.—Supplemental report

[To include also any items not listed in the general report]

	Item no.	Number during month		Number previously reported		Total to date	
		Positive	Negative	Positive	Negative	Positive	Negative
1. Laboratory examinations:							
a. Blood for agglutination:							
(1) Typhoid fever.....	161						
(2) Undulant fever.....	162						
(3) Typhus fever.....	163						
(4) Tularemia.....	164						
b. Blood for culture: Typhoid.....	165						
c. Blood for malaria.....	166						
d. Blood for syphilis.....	167						
e. Throat cultures for diphtheria.....	168						
f. Smears for gonococci.....	169						
g. Sputum for B. tuberculosis.....	170						
h. Stool and urine cultures for E. typhi.....	171						
i. Feces for parasites.....	172						
j. Water for E. coli.....	173						
k. Milk products for bacteria content.....	174						
	175						
	176						
	177						
	178						
Total.....	179						
2. Special examinations:							
a. For life extension.....	180						
b. For marriage license.....	181						
c. For lunacy.....	182						
d. Prisoners, etc.....	183						
3. Prosecutions:							
a. Cases filed.....	184						
b. Cases tried.....	185						
c. Convictions.....	186						
4. Physical examination for venereal disease.....	187						
5. Prophylactic treatments:							
a. Syphilis.....	188						
b. Gonorrhoea.....	189						
c. Pellagra.....	190						
d. Goiter.....	191						

PART II.—*Supplemental report*—Continued

	Item no.	Number during month		Number previously reported		Total to date	
		Positive	Negative	Positive	Negative	Positive	Negative
6. Curative treatments:							
a. Hookworm.....	192						
b. Malaria.....	193						
c. Other.....	194						
7. Food sanitation:							
a. Statistical (noncumulative):							
(1) Number food handlers.....	195						
(2) Number food-handling places.....	196						
(3) Percentage of food-handling places complying with local ordinance.....	197						
b. Number health certificates issued.....	198						
c. Number health certificates denied or revoked.....	199						
d. Number health certificates expired.....	200						
e. Number food-handling places inspected.....	201						
f. Number persons examined for health certificates.....	202						

PART III.—*Descriptive data*

	Item no.						
1. Area covered.....	203						
2. Population (estimated for current year).....	204						
a. White.....	205						
b. Colored.....	206						
c. Other.....	207						
3. Physicians in jurisdiction.....	208						
4. Number physicians reporting communicable diseases during period.....	209						
5. Midwives in jurisdiction.....	210						
6. Crude death rate for each of 5 preceding years.....	211						
		19..	19..	19..	19..	19..	Average
. Death rate for preceding 5 years for:							
a. Diphtheria.....	212						
b. Typhoid.....	213						
c. Infants under 1 year.....	214						
d. Children under 5 years.....	215						
e. Tuberculosis.....	216						
		Number during month		Number previously reported		Total to date	
8. Births during period.....	217						
9. Deaths during period.....	218						
		Within 5 miles	Out-side 5 miles	Within 5 miles	Out-side 5 miles	Within 5 miles	Out-side 5 miles
10. Miles traveled on official duty by—							
a. Doctor.....	219						
b. Nurse.....	220						
c. Sanitarian.....	221						
d. Other.....	222						
11. Money spent during period.....	223						
12. Service values secured.....	224						
13. Production ratio (noncumulative).....	225						

THE ORGANIZATION AND FUNCTIONS OF A COUNTY HEALTH UNIT

STATE HEALTH DEPARTMENT:

Division of county health work (general supervision and technical advisory service).

COUNTY HEALTH DEPARTMENT:

County board of health (determination of policies and promulgation of regulations).

County health officer (direction of executive staff).

Public-health nurses.

Sanitary inspectors.

Milk and food inspector.

Laboratory technician.

Clerk.

ACTIVITIES

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Educational: <ol style="list-style-type: none"> a. Health lectures. b. Bulletins distributed. c. Newspaper articles. d. Letters. e. Health exhibits. 2. Sanitary inspection: <ol style="list-style-type: none"> a. Private premises. b. Schools, stores, camps, etc. 3. Special inspections: <ol style="list-style-type: none"> a. Dairies. b. Other food handling places. 4. Examinations: <ol style="list-style-type: none"> a. Life-extension advice. b. Diagnostic clinics for mothers and infants. c. Food handlers. d. Diagnostic chest clinics for tuberculosis. 5. Communicable disease control: <ol style="list-style-type: none"> a. Visits to cases. b. Advice to mothers on preventive measures. c. Isolation of cases and quarantine of contacts. 6. Immunizations: <ol style="list-style-type: none"> a. Antityphoid vaccinations. b. Smallpox vaccinations. c. Diphtheria prevention (toxin-antitoxin and toxoid). d. Schick tests. 7. Child hygiene: <ol style="list-style-type: none"> a. Prenatal: <ol style="list-style-type: none"> 1. Cases visited and advised. 2. Office conferences. 3. Group conferences. 4. Midwives instructed. b. Infant and preschool: <ol style="list-style-type: none"> 1. Babies and children examined. | <ol style="list-style-type: none"> 7. Child hygiene—Continued. <ol style="list-style-type: none"> b. Infant and preschool—Contd. <ol style="list-style-type: none"> 2. Advisory office consultation, mothers. 3. Group conferences, mothers. 4. Home visits. c. School: <ol style="list-style-type: none"> 1. Children examined. 2. Home visits. 3. Defects corrected. 4. Health instruction to teachers. 5. Nutritional classes. 8. Malaria control (in areas where applicable): <ol style="list-style-type: none"> a. Elimination of breeding places of mosquitoes. b. Advice on screening. 9. Excreta disposal: <ol style="list-style-type: none"> a. Extension of sewer systems recommended. b. Construction of sanitary outside toilets. 10. Water supplies: <ol style="list-style-type: none"> a. Advice to rural residents on protection of water supplies. b. Protection of roadside supplies. 11. Laboratory examinations: <ol style="list-style-type: none"> a. Examinations for physicians, communicable diseases. b. Examinations for release of cases and contacts. c. Milk and water samples. 12. Records: <ol style="list-style-type: none"> a. Vital statistics. b. Records of activities. 13. Cooperation with other local official and voluntary organizations. |
|--|---|

Counties in the United States provided with local health service under the direction of a whole-time health officer: 615 counties had whole-time health service on January 1, 1932. There are approximately 2,000 rural or partly rural counties yet to be provided with adequate local health service.

(This chart is on file with the committee.)

STATEMENT REGARDING SECS. 803 (A) AND (B) OF TITLE VIII

Section 803 (a) which makes \$2,000,000 annually available to the Public Health Service has three main factors involved:

(1) The employment of personnel necessary to maintain supervision and guidance over the expenditure of funds annually allotted to the States in section 802, and in such manner to render assistance to them in the continuous and steady development of State and local health services.

(2) The employment of professional, technical, and other personnel necessary to conduct the investigational work of the Public Health Service.

(3) The extension and broadening of the investigative work of the Service in relation to investigations of disease, sanitation, and matters related thereto.

In connection with the administration of the funds provided for aid to States and research activities to be carried on by the Public Health Service it will be necessary to have additional medical and sanitary engineer officers. The number of officers already in the Public Health Service who have the required training in public-health work and research methods will be entirely inadequate to meet the immediate demand for personnel of this type. The Public Health Service therefore must plan to secure from outside sources the highly specialized, thoroughly trained medical and engineer officers of ability that will be needed. It will be impossible to attract this type of personnel to the Service unless they can be offered either larger salaries than they are now receiving or other inducements. The advantages of a career in the Public Health Service in a commissioned status, will, it is believed, attract, at much lower entrance salaries, many individuals who otherwise would not be interested. This would enable the Public Health Service at once to secure the desired personnel at much less cost to the Government—probably as much as one-third less. Officers commissioned in the Service now would not for several years receive salaries equaling those now being paid to individuals of comparable ability in many State and local health departments. The technical and clerical personnel added to the Service under the authority of this section would be from the civil service eligible lists.

The major portion of the investigative work arises from three general sources:

(1) From problems which are interstate in character and which are brought to the Service by State health officials, through the cooperative work of the Service with the States.

(2) From problems which arise within the Service as a result of the responsibilities placed upon it by law, as for example, the development of biologic standards in connection with the control of biologics.

(3) From problems which the trends of public health indicate will be of national or international importance in both the fields of environmental sanitation and the control of disease.

It is evident, therefore, that to a large extent this investigative work of the Public Health Service is noncompetitive with the research work of universities or States.

It should be clearly understood that the additional funds which are appropriated under this section do not mean so much the development of new fields of investigational work in the Public Health Service as they do to allow a more immediate and broader study in the fields of work which the Service is at present carrying on and where problems of the greatest national importance have had to be refused or delayed because of the lack of necessary funds.

It would seem a corollary that the full benefits of the funds allotted to the several States for the promotion of public health cannot be achieved if the public-health problems with which these States and local subdivisions have to deal are not studied coincidentally and the information given to the health authorities of the States.

The public-health problems which are in need of immediate investigation fall in every field of the public-health work of the service but they may be illustrated by presenting a few of the more important.

The Public Health Service has been engaged in the study of stream pollution and sewage disposal for the past 20 years. Practically the whole urban population of the great middle western and southern parts of the United States are dependent upon the rivers of this country for their drinking water supply, and in addition they have used these rivers for the disposal of their sewage. This increasing pollution, and in addition, the dumping of the industrial wastes into these streams have made it imperative for the Service to investigate the biological facts in connection with stream purification and the necessary control of the situation through adequate sewage and waste disposal. It may be safely said that the fundamental biological principles of sewage disposal are still unknown. The

Federal Government, States, and cities are contemplating the expenditure of billions of dollars for sewage-disposal plants, the principles of operation of which have not yet been determined.

In this same connection, during the drought several years ago, the States of West Virginia, Ohio, Kentucky, Indiana, and Illinois were afflicted by a serious epidemic of diarrhoea and dysentery which a cursory investigation made by the Public Health Service showed was probably of a toxic and not a bacteriological origin due to heavy pollution in streams abnormally low in water.

In addition, the city of Louisville and others were unable to obtain filtered water free of objectionable tastes and odors. It is a serious thing when the water supply of a great city becomes objectionable to its people.

Another problem of importance and one which demands immediate attention is that of mottled enamel, a disfiguring condition of the teeth caused probably by excessive amounts of fluorine in the water supply. This disease which causes a stain of the teeth from a light yellow to a dark brown and which lasts for life develops in children born in areas of the country where the amount of fluorine in the drinking water is excessive. The Public Health Service has in the past several years made a fairly complete investigation in the States and has found 275 areas in 23 States where the condition exists. One of the most extensive areas is in the panhandle district of Texas in which a large percent of the children are developing this condition. The population of this newly settled area has increased over 100 percent in the last 10 years so that the condition is becoming increasingly evident in the children who are beginning to develop their second teeth. The problem is not only one of public health importance but of the greatest economic importance for it may form a serious barrier to the further settlement of this rich area. A study of the permissible amounts of fluorine in drinking water and of a method to remove excessive amounts is most urgently needed.

Malaria is still one of the most serious problems of our Southern States and with the development of great hydroelectric programs by the Federal Government and States further knowledge of control methods is imperative. Here again, the disease is not only of public-health importance but also of economic importance for each year malaria puts the wage-earner out of the position as the supporter of his family and makes both him and his family dependent upon charity for their maintenance.

The extent to which malaria can and will be controlled depends almost entirely on the studies which the Service is making of different control measures under the different conditions found in the Southern States. The secret of the success of any control measure depends not only on its positive results but more so on the cost of the measure. If the cost is beyond the ability of the State or local government to meet, then malaria will continue to exist indefinitely.

It is toward the development of practical and economic control measures that the Public Health Service is working as rapidly as possible with its present limited funds.

There is probably no field of investigation where there is need for greater development than in industrial hygiene. Not only is every State affected but the great majority of the 45,000,000 persons in this country engaged in gainful occupations are directly or indirectly affected, as are their families.

The health hazards of industries are almost as diversified as are the number of different industries. Here again, the cost of investigations leading to the prevention of incapacitating industrial disease is extremely small compared to the economic values accruing to both industry and the industrial worker. With its limited funds the Public Health Service has contributed considerable aid in this special field. Acting as an impartial fact-finding body its investigations are accepted by the general public and by both labor and industry.

Its studies of the health hazards of the dusty trades, as far as time and funds have permitted, especially in the field of silicosis, a disease which affects workers in many industries wherever silica is used in the industrial process, serve as one of the principal guides for the control of the disease in this country.

Recently the study of anthraco-silicosis made in Pennsylvania at the request of the Governor of the State, the hard coal industry, and the United Mine Workers forms the first complete outline of facts in relation to the development of this disease and the necessary methods for its prevention.

Similar studies of other dusty trades have been urgently requested of the Service but have been deferred because of limited personnel and funds.

As far as it has been possible, the Public Health Service has attempted to meet the demands of State health authorities in the investigation of diseases which are interstate in character or which have appeared in epidemic form. The ulti-

mate control of all epidemic diseases, even the more common ones such as measles, diphtheria, and scarlet fever, can only come from continued epidemiological investigations of such diseases and by laboratory studies of the nature of the causative agent and the development of vaccines or serums for their prevention and cure.

In the past several years the Service has been called to help in study of the methods for the control of typhus fever, a disease which is endemic in most of our seaports but has also become epidemic in rural areas in the South, especially Georgia, Alabama, and Texas, and which has been increasing at a rate of almost 100 percent a year.

In 1933 the epidemic of encephalitis at St. Louis resulted in an excellent cooperative investigation under the general direction of the Service with the State, city, and the universities of the city of St. Louis. Besides the pertinent facts gained in the epidemiological survey of benefit to the entire world, the virus of this disease was for the first time successfully transferred to animals, offering thereby an opportunity for the continued study of the disease in nonepidemic times.

Psittacosis or parrots' disease, which caused a number of epidemics and deaths throughout the United States, has almost completely disappeared through studies and control methods put into force by the State of California and the Service.

The prevention of Rocky Mountain spotted fever through the use of a vaccine discovered and perfected by an officer of the Service and produced only in the Montana laboratory of the Service appears at the present time our only means of combating this disease and its high fatality rate in the West.

Epidemics of infantile paralysis which occur in some State or city almost annually have required Service cooperation since the preliminary investigation of 1910. From field and laboratory studies in regard to this disease has come a substantial knowledge upon which hope of control and prevention can be based.

The cooperation of the Service in these matters from a national standpoint has made it possible to avoid unnecessary restrictions in commerce and in the travel of people which otherwise would have occurred.

The expectancy of life in the United States has considerably increased in the past 20 years. From our own studies, those of the Metropolitan Life Insurance Co., and the Milbank Memorial Fund, it can be definitely stated that this is due to the saving of lives in the younger age groups and not to any increased expectancy from an adult viewpoint. As Miss Wiehl, of the Milbank Memorial Fund, says, "Mortality among infants, children, and young adults has declined strikingly, but among older adults death rates have actually increased during the past half century."

Such diseases as heart disease, which, according to Dr. Dublin, claim more victims than tuberculosis and cancer combined, diabetes, and cancer, are actually on the increase.

The Public Health Service has been able to contribute only a little to our knowledge of the causes and prevention of these diseases, due to the more immediate importance of other public health problems. Their importance, however, is recognized, and if the adult of today is to look forward to any increase in his expectancy of life, it will be through an attack on these conditions.

Venereal diseases form one of our major social problems in causing disability during the most active years of life, as well as contributing substantially to the death rate in the older-age periods.

The Public Health Service has attacked these problems, first, in aiding States in the development of venereal disease clinics for the treatment of those already infected, a measure which has been extensively tried out in England with an actual reduction in infected cases in the last few years; second, in cooperative studies with States and universities in studying the success of different forms of treatment in the cure of syphilis; third, the study of methods of making recently infected cases noninfectious in order to prevent the spread of the disease.

The continuance and expansion of such investigations form the only practical methods of bringing these diseases under control.

Again it has been physically impossible from the standpoint of personnel and expense to meet within a reasonable time the requests of State governments for studies of their State departments of health for the purpose of reorganization along effective lines and for assistance in developing logical and efficient ordinances in milk sanitation and control. The Federal Government's participation and leadership in this field depends entirely on its investigations of public health procedures and their effect in the reduction of disease. The investigation of such procedures requires the most careful and tedious study but their value to the States is that they form the basis of successful accomplishment in public health administration.