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TRANSACTIONS

OF THE

NORTH CAROLINA HEALTH OFFICERS' ASSOCIATION

NINTH ANNUAL SESSION

PINEHURST, NORTH CAROLINA

MONDAY, APRIL 14, 1919

NORTH CAROLINA HEALTH OFFICERS'
ASSOCIATION

NINTH ANNUAL SESSION

PINEHURST, MONDAY, APRIL 14, 1919

OFFICERS

Dr. J. R. McCracken, President, Waynesville

Dr. E. F. Long, Vice President, Lexington

Dr. G. M. Cooper, Secretary-Treasurer, Raleigh

TRANSACTIONS
OF THE
NORTH CAROLINA HEALTH OFFICERS'
ASSOCIATION

NINTH ANNUAL SESSION

The Health Officers' Association met on Monday morning, April 14, 1919, in the parlors of the Carolina Hotel, Pinehurst, and was called to order by the President, Dr. J. R. McCracken, of Waynesville.

INVOCATION

DR. T. F. WICKLIFFE, KINSTON

O, Thou Supreme Ruler of the Universe! we, Thy humble servants, ask Thee to look down upon us with compassion, and to forgive us our many sins of omission and of commission. Grant us, we beseech Thee, wisdom and grace to follow the example of our blessed Master, Jesus, the Great Physician, who healed not only the body, but also the mind and soul of the afflicted. Vouchsafe to us this day Thine aid and so direct our deliberations, during this our present meeting, that each of us may gain new ideas, new inspiration, and new and better methods that will be of use to us in our work for the coming year.

Man goes forth in the pursuit of human happiness, but e'er he has attained it, is oftentimes overtaken by the dark clouds of adversity or disease, or even by the black shadow of death. Endue us health officers with a competency of Thy divine wisdom, that we may the better be enabled to aid our fellow men so that they may avoid these shadows and thus reach the goal. Bless, we pray Thee, O Lord, the whole medical fraternity. Make us a strong and valiant army in Thy service for the betterment of humanity. Let us not fear the power of our adversaries, ignorance, vice, and worldly criticism, but, girding ourselves in Thine armor, let us go forward with knowledge and power to overcome every obstacle in the way of clean, healthy living. Let us not blindly or wilfully bury the talents Thou hast graciously bestowed upon us, but increase and multiply them day by day, using them to Thy glory and to the uplift of Thy people.

Our Father, let Thy blessing rest especially upon this assembly and grant that each of us here present may go forth with renewed strength,

with a sense of Thy mercy and guidance, and with greater faith in the final victory. Grant that our lives may be pure and so dedicated to Thy holy service that, should we be called during the ensuing year to answer before Thine august throne, we may hear the verdict: "Well done, thou good and faithful servant * * * enter thou into the joys of thy Lord."

All this we ask in Jesus' name,

AMEN.

ADDRESS OF WELCOME

DR. L. B. McBRAYER, SANATORIUM

I know that words of welcome to the State Health Officers' Association are not considered in order. We model after the more important business organizations in the marts of trade and get down to business without any flowers or furbelows. I do want to say, however, that we are very glad to have the health officers and health workers meet here. As perhaps some of you might suspect, we are particularly interested in the work which they are doing.

I remember that on one occasion a president of the Medical Society of our State suggested that there was too much talking about public health in the State Medical Society, and said that he thought we would better put it all in the program for the day on which the health officers held their session, and let the sessions of the State Medical Society be devoted to other things. He soon found out that he had said the wrong thing, because the members of the medical profession, whether or not they were executive officers in the work, were thinking public health, and few of the papers on surgery or gynecology or any other subject that were presented before the State Medical Society failed to mention something in connection with public health work. Some of us who have been attending the sessions for several years will remember that for certain periods the section on Practice of Medicine had the preponderance of thought at our sessions. For example, for a long while after I became a member of the State Society the practice of medicine was a big section, and there was not much said about surgery, a little about obstetrics, and still less about gynecology. A few years passed, and surgery became the dominant thought. Surgeons and would-be surgeons were then cumbering our programs with papers on surgery. For the last few years we have noticed that the thought of the medical profession is centering itself on public health. This is well. I have attended a few meetings of health officers in other states, and I made a vow the other day that I was going to quit using so many superlatives

about North Carolina, but I shall break that rule once and say that, so far as I know or am able to ascertain, we have the best health officers' association ever, and we are more than pleased to have you with us.

The President, Dr. McCracken, extended the courtesies of the floor to Mr. A. W. Hedrick, of Boston, Massachusetts, Secretary of the American Public Health Association; to Mrs. Kate B. Vaughn, Director of the Bureau of Infant Hygiene of the State Board of Health, and to any members of the North Carolina State Medical Society who might be present.

Is the health officer of Lee County present? Is the health officer of Scotland County present? I am very glad that we have Dr. Daligny here to represent Montgomery County.

Now, I want to make this statement. This organization is noted for being an organization which attends strictly to business. Our only aim is to better health conditions in North Carolina. We held our meeting here last year in what is known all over the United States as the Sand Hill Board of Trade district. When I see men here like Dr. Gibbs of Yancey, Dr. Smith of Mitchell, Dr. Reynolds and Dr. Sevier of Asheville, all in the far west, to say nothing of our president, from Haywood County, and men from places as far east as Carteret, like Dr. Loftin, I feel that the interest of the health officers of the Sand Hill district toward the organization should be a little more than negative indifference, especially when I know that Lee County enjoys the distinction of having the second highest death rate from typhoid in the State of North Carolina.

REPORT OF SECRETARY-TREASURER

DR. G. M. COOPER, RALEIGH

I wish to take this means of thanking Dr. L. B. McBrayer, acting secretary of the North Carolina Medical Society, for the services of a stenographer to record the minutes of our last meeting, and also for the publication of the minutes in The Transactions of the Medical Society of the State of North Carolina. I would like also to express my thanks just here to the gentlemen who have so kindly agreed to take a part in the program for this meeting.

I have mailed out about two hundred letters to health officers, mayors, and county commissioners relative to getting a full attendance for this occasion. The postage and multigraphing incident to this activity has been paid from the State Board of Health funds as a part of educational expense necessary to the better operation of the health laws of the State of North Carolina.

Balance cash on hand at the close of the Pinehurst Meeting, 1918....	\$24.39
Interest on deposit to April 10, 1919.....	.97
Total on hand.....	\$25.36

The following committees were appointed by the president:

Auditing Committee—DR. DAN E. SEVIER
DR. A. C. BULLA
DR. C. DALIGNY

Resolutions—DR. J. S. MITCHENER
DR. WM. M. JONES
DR. ARCH CHEATHAM

DR. L. B. McBRAYER: I want to announce to the health officers and others interested that Miss Ehrenfeld, the State Director of Public Health Nursing, is attending the meetings, and if any of you wish to confer with her in regard to nursing, either that you have going on now or that you desire to establish, she will be glad to go over those things with you. For the benefit of all concerned I will say that the Red Cross has ruled that the local chapters may appropriate for the support of a public health nurse such amount from the local funds as they may have on hand or as they may wish to take from their funds.

The badges are in charge of Mr. Snow, out by the front door. When you register you will get your badge. Dr. Cooper wants you to register here also, as attending the Health Officers' Association.

PROGRAM OF VENEREAL DISEASE WORK IN NORTH CAROLINA

DR. JAS. A. KEIGER

Past Assistant Surgeon, U. S. P. H. Service

In the past year and a half you have heard a great deal about venereal diseases. The Government, as a result of the findings in the army, has instituted a nationwide campaign to lessen the incidence of these preventable ills. These pathological entities, once spoken of with the greatest secrecy, are now being discussed freely and in the open. The people are anxious to know about them. The press is publishing the facts. Churches are distributing literature and forming clubs to assist the law-enforcing bodies. The Rotary Club has gone on record as favoring any movement that will tend to produce a healthy community. The fraternal organizations have offered their united effort to the Government's undertaking and, finally, the druggists and physicians are cooperating, as well as practically every other organization of any consequence.

Now, what is the driving force behind this great movement? What are the facts? If you will recall the figures given out by the surgeon general of the army, then you will see the beginning. Up to January 1, 1919, more than 200,000 cases of venereal diseases were reported by the various camp surgeons to the War Department at Washington. During September and October, in which there were large draft calls, the annual rate of venereal disease rose from 88 per thousand to 388. The men, you see, were going from civilian life to the camp. Approximately five-sixths of all cases tabulated were carried into the army. In

other words, they came from among our own home people. Of the first million men entering the service the number found infected belonging to North Carolina was four per hundred. Our State took the tenth place from the bottom in the column of commonwealths in the percentage of disease bearers. Oregon, with only 5 per cent infected, stood at the head of the list, while Florida, with 10 per cent, stood at the foot. It seems that an explanation for this difference may be found in the fact that Oregon has been teaching social hygiene in her public schools for the past several years. Many other facts could be related but time forbids going more into detail, hence we turn to the *modus operandi*.

The United States Public Health Service took up where the army left off and has kept the ball rolling. The bureau began issuing pamphlets setting forth the facts as to the prevalence and prevention of venereal diseases. Up to date it has sent out forty-four different publications which portray in a wholesome manner the true situation. North Carolina, along with forty-two other states, has undertaken to deal with the problem. Practically every organization in the State has offered or has been asked to add its weight to this campaign. And now to bring the matter before us more concretely, let us examine the course to be pursued.

The General Assembly at its last session passed certain laws which enable health officers, the doctors and the law enforcing bodies to deal with these questions along correct lines. Just as you get rid of malaria by removing the source, so must the same thing be done with respect to gonorrhoea and syphilis. As medical men, you know that practically all prostitutes are diseased. One of the enactments makes it unlawful to engage in prostitution or aid or abet prostitution in any manner whatsoever; and prostitution is defined as the offering or receiving of the body for sexual intercourse for hire or for indiscriminate sexual intercourse without hire. The man is just as guilty as the woman, his status being at last as it should. The punishment, if convicted, is not to exceed one year imprisonment when guilty in the second degree; and not less than one year nor more than three years imprisonment in or commitment to any penal or reformatory institution when guilty in the first degree. Being guilty in the first degree means proof of two offenses or more within the year next preceding the date of indictment. In case of guilt in the second degree sentence may be suspended; or the defendant may be placed on parole, but before such parole can be granted he shall satisfy the court that he is not infected, or if infected, furnish proof that proper care and treatment will be observed and secured. After a girl or man has served one year in a penal or reformatory

institution when guilty in the first degree such person can be paroled under certain conditions. As you see, the object sought is to prevent the spread of venereal disease by controlling the prostitutes, and if the law is enforced such results will be obtained.

As health officers, you are to play an important part in this campaign. Turning from the act to suppress prostitution let us examine the law for the prevention of venereal diseases. According to this, gonorrhoea, syphilis and chancre are declared contagious, infectious and communicable, and dangerous to the public health. They are made reportable to the health authorities according to such form and manner as the North Carolina State Board of Health shall direct. This much, however, was accomplished by an act of the board last November, a copy of the regulations which you have already received. But the law goes further. It directs and empowers State, county and municipal health officers or their representatives, when deemed necessary to protect the public health, to examine persons reasonably suspected of being infected with venereal diseases, quarantine and treat at public expense when found infected. As an example, last year while working in Charlotte one of the physicians reported to me that he had two persons under treatment who were infected by a certain young "lady" in town. According to the city law, the health officer had the authority to order that girl to submit to an examination. She complied and was found harboring the *spirochæta pallida*. Being able to pay for treatment she was referred to a private physician. No doubt, many cases of infection were prevented by this one act alone. A few days ago I received two reports from a physician in a certain town stating that the source of infection was a "street walker." Under this law if the doctors will find out from their patients the names and addresses of the ones from whom they contracted the disease and give same to the health officer then he can order them to submit to an examination. If they don't comply, then they are subject to the penalties imposed by this act. In case they submit to the examination and are found infected, then they can be required to take treatment from a private physician or at public expense, and if it appear that they are not traveling the strait and narrow path the health officers can place them in quarantine until cured. Section six empowers the North Carolina State Board of Health through its officers to incur such expense in examining, detention and quarantining, and treatment of just such persons as mentioned above and charge same to the county commissioners. Another feature with which you will be concerned is the right of examining persons confined or imprisoned in any state, city or county prisons for venereal diseases. If infected and there be no other place in which treatment can be given, then the prison

authorities are directed to set aside such rooms as necessary where health authorities can administer the treatment required. Finally, any person who violates any of the provisions of this act or fails or refuses to obey any lawful order issued by any State, county, or municipal health officer shall be guilty of a misdemeanor and fined not less than \$25 nor more than \$50 or imprisoned for not exceeding thirty days.

There yet remains one other act which affects the druggist. Section one prohibits him from prescribing for venereal diseases. According to section two he can sell venereal disease remedies when called for by his clients, but he must report the sales thereof weekly on forms and in accordance with instructions, to the Bureau of Venereal Diseases of the State Board of Health.

Now, suppose a person infected goes to the druggist and asks him for some medicine for a "case." This druggist is not permitted even to suggest a remedy. To take care of this situation, however, he can refer this person to the quarantine officer, who will give him a prescription or permit to purchase some remedy, for which service the quarantine officer makes no charge. He is paid fifty cents, however, twenty-five cents by the State and twenty-five cents by the city or county for examining this patient and issuing permit or permits for remedies. But you see the point. When this fellow comes under the care of the quarantine officer he is told about venereal diseases and impressed with the importance of securing the best medical treatment possible, hence instead of going back to the druggist to purchase these patent medicines, he finds himself on the way to a clinic or to a specialist for scientific treatment. But what about the fellows who are wise enough to know what remedies to call for? The point made by all the doctors is that the proprietary products tend only to produce chronic cases and seldom ever cure. One section of the law takes care of them. Their names and addresses are reported to the State Board of Health once a week. The State health officer or his deputy, under this law, may require anyone who purchases remedies and who is reasonably supposed to be infected to appear before a physician or health officer for an examination for venereal diseases. Especially valuable will this report be to the health officers in those towns where clinics are being operated. The social worker or nurse who follows up the delinquents at the clinic can at the same time visit these persons who are attempting self-treatment and persuade them to come to the clinic. In other words, she will be scattering information as to the proper course for anyone to follow who may be so unfortunate as to become the victim of his own folly.

In this paper I have mentioned only those features of the program in which you, as health officers, are more vitally concerned. As you

have seen, the work is to be carried along on three lines of attack: First, the removal of the source of infection by suppressing prostitution; second, the prevention of venereal diseases by affording treatment to all persons who are carriers; third, the prevention of venereal diseases by advising the people generally as to the nature of these maladies and the best means of protection, through lectures, pictures, and educational literature. As results already obtained, I may add in closing that sixty girls have been committed to the State Home at Samarcand; clinics have been established at Winston, Asheville, Wilmington, Fayetteville, and Charlotte; and pamphlets to the number of 75,000, in addition to many thousands sent out by the United States Public Health Service, have been distributed. Practically everybody knows about this work now, and the coöperation of all is needed to complete it.

ARRANGEMENTS MADE BY GUILFORD COUNTY FOR FURNISHING ITS CITIZENS DIPHTHERIA ANTITOXIN

WILLIAM M. JONES, M.D., GREENSBORO

We are living in a fast and wonderful age, and everything is progressing so rapidly that we are liable to lose sight of details in our mad scramble for statistical results. What does it amount to if you vaccinate six hundred persons in one day and have only a very few successful takes, so long as your records show that you have done this; or what does it amount to, if you have held twenty meetings, made talks to four thousand people, so long as your reports show that you have done that amount of work?

What really counts is not what quantity of work has been done, but the quality of the work. It is a good plan to make haste slowly, and as Davy Crockett said: "Be sure you are right, then go ahead." Have a definite object for everything you do, for you are going to accomplish little by going for the mass. The old saying: "Take care of the pennies and the dollars will take care of themselves," may very aptly be applied to health work.

The State Board of Health has gradually been placing in our hands necessary defensive measures for the purpose of increasing the value of our work, and as we have progressed in our armament, so *pari passu* have these armaments progressed, and now it is up to us to keep abreast of the implements at our disposal. We were given first a very simple weapon in smallpox vaccine, the administration and care of which required but little thought, and from this to typhoid vaccine, and finally to diphtheria antitoxin. In this last we have been given a more com-

plicated weapon and one that cannot be carelessly handled, and by which any act of omission upon our part may result in serious consequences.

I have heard physicians condemn the typhoid vaccine as furnished by the State Laboratory, saying it was no good, that they did not get any reaction, etc. Upon investigation it was found that they had received the vaccine and had placed it on their desks or a table in their offices where it was allowed to stand not for days, but weeks, at a temperature of from 85° to 95° F. and for a time each day exposed to the direct rays of the sun.

Every package I have received has always been plainly marked, "KEEP IN THE ICE BOX." Is there any wonder they did not get a reaction! To fail to get results from typhoid or smallpox vaccine is not such a serious matter, for the chances are at least an even break, but when we are giving antitoxin, we are not doing so for its immunizing but for its curative effects, and to fail to get what may rightly be expected is a serious matter, for you have put a life in jeopardy. You can work a bluff with man, but do not think that you can put anything over on diphtheria.

So be sure that your antitoxin is potent, and there is no way to be sure unless you follow the instructions to keep in an ice box. Know for a certainty that it has been so kept since the day upon which you received it.

There are certain druggists in every county who will be delighted to know of the failure of anything that cuts them out of a profit, no matter how small, and if you do not use scrupulous care, you are going to have a case where it is going to fail. When this happens, you will not get anybody in that particular community to again use the State's antitoxin for a long time. So whatever you do, do not play fast and loose in the care of the antitoxin that has been furnished you. For to do so is simply courting disaster which is certain to come. As I see the situation, there is but one necessary and simple thing to do. It is, of course, important to have the antitoxin in easy reach of as large percentage of the population as possible, but ease of access is only a secondary consideration to having it potent. I have, therefore, only four rules in regard to the handling of antitoxin and they are—

- 1st. Keep it cool.
- 2nd. Keep it cool.
- 3rd. Keep it cool.
- 4th. Have it at various locations in the county where you know that the first three rules will be carried out.

THE CONTROL OF DIPHTHERIA

DR. W. S. RANKIN

Secretary of the State Board of Health, Raleigh

The subject of this paper as it appears on the program refers to certain things that the State Board of Health is doing and proposing to do in order to bring about a decrease in the death rate from diphtheria.

To begin with, there are in North Carolina every year an average of four hundred deaths from diphtheria. If we assume that the fatality of diphtheria is about 8 $\frac{2}{3}$ per cent, that would mean that we have about five thousand cases every year in the State. In looking around for health problems on which to demonstrate to the people in a very definite way the workings of prevention, and what can be done in the decreasing of disease, I do not know of two better things to work on than the typhoid problem and the diphtheria problem. There are no two problems that one can think of as better than typhoid and diphtheria for demonstrating to the people the benefits of public health work. In my experience in dealing with the public, and, in particular, with the members of the General Assembly, I find that the thing that makes most quickly the best impression is the reduction in the number of typhoid fever deaths in the State. In 1914 we had 839 deaths; in 1915 the number dropped to 744; in 1916 to 700; in 1917 to 626; and last year, 1918, it dropped to 502. (Of this number, 32 deaths occurred at Hot Springs among the interned Germans.)

It is facts like these that stimulate interest and confidence in public health work. There is no reason why we cannot do the same thing in diphtheria as has been done in typhoid. We ought to bring down the number of deaths to at least 200 within the next few years. We ought not to be afraid to make a public announcement to that effect. How are we going to do it?

In the first place, we want to make antitoxin, the remedy for diphtheria, easily available everywhere. That means cheap antitoxin. The State committed itself to that policy several years ago by arranging for cheap antitoxin. During the last six months the State Laboratory of Hygiene has had a supply of antitoxin available for distribution and has been distributing it. Notwithstanding the cheap antitoxin now available, a great many people are still paying four, five or six dollars for antitoxin of the commercial type. The first thing we have to do is to carry out the intent of the General Assembly to get free antitoxin to the people.

A short time ago Dr. Crouch, State Epidemiologist, decided to get out a letter to the heads of all households in which there was a case of diphtheria. (The cases are reported to us, and we have the reports filed.) He got out a questionnaire asking the name of the antitoxin used, the name of the druggist who sold it, and the name of the physician who used it, etc. Up to the first of March he had sent out about 270 letters. About half of the householders replied. From those replies we found that a great deal of the commercial antitoxin is still being used, notwithstanding the fact that the State's supply is available for everyone who wants it.

Now, we are going to publish in the Bulletin and the newspapers the facts contained in those replies. We will give the name of the family, the name of the druggist who sold the antitoxin, the amount that was paid for it, and the price for which the same amount of State antitoxin could be procured. That will get someone in trouble, and that is what we intend. If you will read that article in the next Bulletin, you will see how it will work back home. When Mr. ——— sees that he has had to pay \$46.55 for \$1.75 worth of antitoxin because his physician did not tell him any better and because his druggist took advantage of his ignorance, he will make trouble. This will eventually bring about free antitoxin. You know the State antitoxin is available for twenty-five cents a package, the charge being for the syringe and the postage or expressage.

The first object being to make the antitoxin free, the second object is to get the antitoxin used. First, we must see that the family in which there is a suspicious case of diphtheria sends for the doctor, and that the doctor, when he gets there, uses antitoxin promptly. To do that we are going to get out another letter to families in which there are deaths from diphtheria, inquiring when the doctor was called, when he diagnosed diphtheria, when he gave antitoxin, etc. When we get all this information we will publish the facts, but before we publish them we will send a representative of the State Board of Health to verify them. In the Bulletin we will publish accounts of several cases in which the family was clearly responsible for the death, by not calling a doctor when there were reasonable evidences of diphtheria. That kind of information will bring about the time when a family with a suspicious case of diphtheria will not take chances but will send at once for a physician. Then we will publish accounts of some other cases in which the family did its duty and called the physician in time, but in which the physician did not give the antitoxin until the disease had been going on for several days, and in which the physician is responsible for the death. That will make the medical profession, or

some members of it, more careful in dealing with diphtheria and in giving antitoxin more promptly.

Those are the first two objects we have in view: to make the antitoxin free and to see that it is properly used. The third object is to bring about the use of toxin-antitoxin as an immunizing agent against diphtheria. I believe the essential facts are these: That ninety or ninety-five per cent of children up to the age of eighteen months are immune on account of the immunity of the mother transmitted to the infant through the milk. Of course, that immunity will not hold for bottle-fed babies. After the eighteenth month children lose their immunity, and at the fifth year there are about sixty to seventy-five per cent not immune. Then they regain their immunity until, at eighteen years of age, seventy-five per cent are immune. This toxin-antitoxin is applied in the same way as the old three-dose typhoid vaccination. You go to a school in a community where there is an outbreak of diphtheria and immunize the children. We hope to begin at an early date educational work directed toward popularizing the use of toxin-antitoxin as a means for bringing about permanent immunity in children exposed to diphtheria.

To summarize, these are the three objects: 1. To make free antitoxin available; 2, to see that the antitoxin is promptly used; 3, to take advantage of the toxin-antitoxin as an immunizing agent in diphtheria.

PREVENTION OF DEGENERATIVE DISEASES

DR. L. JACK SMITH
Health Officer, City and County of Wilson

The slogan, "safety first," adopted by nearly every modern business, has its counterpart in the word "prevention" as applied to public health measures. No word in the English language has a greater significance in relation to the duties of a health officer. No greater opportunity has ever been offered to demonstrate the true meaning of this word than through the health officer in the conduct of the life extension examination.

I deem it unnecessary to go into the history of life extension work, but let me say it came into existence as the result of a need. For several years in private practice I saw and experienced this need. The family physician is rarely called upon to conduct an examination for a supposedly well person. If he does, and finds trouble which might be controlled by the proper hygienic living, his advice is rarely taken in the light it is given. The average layman cannot understand and

appreciate the unselfish advice given by his family physician for his protection against disease. Therefore it should be our purpose to so impress the applicant with the importance and necessity of a thorough physical examination at regular intervals that it will stimulate the medical profession to conduct a more thorough examination, and at the same time inspire confidence in the minds of the laymen.

The necessities and possibilities of this work are urgent and without limitation. When we stop to consider the thousands of people who are suffering and dying every year of such diseases as tuberculosis, cancer, kidney disease, organic heart disease, disease of the blood vessels and certain forms of rheumatism, and as physicians knowing the futility of treatment in these far advanced diseases, then we begin to catch a glimpse of the task that is before us. Not one of the above named diseases has a specific treatment to effect a permanent cure. Naturally, then, we begin to seek for a solution of this problem. The analytical mind will naturally go back to the beginning of things and in doing so we are confronted with the wonderful word "Prevention."

When we compare the ultimate results gained by curative medicine with that of preventive medicine, with special reference to the degenerative diseases, we are bound to admit that greater results, and possibilities of results, lie in the field of the preventive medicine. As a concrete example of what may be accomplished in the field of prevention of degenerative diseases, I will relate this personal experience:

Three brothers and one sister of the same family came to my office in one of the small towns of the county, for examination. In reading the history of each applicant, I was impressed with the fact that their father died of apoplexy at the age of 42 years. Apparently they were all sound, healthy individuals and the examination substantiated this observation with the exception of just one defect—high blood pressure. Further investigation revealed the fact that they, and their father before them, had been big meat eaters. After giving them the proper instructions as to diet and hygiene, one of the brothers said he would carry out these instructions until I came back one week from that day, at which time he would let me take his blood pressure again. This I did and found it had dropped 15 points. This of course was very gratifying to both of us—to him that he had found a remedy to prevent an early death; to me that I had been the means of adding ten to twenty years to the life of each of four people.

Oral sepsis and its systemic effects is a subject which is attracting much attention at the present day. Infected tonsils and pyorrhea (Riggs' disease) have no doubt caused and are causing today a tremendous amount of illness. With all the literature available on this

subject it seems that every physician and dentist, and even the laymen, should be well informed as to the dangers of oral sepsis, and yet my experience for the past year in conducting the life extension examinations proves to my mind that a great many of our physicians and dentists are not giving this subject the attention it demands. In the applicants examined for the past year I found 75 per cent of them with well defined cases of pyorrhea. Now who is responsible for this condition? First, we as physicians are responsible to a large degree, because we have been negligent in our examinations and do not make a special effort to teach the patient the importance of having this trouble treated by a good dentist. Second, the dentists have been too conservative in the matter of treatment to effect a permanent cure. This failure to effect a cure has reflected back to the physician and has made him a little skeptical about referring patients to the dentists. Third, the patients themselves are at fault because they do not cooperate as they should with the physicians and dentists in the treatment of the disease, and do not use the necessary precautions in preventing the disease. A case in mind which comes under my observation fully illustrates the above statements:

A young man of 31 appeared at my office for examination who gave me the following history: Had suffered with rheumatism for four or five years. Had taken treatment under two or three different physicians with no results. Condition steadily grew worse. In his extremity he began to take first one and then another patent medicine, and of course without beneficial results. Finally, after nearly reaching his grave, some friend carried him to an up-to-date physician who examined him thoroughly and found his tonsils, teeth and gums badly diseased, and a heart with a bad organic lesion failing to compensate. This physician instructed him to go immediately to a throat specialist and have his tonsils removed, then to a dentist and have his teeth and gums put in good condition. The patient did this, and four months later when I examined him I found his general health greatly improved, his rheumatism had disappeared, the organic lesion of his heart was still present but the heart was compensating, which enabled him to lead a fairly active and comfortable life. The results of treatment in this case were unusually good, but suppose he had had the proper instructions at the beginning of his trouble. He would have been saved the pain and suffering, the loss of time from his business and a crippled heart which will go through life with him.

The discovery of incipient tuberculosis is probably the greatest field of disease prevention. Particularly is this true with the health officer in the conduct of the life extension examination. I feel quite sure that very

few of us, both health officers and general practitioners, do not feel competent to make a positive diagnosis of incipient tuberculosis. However, we are all competent to take the history and take the temperature and discover by a thorough physical examination certain adventitious sounds in the lungs, which will lead us to suspect the existence of this disease. In fact, the health officer is not supposed to make a diagnosis, but only to record his findings and instruct the patient where and how to seek relief. In other words, our mission is that of a clearing house, directing the sick to seek relief and instruct the well how to keep well.

As a result of the examinations made the past year I discovered seventeen cases of suspected tuberculosis. Four of these were directed to the State Sanatorium for more complete examinations, which were confirmed by Dr. McCain. By special arrangements fourteen patients were later examined at my office by Dr. McCain, and of these seven were found positive tuberculosis.

The possibilities of a health officer in this work are not confined to the actual and immediate results obtained. The educational value of his work is just as important here as it is in any other field of his work. He has an excellent opportunity to teach the applicant how to live to have good health, and the economic value of a sound body. He can teach the applicant the importance of personal hygiene and sanitary surroundings. The ultimate results of this work, if properly carried on, will stimulate the medical profession and make better and more efficient physicians; will create a desire for better health among the laymen; a better understanding between the physician and his patient, and will add many useful years to the lives of many people.

THE AMERICAN PUBLIC HEALTH ASSOCIATION'S PLAN OF ORGANIZATION

A. W. HEDRICH

Secretary American Public Health Association, Boston, Mass.

My purpose in appearing before you is to invite your Association to become affiliated with the American Public Health Association. I am deeply sensible of the honor of addressing you. I wonder if you know how well North Carolina stands in the field of public health? When questions come up regarding rural sanitation we pass them on to Dr. Rankin, as we feel that he is fully as competent to answer them as anyone in the country. The Conference of State and Provincial Boards of Health, further, has honored North Carolina by making Dr. Rankin its president.

I was surprised to learn this morning that your Association is nine years old. I suppose the Massachusetts Association is older than that. But none is more alive. Your fame has reached even to Boston. Mrs. Vaughan was telling me that she went to Topeka, to New York, and to Boston, and in Boston they said that North Carolina is some health State. I am therefore very proud of the opportunity to invite you to affiliate with the association, and I think it very proper that this should be the first State in which I have had that honor.

In view of this invitation, it is proper that I should tell you a few things about the association and about its ideals. It was founded about forty-eight years ago in New Orleans. A body of sanitarians met there to discuss the conquering of yellow fever. For many years the association was a scientific society, meeting once a year, discussing papers, and publishing transactions. But now we realize that we must become more active in shaping the ways of public health, and not merely reflect current opinion. A program has been drawn up and several steps have already been entered upon. I shall briefly comment upon these:

1. Under the leadership of Professor Gunn, the association instituted a health employment bureau. It has also established a health information bureau. Just recently a committee has been appointed to draft model health legislation, so that, if a health officer wants to induce his city to pass health legislation, he will have an outline on which to proceed. We hope to express in these models, in a general way, the essentials of good health administration, so that this outline may be used as a basis.

2. We expect also to undertake the publication of a popular health magazine. We hope that this magazine can be to the public health field what magazines like the *National Geographic* are in their fields, and that it will be so interesting that people will read it because they like it, and not from a sense of duty.

3. We hope to get up standard literature which we can sell in such quantities as the local health officer needs, at prices far below the cost to him if he worked by himself.

4. The organization of state and local health associations. There are a number of states, like North Carolina, which already have an excellent health organization. In other states we hope to stimulate the organization of a society. These local societies accomplish a great amount of good. Many of you cannot be present at the annual meetings of the American Public Health Association, but you do feel that you can come to Pinehurst.

In regard to your own association, may I present a suggestion? At present you are composed of health officers solely, I understand. If you had a strong lay backing you would be aided in your work. Unless the activities of the Red Cross, the local tuberculosis organizations, the nursing organizations and similar bodies are coördinated, their activities will overlap, or there will be gaps. Let your board of directors consider coördinating the other public health activities in the State. Incidentally, there is no good reason why, especially in the larger communities, you cannot extend this type of organization locally, so that you will have in Charlotte, in Raleigh, and at other places, local health societies patterned after the State body.

5. To assist in getting adequate funds for health work and adequate salaries for health officers. You have been fortunate in North Carolina, and your average here has brought up the average for the southern states. Dr. Frankel found, in replies from about five hundred questionnaires, that over sixty per cent of the health officers get salaries of less than twenty-five dollars a week. Even among the full-time health officers, one-fourth receive less than twenty-five dollars a week. Now, it was a surprise to find that the South Atlantic States paid \$3,100 for health officers for cities. There may be some fallacy there, as the figures are so much in advance of those in other states.

6. We hope the time will come when the association can have field secretaries to assist local communities, so that if you want to organize a health campaign we shall have a specialist to help you.

7. Studies and investigations leading to reductions in death rates. The illustration of what I have in mind is afforded by the influenza report issued at Chicago. Within forty-eight hours after the meeting adjourned, a report of what was said at the meeting was on the way to every delegate who attended. The health officer had a report that showed him what the health authorities of the country said about influenza. We hope to do that with relation to other conditions and other diseases, and also to formulate standard reports which will back up the local man in his work.

That, in brief, is the program of the American Public Health Association, to which we invite your affiliation. The exact basis of the affiliation I regret that I cannot state at this time. In a few weeks the executive committee will meet and will thresh out this problem. In general, I may say that the affiliated organizations will have directors on the board of directors, so that you will help to direct national action. On the other hand, we have no desire unduly to influence local matters.

Aside from affiliating with us as a body, I hope that every health

officer in North Carolina will join the American Public Health Association. Membership in the association includes an annual subscription to the *American Journal of Public Health*. This magazine gives you all the important information that is being developed in the field of public health. The membership fee of five dollars also gives you the monthly News Letter, telling about other men and what other folks are doing. You will enjoy the News Letter. In addition to these things the services of the health employment and health information bureaus are included.

I want to congratulate you again on the progress you are making, and to thank you for the honor of addressing you.

DR. RANKIN: I would like to express the appreciation that we all feel to the American Public Health Association for sending its secretary, Mr. Hedrich, down here to meet with us, and to suggest some closer bond of union with the American Public Health Association. We are very glad to have Mr. Hedrich with us, and we all appreciate the fine things that he has said about our organization.

I got up to make this definite suggestion to you. When I was employed by the State Board of Health as their secretary, now nearly ten years ago, I remember only one understanding I had with them. That was that there was not to be any very tight restriction on the secretary when it came to buying books and magazines. When I run across a publication, either a book or a magazine, that the office needs, I subscribe for it, and it goes into the permanent library of the State Board of Health. Now my point is this. I do not see why you should not do the same thing in your county. When you buy a magazine or a book as a health officer, I see no reason why you should pay for that magazine or book, any more than you pay for your desk or chairs. Another thing—if you get books and magazines as an individual, when you go out of office you take all of the library of the county health organization along with you. You ought not to do that. Your county ought to collect a library of the history and development of the public health of this country. Certainly the *Journal of the American Public Health Association*, the best public health journal in the country, is a legitimate expense for the county to bear. The counties and towns are able financially to pay for a membership in the American Public Health Association. I suggest that you consider this matter of becoming members of the American Public Health Association, not out of your own private purse, but as representing the county, remembering, of course, that the publications of the association are the property of the county, just as your desk and you chair are.

DR. McCracken: It has been called to my attention that on the program for the Section on Public Health, on Wednesday, there is a paper on the control and education of midwives, by Dr. G. W. Botts, health officer of Nash County. This is a public health problem. Dr. Botts is here today, but owing to illness in his family he will have to return home before Wednesday. If there is no objection we will hear his paper now.

THE CONTROL AND EDUCATION OF MIDWIVES IN NASH COUNTY

GEORGE W. BOTTS, M.D.

We all realize that midwives are necessary evils, and have been as far back as we have any record of them. There is a record which dates back something more than fifteen hundred years before Christ. This record shows that in those days midwifery was practiced principally by women of the lower class, and by women who were very illiterate. In this respect there is no departure today. Even in our high state of civilization and enlightenment, we are bound to admit that this most important branch of medicine and surgery is the most neglected by the physician and the least protected by law.

I am glad to represent here today a county which has realized this fact, and one among a few counties that has put one foot forward toward protecting the prospective mothers within her boundary against impostors, imposing upon them their empiricism, by enacting the following laws:

SECTION 1. *Definition.*—The practice of midwifery shall be construed to mean the conducting or the management of any form or stage of labor by a person not duly licensed by laws of the State of North Carolina to practice medicine, in consideration for which services money or other things of value are received, or intended to be received.

SEC. 2. On and after January 15, 1918, it shall be unlawful for any person to practice midwifery in Nash County, who shall not have applied in person to the county health officer for permission to engage in such practice, making a sworn statement setting forth his or her name, age, postoffice address, and the amount and character of training received.

SEC. 3. Permission will be granted by the county board of health to applicants mentioned in section 2 only with certain restrictions, and only after having passed a satisfactory examination before the physician designated by the county health officer, for this purpose, or the county health officer himself.

SEC. 4. Once in every twelve months, whenever and wherever deemed advisable, the county health officer will organize and conduct courses of instruction which it shall be mandatory for midwives to attend, unless excused from this obligation by the county health officer.

SEC. 5. Permission to practice midwifery will not be granted for a period of more than one year at a time, and the county health officer is empowered to terminate this permission, for just cause, at any time it may be advisable to do so.

SEC. 6. No person under 21 years of age will be given permission to practice midwifery.

SEC. 7. It shall be unlawful for any person in the practice of midwifery to attend a woman in the discharge of this service while affected with any contagious or infectious disease.

SEC. 8. The following further restrictions to the practice of midwifery are imposed:

- a. Making of vaginal examination is prohibited.
- b. Administration of any drug or drugs to hasten the course of labor is prohibited.
- c. The wearing of any distinctive uniform is prohibited.
- d. The application of grease or any other lubricant to the vulva or vagina of a parturient woman is prohibited.
- e. The attending of any woman in labor who has had a previous difficult labor is prohibited.
- f. All reasonable aseptic precautions must be employed in connection with the case.
- g. A record must be kept of the time of onset of labor, which must be presented on demand to any physician who may visit the patient in labor or thereafter.
- h. A duly licensed, practicing physician must be called in to see the patient in case any of the following accidents occur:
 1. Abnormal presentations, such as breech, face or hand.
 2. Prolapse of the cord (appearing at the vulva).
 3. Antepartum or postpartum hemorrhage.
 4. Collapse.
 5. Convulsions.
 6. Any sign or symptom of fever.
 7. When the patient has been in labor more than twelve hours without the birth of the child.

SEC. 9. Every person in the practice of midwifery shall carry a card showing that he or she is operating under permission granted by the county board of health, as hereinbefore described, and shall present such card to one or both parents of prospective child upon taking charge of the case.

SEC. 10. The parents of the prospective child shall be held responsible for the employment of any person in the practice of midwifery who shall not have complied with section 9 of these regulations, and for so doing shall receive the same penalty as the person who practices midwifery unlawfully.

SEC. 11. It shall be the duty of every midwife to instil into each eye of the newborn baby, immediately after birth, a two per cent silver nitrate solution.

SEC. 12. On and after April 31, 1919, any person not holding a permit to practice midwifery in Nash County, and such a person desiring to begin the practice of midwifery in said county, must be able to read and to write a legible hand.

Up to date there have been one hundred twenty-one women who have made application in person for permission to practice midwifery in Nash County. Out of this number I have granted sixty-one permits.

According to section three, each applicant is given an examination, which is oral, and if the applicant is found to possess a reasonable amount of intelligence and sufficient knowledge of asepsis, such a person is granted a permit to practice until after being given a course of instruction which consists of thirty lectures and demonstrations. In these lectures I tell them how to prepare themselves before taking charge of a labor case, teaching them the different antiseptics, how to recognize danger symptoms, how to use a clinical thermometer, the general management of a normal case, and how to resuscitate an asphyxiated baby. In the demonstration they are shown how to tell the position and the different presentations without making a vaginal examination. It is demonstrated to them how to tie and dress a cord and how to use the silver nitrate solution in the eyes. I always try to impress upon them the value and importance of its use. They are also shown, by demonstration, how to fill out a birth report intelligently.

After finishing this course of instructions, they are given another examination, covering the lectures which have been given. This time those passing a satisfactory examination are given certificates which are good until January 15th, as they are required to report in person on or before January 15th of each year for the purpose of registering and obtaining a renewal permit until the next course of lectures is given. Our next course of instructions is scheduled to begin on Monday, May 5th. Beginning with this course, the department of health will have provided an obstetrical manikin with which we can demonstrate to the midwife every point that is brought out.

Through these minor steps in the control and education of the midwives in Nash County, the board of health is endeavoring to give intelligent and trained service to the woman in labor who by force of circumstances or otherwise calls to her assistance a midwife.

DR. RANKIN: How many of the sixty-one women to whom permits were given to practice midwifery could read and write?

DR. BOTTS: I think about thirty-one.

DR. ALBERT ANDERSON, Superintendent State Hospital, Raleigh: I do not know that I am a member of this association, but it seems to me that men in my work should be required to attend. I was very much interested in your President's address, and I would like to say a word or two about our work, and especially about the appropriations. The Legislature of 1917 issued \$3,000,000 in bonds and gave the State Hos-

pital at Morganton \$200,000 for six years, and the same amount to the State Hospital at Raleigh, covering a period of six years. At my place I waited two years to accumulate enough to build a kitchen that we had been needing for sixty years. When I got my plans ready I found that we lacked about \$15,000 of enough to build it, on account of high cost of materials. At that time we had a breakdown in our heating plant, and had to put in all of the available money to build a heating plant, and also had to anticipate this year's funds. This last General Assembly, seeing our condition, passed a law permitting the Building Commission to make available all the money coming to the various hospitals to be spent whenever, in their opinion, it is necessary. Therefore, we are permitted to put in as many buildings as we can with the money available. Morganton has all of its money to be spent. Raleigh has \$100,000 to spend. In the transfer of the prison buildings to the State Hospital, it was the purpose of the General Assembly to use part of the bond issue to make suitable the prison building for hospital use. It was the purpose of the State Legislature in this act to take care of all the insane in the State. I am glad to have this opportunity to tell you some of our troubles, because I believe the health officers of the various counties ought to know more about our work, then you can appreciate why we have to hold up taking your cases until somebody dies or is sent out. I have been pleading with the Legislature for this enlargement ever since I have been superintendent at Raleigh. It ought not to be the plan or the purpose of the State hospitals to take everybody who has any mental trouble. I think we ought to have a plan to take them out of the jails. The real purpose of a State hospital is first to take cases that can be improved or cured, and I wish to ask you gentlemen to send us such cases as can be cured or improved. Do not empty your county homes and jails, expecting the State hospitals to care for such cases. I think the hospital idea should always be kept in mind in treating cases. I regret to state that there has been less progress made in handling and treating mental cases in the last hundred years than in anything else we do. We have made practically no progress in one hundred years, but for the last ten years or the last five years, we have made progress equal to any. This progress has been made possible by a National Committee for Mental Hygiene. Strange to say, that committee was formed by a layman, who had been a patient for three years but who had sense enough to see the abuses. The promoter to whom I refer is Mr. C. W. Beers, and I would be glad if all the health officers in North Carolina would read his book, "A Mind That Found Itself," in order that you may realize the importance of handling cases right. It is only within the last five years that steps have been taken to

release patients from restraints. I think if you will visit a State hospital in North Carolina now, you will hear very little noise from maniacal cases. At night we have a condition almost like that of a private dwelling when we go to sleep, all because we have removed mechanical restraints that aggravate the condition of the patients. I have not only removed them, but have put them out of the reach of attendants who might want to use them.

It is the purpose of the State Hospital to take your cases, but I want to take the suitable cases first. Send us those who are acutely insane, and give us all the information you can. Be patient, because we shall not be able, in the next year or two, to take all the cases we ought to take. The accumulation of five or six hundred perhaps would not turn up today if we had room for them. A great many of them have either died or gotten well. As soon as we can spend this money in making the State's Prison suitable, and in enlarging the buildings, we can take care of the cases. We have to wait for the State's Prison to put up its new buildings, and that will take at least the next two years. We may not get hold of this property to make it suitable for hospital work until after the next Legislature. We have to work out this problem with patience and, I hope, with intelligence. I am glad of this opportunity to tell you of our problem and of our intentions. I do not know that it is the purpose of the board to take any of the money appropriated for Morganton and spend it at Raleigh, because Morganton says it needs all of it. If they do spend it there, we shall not have enough to put the State's Prison in suitable condition. It will be two or three years before we can get to it. I am glad that the State is moving along these lines, because I think the conditions stated by your president are facts that should be recognized and corrected.

I happen to know that the orthopedic hospital has been provided for by an appropriation, and the conditions that you mention will be relieved in a small way.

DR. P. B. LOFTIN, Beaufort: Dr. Anderson, I guess, knows that Carteret County has quite an interest in his institution. He has just told us about the quietude that prevails there. Do you remember, Doctor, one woman we sent there from Morehead City? She was the hardest thing to manage that I ever saw; she was the filthiest thing I ever saw; she used the most profane language I ever heard. She was in the jail, and I was going in one night to see her, so I asked the jailer if she had anything with which she could hurt me. I went in and talked to her. Something struck me, and I thought a bomb had burst. It was a tin can filled with soap. Finally you consented to take her, and

sent a little woman down there to take her up to Raleigh. That little woman managed her all right, and I want to know how she does those things.

DR. ANDERSON: I cannot tell the doctor how we manage such patients—it is a psychological condition that is hard to explain. We understand how to handle those cases by experience in the work.

I would like to illustrate the importance of taking a case at once. When I appeared before the Legislature of 1915, I cited a case that occurred near the town of Rocky Mount. Some one called me up, and we made arrangements to send an automobile through the country with one of our doctors. The people had tied the woman with ropes to the bed. She had not eaten a morsel in about a week, and was very much emaciated. My physician walked in, untied the patient, and told her to sit up. They brought her a glass of milk and she drank it with a smile. Then they put her in the automobile, and they brought her to Raleigh with no more trouble. I said to Lieut. Governor Daughtridge that it was criminal for the home folks to try to handle those cases when we could do it so much better. The cost, by the time lost from work, etc., ran up perhaps to \$50 a day. As soon as the patient reaches the hospital, it costs only about fifty cents a day. When you have to restrain them by inexperienced hands it keeps up the resistance. If you throw off the restraints, and treat them with kindness and gentleness and all the skill you can command—and we ought to have more skill; we ought to have better nurses, with more educational training—it is wonderful to see what we can do, by taking away improper restraints, in improving sometimes even chronic cases. The best nurse Dix Hill ever turned out was a chronic case at that hospital for about fifteen years. She was well educated and so attractive that we decided to try her out in nursing. Why is it that that young lady was cured? I think it amounts to this: We removed every restraint from her in the last attack that she had. We gave her kindness that she appreciated, and there was something started in her soul that has made her the wonder of the hospital. We have to handle these cases just like other cases. I want to say that this problem does not differ from your problem, only that it is more important to handle the mind right when it is sick than to handle the body right when it is sick. It takes more skill in handling it to do it right.

AFTERNOON SESSION

EUREKA FARM-LIFE SCHOOL AND
JAMES MCCONNELL MEMORIAL HOSPITAL

MONDAY, APRIL 14TH, 3 P. M.

The Health Officers' Association was called to order by Dr. McCracken, President.

After the call to order several selections were sung by the girls' chorus of the Farm-Life School.

The President announced that Miss Mary Gill Hayes, superintendent of the hospital, had arranged the entertainment for this session, and that refreshments would be served after the meeting. He extended the thanks of the association to her for her kindness; also to Dr. Mudgett for arranging the trip to the School and Hospital. The courtesies of the association were extended to Dr. Mudgett, and he was invited to address the meeting.

DR. W. C. MUDGETT, Southern Pines: It is certainly a pleasure for us to have this opportunity of entertaining you. We are very glad that the day has been fine, and that you consented to come. The purpose for which the James McConnell Memorial Hospital was built was the conception of the Sand Hill Board of Trade, an association made up of members from all towns in the sand hill district. Each town has its local board of trade. The central board of trade is composed of five members. This hospital was built for the purpose of clearing up the developmental defects occurring in school children. A survey of all schools in this district was made by the State Board of Health before the hospital was completed. At that time a card was given the child in whom a defect was found in tonsils, teeth, etc., a card retained by the representative of the State Board of Health, and a card given to the hospital. These children are given the opportunity of coming here to the hospital on clinic day, and given the opportunity of getting work done at a minimum fee. All the money goes to the upkeep of the hospital. Of three hundred and seventeen children with diseased tonsils or adenoids, two hundred and seventy-five or eighty have been operated upon. As a rule, there are about ten cases in the hospital at all times. Just at present we are nearly empty. We have all kinds of cases, from intestinal obstruction to diseased tonsils, and it has been a very great boon. Our present intention is to extend the hospital and build ten private rooms, so that we can take pay patients. In that way the institution will probably become self-supporting. It is our intention at the present time to employ the services of a graduate of medicine

and have him make this his headquarters for the district. He will go into the schools, lecture to the school children and cooperate with the teachers.

We have also established a dental clinic here which has been very successful. I cannot give you the exact number of children treated. The dentist gave his services during an entire month for one day a week. We also had an eye man on the staff, and he gave his services for one day a week. During the influenza epidemic the institution justified its existence. A great many cases were taken care of here who otherwise would have been unable to get nurses.

DR. B. E. WASHBURN, Chief of Bureau of County Health Work, State Board of Health: This afternoon session is one of the most important on the program, and I would like to make a motion, if it is in order, that four minutes be given each county for its report, and that if a county is not represented, the report be read by the secretary.

This motion was seconded by Dr. Wm. M. Jones, and was passed.

ANNUAL REPORTS

ALAMANCE COUNTY—DR. W. R. GOLEY, QUARANTINE OFFICER

We have had about the usual amount of sickness for the past year, with the exception of a severe epidemic of influenza, which caused more than 100 deaths.

List of contagious diseases reported and quarantined:

Name of Disease	Families	Cases
Whooping cough	188	286
Measles	57	73
Typhoid fever	9	9
Diphtheria	27	27
Chickenpox	23	26
German measles	5	7
Scarlet fever	3	4
Smallpox	4	9
Ophthalmia neonatorum	2	2
Septic sore throat	3	3
Bronchopneumonia	6	6
Tuberculosis	1	1
Total	328	453

Visits to county home, 75; county jail, 40; convict camp, 35. Examinations of insane, 10. Deaths at the county home, 5. The three county institutions all very well kept.

CALDWELL COUNTY—DR. L. H. COFFEY, COUNTY QUARANTINE OFFICER

I am sure our county health work is in better condition than last year. We keep a supply of diphtheria antitoxin, that the physicians of the county may use it when needed. This antitoxin is, of course, furnished by the

State Laboratory of Hygiene. I have vaccinated about seven hundred persons against typhoid fever and several against smallpox.

Of several thousand school report cards handed me by teachers, I selected more than six hundred of those showing most defective, and had those children meet me at various dispensary points where I examined them and advised with them and their parents as to habits, hygiene and medical treatment, and in many instances, surgical. I found a large percentage of them with defective vision, enlarged tonsils, adenoids, and hookworm. Many of the children have followed the treatment prescribed, however many of them have not. Under the supervision of the State Board of Health our school children received the benefit of a free dental dispensary campaign throughout the county last summer which resulted in much good.

Several hundred of our citizens have died and many have been rendered defective physically from the severe scourge of influenza which invaded our county during the past winter.

Infectious diseases reported from Caldwell County during last year, viz.: Cerebro-spinal meningitis, 1; chickenpox, 3; diphtheria, 29; septic sore throat, 2; measles, 15; scarlet fever, 17; typhoid fever, 41; whooping cough, 93.

CARTERET COUNTY—DR. P. B. LOFTIN, QUARANTINE OFFICER

I herewith submit a report as my records show cases of contagious diseases reported from May 1, 1918, to March 15, 1919. Whooping cough—homes reported and placarded in May, 23; June, 74; July, 36; August, 17; September, 12; October, 4; November, 2; December, 18; January, 1919, 1; February 19th to March 15th, 28.

Measles—There were no cases reported from May 1st to December 31st, 1918. January, 17 cases; February, 157; reported March 15, 153 homes.

Typhoid fever, June, 1918, 5 cases reported; July, 7 cases; August, 3 cases; September, 4 cases; October, 2 cases; November, 2 cases; January, 1919, 1 case.

Infantile paralysis—One case was reported in January, this year; my opinion is that a wrong diagnosis was made, but on safe side, as the patient has entirely recovered; one case of diphtheria and 2 cases of septic sore throat were reported during the above period, and 4 cases of chickenpox. But this does not cover the work that I have done, and I cannot cover that in this report. When I took hold of the work our people were very much opposed to having their homes placarded and cared but little about the other fellow's child, so it has been a work of trying to educate the people, and some of the members of the State Board know something of what I had to butt against. But I have given them line upon line, and work every turn or whenever I can put in a word. I am still at work. I am interested because I know it is a great work and will continue to live and grow.

CATAWBA COUNTY—DR. GEO. W. SHIPP, QUARANTINE OFFICER

Public health work in this county has made marked improvement during the past twelve months. First of all, the average citizen is taking more interest in his own health and that of his family. His children are being more carefully cared for, their teeth and tonsils are being treated, and ordinary ills are having more attention given them than has been the case

before. The contagious diseases have been easier to control and fewer in number than the year previous, as the people are better informed as to why these diseases should be controlled, while the appearance of a quarantine placard has become more a sign of patriotism than an object of hate on the part of the household where its appearance is required.

The rural homes are having modern conveniences added. A number have installed running water, bath tubs and modern plumbing. The porches and windows are screened and the general sanitary condition of the barns and surroundings is looked for.

The public schools are in a better sanitary condition today than ever before. These buildings are kept clean, the floors are oiled, sanitary drinking coolers are used and the school grounds are laid off for baseball, basketball, and tennis courts.

We are beginning the erection of the sanitary privy recommended by the State Board of Health for a number of the schools of the county, and some have already been completed. A number of school health clubs have been organized, with splendid results. The teachers are more interested than ever in the control of contagious diseases and have exerted a great influence toward making the need of sanitation and quarantine plain to the people.

It is comparatively easy to enforce sanitary laws and quarantine in incorporated towns where you most always have the support of the town officials and its police. Here the people have opportunity to see the benefits of sanitary laws, and the modern use of sanitary closets and sewers and the necessity of protecting the community against contagion. They have daily opportunities to see the enforcement of sanitary laws and quarantine regulations, while the rural population, who are in many instances isolated, are only occasionally forced to face the need of these regulations. That which is a daily happening in a town possibly occurs only once a year in the rural communities. I believe a county should be judged chiefly by its rural quarantine and sanitation.

Indictments. It was my unpleasant duty to indict two physicians and one layman in my county, and I convicted all three. I can hardly say that these indictments increased my popularity any among these parties, but I do believe that they had a good effect upon the communities in which they occurred and incidentally upon these physicians, as they have given me no further trouble by not making prompt reports of their cases.

The number of cases quarantined during the past twelve months was less than the year previous. Typhoid fever has almost been eradicated. This was due to the free typhoid fever inoculations given in the county three years ago and the methods of prevention taught. Some 60 per cent of the population availed themselves either of the free vaccination or had it given by their family physician.

The following is a summary of the placardable diseases reported last year by families: Measles, 23 families; whooping cough, 21 families; diphtheria, 65 families; scarlet fever, 11 families; typhoid fever, 31 families; smallpox, 3 families; meningitis, 3 families.

There were possibly some cases which were not reported, but they were few in number.

CHATHAM COUNTY—DR. JAMES S. MILLIKEN, QUARANTINE OFFICER

Due to the fact that I have only recently been appointed health officer for Chatham County, and as the former health officer has moved from the county, my report will necessarily be brief.

I have no statistics at hand to base a comparison of the health condition of the county last year with that of the preceding years, but it seems to me the number of reportable diseases was extremely low for a county with such a large rural population. There were 188 cases of reportable diseases reported to the health officer, and divided as follows:

Broncho and lobar pneumonia.....	27
Typhoid fever	17
Septic sore throat.....	2
Whooping cough	84
Chickenpox	1
Smallpox	6
Measles	42
Scarlet fever	7
Diphtheria	2

The quarantine was adhered to very well, there being no indictments for failure to keep quarantine.

The county commissioners appropriated money for medical inspection of school children last year, but owing to the influenza epidemic and our inability to secure a nurse last fall, this work was not begun. The results of the medical examination of registrants demonstrated the great necessity for close medical inspection of school children, and we intend to carry out this work next fall.

The influenza epidemic spread over Chatham County during the latter months of last fall and a smaller epidemic during January of this year. The mortality was rather low in comparison with other localities. It acted rather queerly here. In the section around Pittsboro the greater number of fatalities was among the negroes, while in the community around Siler City the greater number of fatalities was among the whites. Practically all the schools and churches were closed during the epidemic.

The county commissioners have just installed water works in the courthouse and jail. This has considerably improved the sanitary conditions of the jail, which up to this time had not been of the best.

The health of the inmates of the county home has been good during the past year—there having been only two deaths reported.

CHOWAN COUNTY—DR. J. S. MITCHENER, QUARANTINE OFFICER

The work in Chowan has been under the care of Dr. J. W. Warren until recently, and I thought he would make the report.

This I'll say: Our little county is ready for a full-time nurse any time the State and Federal Government can extend us the help the State Board of Health has suggested.

CLEVELAND COUNTY—B. H. PALMER, M.D., QUARANTINE OFFICER

(Read by the Secretary.)

I am getting along with the health work about the best I can, under existing circumstances.

We have had so much influenza and other things to do this winter it has been impossible to do much other work. I am urging the doctors to report all the contagious diseases and am furnishing them with franked cards to use in reporting. The doctors, as a rule, report fairly well. I try to explain to them anything that I can concerning their duty.

I don't think that I can get to Pinehurst this time.

CUMBERLAND COUNTY—DR. JOHNSON

I have not prepared any report, as I did not know the nature of this meeting this afternoon, but I will say that I have been associated with the health work in Cumberland County for several months, and it is very much along the lines of the report from Charlotte.

I am sorry that I cannot give a report in detail, but I will say that infectious diseases have not been very numerous in Cumberland County. We have had some diphtheria, some meningitis, and some smallpox. Our work in rural sanitation has just begun. Our work is getting along nicely, and we are doing some good things in Cumberland.

CUMBERLAND COUNTY—CAPT. A. R. SWEENEY, U. S. PUBLIC HEALTH SERVICE

In malaria control there have been 38.9 miles of ditches completed, which involved the clearing of 6.8 acres of ground. There has been laid about 1½ miles of terracotta piping in order to make the work of permanent nature.

In rural sanitation, 3,500 residences, schools, churches, etc., have been surveyed, 22 lectures given, 112 water analyses, 212 concrete vaults constructed, 10 septic tanks, 14 water connections, and 7 sewer connections made. Several hundred contracts have been made, and construction is under way by the government and contractors of sanitary closets. Passage has been secured by the board of aldermen of an ordinance for the expenditure of \$45,000.00, extending the city water supply.

In the work of control of food and milk supplies, 140 establishments handling food and drinks have been under inspection, and 2,800 inspections have been made, with a marked improvement in the general sanitary conditions of these establishments and the installation of modern equipment. All the dairy herds in the vicinity have been tuberculin tested, work having been done jointly by the State and U. S. Departments of Agriculture. One pasteurizing plant is under installation, and dairies have put in equipment for sterilizing utensils, etc.

Medical inspection of schools: All white children of city and public schools have been medically examined by physician and nurse, and several country schools have been examined. A free dental clinic has been established in Fayetteville and 400 children have received free treatment by the local dentists. Under Dr. G. M. Cooper, of the State Board of Health, 326 patients have been treated in the country schools; 927 amalgam fillings made, in addition to extractions and other treatments.

Public health nursing: 1,839 nursing visits have been made, 1,779 instruction visits, 2,270 follow-up visits have been made and nurses have insisted upon giving 448 smallpox vaccinations and 1,439 typhoid vaccinations, in addition to assisting in clinics and enforcing the State quarantine law against infectious diseases.

Control of communicable diseases: There have been three cases of diphtheria, 180 cases of measles, 15 of smallpox, 816 cases of influenza (since the initial epidemic), 10 scarlet fever, 42 pneumonia, 17 bronchopneumonia, 6 lobar pneumonia, 2 cerebro spinal meningitis, 9 tuberculosis, 59 gonorrhoea, 15 syphilis, and 11 chancroid.

Control of venereal diseases: The clinic for treatment of venereal diseases has been established. During the last month 14 patients have been under treatment, and 7 doses of arsphenamine administered.

DARE COUNTY—DR. FRANKLIN P. GATES, COUNTY PHYSICIAN

(Read by the Secretary.)

In making this annual report for Dare County, I will not take up your time with the geography of this section, nor with the relations that we hold with the outside world. Our former report went rather fully into these details so that the membership might have an insight into this remote corner of our beloved State.

We have many trials and tribulations to meet here that seem to defy our very best efforts, and at times, in spite of all we can do, seem determined to put us out of business. Some of these adverse conditions are, of course, met with elsewhere, and seem to have visited every nook and corner of the earth.

During the past year we have had whooping cough in two or three communities of Dare County, which has taken the children and a few grown people by storm. We placarded, talked and furnished literature to the families, schools and individuals, and still, in spite of this, it would crop out in various sections. As a final cudgel to prevent its spread we began vaccinating for it, using a preparation furnished by the State. These cases were mostly young children and babies. So far as I know, or have any record, only two cases that were vaccinated had pertussis, and they were mild.

One section on Hatteras, in this county, has had whooping cough and measles this spring, but Hatteras is about 80 miles from Manteo, and I could not get any definite reports from parents or teachers. One teacher told me she had been threatened with violence if she reported the contagion to me, so she stopped after sending two or three reports of measles. However, I did not attach much importance to her statement, as I knew her habits.

The latest and most death-dealing calamity visited upon us was lagrippe, or more recently known as Spanish influenza. It came like a storm, and spread so rapidly that no one could keep up with it. It visited the strong as well as the weak, the young and the middle-aged alike. People beyond 45 were not so apt to take it. Quite a number of those who did have it had it the second time. We vaccinated for this contagion also until I took the time to figure that any disease that would not render a patient immune from it by having it could not be rendered so by vaccine, so we stopped vaccinating.

The influenza was not bad to treat nor hard to relieve. It was only the complications of lobar pneumonia and pulmonary oedema that gave us trouble. Every complication that I saw alone or in consultation died within a week. We had in the county during October and November about 500 cases with

three deaths, and in January we had around 300 or 400 cases, with 4 deaths. All were due to bronchial pneumonia except one, a child three years old, who died with meningitis.

During our last epidemic we were visited by U. S. Navy doctors and doctors of the U. S. Public Health Service. They came down here in flying machines by direction of the State Board of Health, and U. S. Navy, unknown to me or any one else, except a few chimney corner and jamb-of-the-fence politicians.

The morning of January 19th the Navy sent a doctor down in a seaplane to establish a relief hospital and take charge of the situation. On the day of his arrival I left for the hospital in Norfolk to take a patient for treatment of some chronic trouble, which, however, was not influenza. All of my patients were discharged, and my associate had only a few on hand that were needing attention, and these were rapidly convalescing; in other words we were out of the woods and on praying ground so far as the influenza was concerned.

On my return from the hospital I found the Navy doctor here, but resting. He passed me his orders, which had been given him by the medical aid, stating at the same time that he did not find anything here to do; that he was only waiting for me to come back so he might be able to make his report to the Navy and get out clear. I released him, so he returned to the Naval base. The sham call that he had to visit our section, to relieve the influenza situation, is plainly indicated by the fact that he saw only two cases with my associate while here.

He saw a case of chronic gastritis in the hotel where he stopped, that I had been treating for a month. This was the proprietor of the hotel and a very sick man, but he did not have the influenza. As my office was open to him for anything that he might want, he went over and filled a prescription for the hotel proprietor of subnitrate bismuth, bicarbonate soda, and elixir lactated pepsin. This he sent over with directions for use, but before the first dose was due enough gas had generated to blow the cork and half the medicine out of the bottle and badly soil the dresser and linen. This frightened the family for fear that the patient might meet the same fate, so the nurse would not give the man any of the mixture.

The U. S. P. H. S. doctor, who came all the way from Hartford, Conn., to control the influenza situation in Dare County told me that he was an influenza expert, and that if any man on earth knew anything about Spanish influenza he knew it. I asked him what he did for it and its sequels. He said: "We give them aspirin and whiskey until they turn blue, and then give them something to let them go easy." He remained with us for a few days, taking a trip or so to Elizabeth City, a town about 40 miles north of us. He finally came in and said he had to make a report to his branch of the health department. I gave him the use of my office and typewriter and asked him to submit his report when he finished it, but he did not do so. He made a broken report to the newspaper in Elizabeth City and a full report to the *Chicago Tribune*, which was a poor excuse for anything that happened in Dare County.

I report these facts to show you what little ability and what scant respect our official supervisors have shown in their relations with those of you who have your respective people to protect and serve. May the Great God that

wills and directs the destiny of all mankind, deliver us from such fatal contagion as the Spanish influenza, etc.

Since compiling this report we have visited three colored families with smallpox. We hope to control it without further spread, as most of the children and grown people had smallpox or were vaccinated three years ago. We are now vaccinating those who have come along since that time.

DAVIDSON COUNTY—E. F. LONG, M.D., HEALTH OFFICER

The program of our department, aside from quarantine regulations and sanitary ordinances in the towns, has been directed almost entirely through the means of educational propaganda and individual solicitation. This propaganda consists of a series of press letters on timely subjects, distribution of bulletins furnished by the State Board of Health, lectures, often illustrated by lantern slides, and our connection with the established agencies of the county, such as schools, churches, fraternal and social organizations.

Schools: Under the direction of Dr. G. M. Cooper, Chief, Bureau of Medical Inspection of Schools of the State Board of Health, we were able to provide a total of fifteen weeks free dental treatment for school children.

The constructive service rendered to school children, as viewed from the usual economical status of the average householder, has given a tremendous impetus to the influence and activities of the department of health. The relation of a perfect set of sound teeth to the health, development and mental capacity of the growing child is better appreciated. At the same time, a more vital interest is manifested in other phases of preventive and constructive effort.

Sanitation: The reduction in typhoid from 186 cases and 15 deaths in 1916, to 22 cases and no deaths in 1918, representing approximately 900 per cent, we attribute principally to the installation of sanitary privies. Administration of immunizing vaccine has affected the case rate also. Nearly 4,000 immunizing treatments were given in 1916; 805 in 1917, and only 795 in 1918.

Quarantine: Five of the six drug stores in Davidson County carry a supply of State Board of Health diphtheria antitoxin. The physicians of the county have given splendid support to the department in its effort to suppress contagious diseases.

Influenza Control: 6,716 cases of influenza were reported by physicians. Of these 322 developed pneumonia and 93 deaths occurred. Pneumonia rate, 4.6 per cent. Death rate, 1.3 per cent. Reports were received only of cases seen by physicians, probably not exceeding 80 per cent of the cases. The record of pneumonias and deaths is correct, thus reducing the mortality percentage considerably.

On the appearance of the epidemic, sixty school district relief societies were organized and personally instructed by the health officer. Members visited each home, explaining the nature of the disease, the importance of early and complete rest in bed for a sufficient length of time; diet, nursing, and methods of prevention; at the same time, soliciting volunteer nurses. Placards were posted in public places and pamphlets left at each home. By this means, the plows were kept going and few teams were idle, even though the whole family were in bed. We have no doubt that this volunteer

service reduced the percentage of cases, and is largely responsible for our unusually low percentage of complications and deaths.

GENERAL SUMMARY OF ACCOMPLISHMENTS AND RESULTS

Number of newspaper articles published.....	63
Number illustrated lectures delivered.....	104
Number of other public meetings addressed.....	69
Total attendance	12,176
Number letters mailed.....	5,814
Number pieces literature distributed.....	33,568
Number of sanitary closets built.....	1,409
Number of people examined for intestinal parasites.....	502
Number infected with uncinariasis and treated.....	20
Number infected with ascaris and treated.....	23
Number pupils having defects remedied— (Dental, 1,040; Medical, 112).....	1,152
Value of dental work if done in private practice.....	\$2,451.50

DURHAM COUNTY—DR. ARCH CHEATHAM, HEALTH OFFICER

The county and city of Durham health department was organized May, 1913. In a few days we shall finish up six years of work. When first organized the department consisted of a board of health and superintendent, and a city sanitary department with three inspectors. Today our organization consists of a superintendent, a bacteriologist and meat and milk inspector; an assistant bacteriologist, office nurse, four visiting nurses (two white and two colored); three city and one county sanitary inspectors; one special food inspector, one special rural sanitary inspector (all whole time), and two city school nurses, (one white and one colored); two hosliery mill visiting nurses, (one white and one colored); and one Metropolitan visiting nurse, all coöperating with the health department.

During the epidemic of flu the health department had 650 additional workers (volunteers and paid), and maintained three emergency hospitals—two for white and one for colored—with a capacity of 30 beds each, fully equipped with a superintendent, a head nurse, and a diet kitchen in charge of an experienced dietitian. Hospitals were organized, equipped and ready to receive patients in 12 hours after it was decided to establish them.

During the months of October, November, and December there were approximately 6,000 cases of flu, with 112 deaths from flu and pneumonia reported in county and city. The health department spent \$8,954.84 in the management of the epidemic; the county and city each paying half the expenses. The mayor and chairman of county commissioners informed the board of health to set no limit, but to spend what money was necessary, and the city and county would pay the bills.

One of our strong banks extended the board of health unlimited credit. I believe the confidence in the department expressed in such a substantial way was the result of the educational work done by the department in previous years. Those of us who have been long observing health work believe that educating the public is the force that is to bring about reform in public health matters.

How we handled the flu epidemic was by thorough organization of all the forces—Red Cross, teachers, nurses, preachers, Chamber of Commerce, Merchants' Association and manufacturing plants, under the control of

the health department. The next thing was to locate the cases and placard the house so the workers could find them; daily census was taken of the city, east and west Durham, and the school districts of the county and every sick person reported; conditions noted as to the number of sick in the family, and if physicians, nurses, food, clothing, or anything else was needed, this was reported to the office. Every department had its chief, every district had its chief. No one, white or colored, rich or poor, was allowed to want for any attention or necessities. Those in need of hospital attention were taken in ambulance or automobile to the hospital. All soiled clothing was gathered from all parts of the city and county, laundered and returned without cost. Those who were able to pay for nurses, etc., were required to do so after the emergency had passed.

Back to regular work: Our dairymen have maintained the high standard of milk production. As an evidence of their continued efficiency, they again are winners of the "National Dairy Show Banner for Best Market Milk." All food establishments, grocery stores, markets, cafés, and soft drink places are regularly inspected, and all employees are required to have a health certificate. To give some idea of the scope of food inspection, we condemned last year 22,700 pounds of meat, fish, etc. This unusual amount was due largely to bad transportation. Sometimes one-half car load of meat had to be condemned. If inspection had been slack, much unwholesome food would have been served our people.

Sanitary Department: Had installed 57 septic tank closets (L. R. S. Type), and 109 sewer connections made. For extending sewer system the city appropriated \$102,000. Sanitary survey of the county and city commenced in December with the assistance of the United States Public Health Service. As this work is yet incomplete, I will make no report on it. The medical inspection of school children is also incomplete.

The department administered 4,619 doses of antityphoid serum, and vaccinated 392 persons against smallpox. We furnished diphtheria antitoxin free, both curative and immunizing.

Number contagious diseases reported and placarded, 743.

Visits made to homes by nurses, 5,237.

Throat cultures taken by the department, 441.

Our laboratory work has grown to the extent that we put in an assistant January 1st. The city water is examined daily, and ice weekly. Physicians of Durham and Durham County and adjoining counties have the use of the laboratory free. Number of examinations made in 1918, 1,469. All culture media used in this work were prepared in the laboratory.

We hope to report to you next year much improvement in all lines, especially in school work, as we hope to add a whole time dentist, and hope some day to have a health department.

FORSYTH COUNTY—DR. A. C. BULLA, COUNTY HEALTH OFFICER

The health department, in the performance of its duty, has endeavored to educate rather than temporize with attempts to cure ill health. We have long since learned that it is easier to prevent disease than to cure. All that is needed is a sympathetic community and the cooperation of physicians. Give the wide awake health department this assistance and any community can reduce its death rate. It is only a matter of educating the

people, a process, I admit, that is slow, but a persistent effort is sure to win out. The younger element is being educated along lines which are sure to bear fruit.

About the first of October the county was invaded with Spanish influenza, which spread rapidly to every section, infecting more than 7,000 people, tormenting with constant fear all who were not stricken and, with its complications, one of the most terrible ministers of death, adding many corpses to the church yards. It has been likened to smallpox before the days of Dr. Edward Jenner, who in 1798 gave to the world a preventive against that disease. No section of the county was immune, but it was more severe in city, towns, and thickly settled districts. At Hanes, a cotton mill village, the condition became so serious that it was necessary to establish an emergency hospital to take care of those contracting pneumonia. The scarcity of physicians, together with the condition in Winston-Salem, made it almost impossible for proper medical attention to have been given without it.

During the year the health department has taken up five units of work, namely: educational, typhoid, quarantine, school and soil pollution. The quarantine, school and soil pollution units have been carried out under separate bureaus of the State Board of Health.

EDUCATIONAL UNIT

Public meetings, 73; attendance.....	8,722
Educational letters mailed.....	5,018
Articles written for publication.....	157
Number of pamphlets distributed.....	3,855
Number leaflets distributed.....	7,915
Number of posters posted.....	245
Homes visited.....	382
Talks to school children.....	51
Public lectures.....	73

TYPHOID UNIT

Number of dispensaries held.....	37
Number vaccinated.....	574

QUARANTINE UNIT

Number of cases quarantined.....	567
Number of cases reported.....	3,496

DISEASES REPORTED

Whooping cough.....	366
Measles.....	94
Scarlet fever.....	19
Typhoid fever.....	46
Epidemic meningitis.....	3
Diphtheria.....	33
Tuberculosis.....	112
Influenza.....	2,750
Pneumonia.....	18
Chickenpox.....	3
Smallpox.....	49
Ophthalmia neonatorum.....	2
Trachoma.....	1
Visits made to homes to placard and investigate contagious diseases.....	510
Visits to tubercular patients alone.....	108

SCHOOL UNIT

Number of examination cards received.....	154
Number of susceptibility reports received.....	19
Number of schools visited.....	51
Number of children examined.....	1,776
Number of clinics held.....	38
Number of children treated for decayed teeth.....	957
Number of children operated for tonsils and adenoids and had glasses fitted.....	43
Number of children examined by dentist.....	1,010

NATURE OF WORK

Amalgam fillings	866
Cement fillings	75
Guttapercha	10
Abscesses treated	80
Teeth extracted	996
Children's teeth cleaned.....	242
Treated for pyorrhea	12
Miscellaneous treatments	44
Children needed nothing.....	35
Per cent of children needed dental work.....	96.5
Children unmanageable	14
Total cost	\$ 422.40
Cost per child.....	.422
Low estimate if work had been done in private office..	2,349.50

SOIL POLLUTION UNIT

Homes surveyed.....	2,476
Census	12,236
Homes without closets on first survey.....	490
Homes with open closets on first survey.....	1,986
Homes without closets on second survey.....	345
Homes with open closets on second survey.....	1,379
New closets built.....	145
Old closets rebuilt.....	462
Total number of closets made sanitary.....	607
Number of persons examined for hookworm.....	2,729
Number of persons refused examination for hookworm.....	9,507
Number positive to any parasites on first examination.....	284
Number negative to any parasites on first examination.....	2,445
Number positive to hookworm on first examination.....	124
Number positive to ascariis on first examination.....	108
Number positive to tenia on first examination.....	63
Given first treatment for hookworm.....	121
Given first treatment for ascariis.....	108
Refused treatment.....	3
Number of days worked by field workers.....	485

MISCELLANEOUS

Visits to city hospital.....	10
Visits to emergency hospital.....	21
Influenza patients visited.....	334
Office examinations.....	15
Persons examined for insanity.....	32
Visits to examine insane persons.....	28
Autopsies held	2
Nuisances investigated.....	15
Cases of pellagra reported.....	8
Cases of pellagra visited.....	4
Vaccinated for smallpox.....	374
Indictments	1

INSTITUTIONS

In addition to the county home, jail, reformatory, two convict camps, Forsyth has a tuberculosis hospital. On an average, about 225 people are cared for, given medical attention, in these institutions each month.

Visits to jail, 151; prisoners examined, 174.
 Visits to county home, 82; inmates examined, 115.
 Visits to reformatory, 18; boys examined, 24.
 Visits to convict camps, 28; prisoners examined, 36.
 Visits to tuberculosis hospital, 146; patients examined, 30.
 Visits to tubercular patients, 92.
 Tubercular patients admitted, 72.

WINSTON-SALEM—R. L. CARLTON, M.D., HEALTH OFFICER

Our report will be based on work done for the calendar year 1918, instead of for year ending April 1st. A great deal of the activities of our department has been routine, yet we feel that good advancement has been made along several lines.

Our organization consists of health officer, city physician, laboratory director, who is also dairy inspector, food store inspector, two sanitary patrolmen, four public health nurses and secretary; all employees are for full time.

VITAL STATISTICS

Total births.....	1,027
Total deaths	1,207

Of this number of deaths, 27 were nonresident and 82 stillbirths, leaving 1,098 deaths for the year.

Among the chief causes of death were:

Tuberculosis (all forms).....	123
Pneumonia (all forms).....	186
Influenza	244
Diarrheal diseases.....	139
Epidemic cerebro spinal meningitis.....	8
Whooping cough	5
Diphtheria	7
Typhoid fever.....	18
Pellagra	16
Syphilis	5
Prematurity	39
Stillborn	82

COMMUNICABLE DISEASES

Among those reported were:

Diphtheria	64
Epidemic meningitis.....	13
Measles	461
Scarlet fever.....	25
Smallpox	58
Tuberculosis	187
Typhoid fever.....	113
Whooping cough	215

Some of these show slight increases over 1917, but in the main the communicable diseases were not characterized by any great outbreaks—on the other hand, scarlet fever was almost negligible, and typhoid fever, with 113 cases, is the lowest record in the history of the city. Tuberculosis continues to be one of our greatest problems, and the diseases of early childhood, particularly the diarrheal diseases, continue to take a heavy toll. A good deal of time and effort has been spent in combating tuberculosis and diarrheal diseases, especially in trying to mould public sentiment up to the point of establishing tuberculosis dispensaries and infant welfare stations.

In our typhoid work we have urged better sanitation, fewer flies, cleaner food and drink, and have given 2,600 doses antityphoid vaccine.

Influenza attacked Winston-Salem with at least 6,000 cases in October and 4,000 in December, resulting in 244 deaths. The activities of the department were to a great extent expended on conditions caused by influenza in those two months.

Schools: At the beginning of the school year two new nurses were added to the force, enabling us to have every school visited every day. The medical inspector made 58 visits to schools; the nurses 822 visits; made nearly 15,000 examinations of children; vaccinated 600; excluded 300. In all the school work fine coöperation of teachers, parents and children has been shown.

Arrangements have been made for a dental clinic to begin operations early in 1919.

Many operations for removal of tonsils and adenoids and other defects have been effected during the year.

Charity: More than 1,500 visits were made by the city physician, over 2,000 patients being treated at home and 600 at the office; 425 permits for entrance to city hospital being issued.

Sanitation: A great many wells and surface closets have been abandoned and connections made with the city water and sewerage systems, which are now available to every home in the city. General housing conditions are improving, but much remains yet to be done.

Inspections of the city's water sheds have been made every three months.

Fumigation: We have continued the practice of fumigation, 306 rooms being fumigated, but we have urged that less attention be paid to this method of control of contagious diseases and more attention to bedside disinfection, sunshine, fresh air and cleanliness.

Foods and food handlers: All food handling establishments from dairies, wholesale houses and abattoirs to the smallest groceries and fruit stands have been inspected at frequent intervals as to general cleanliness and sanitation, and all food handlers, numbering over 800, have been examined and given health certificates before being allowed to handle foods. Splendid coöperation has been given us in this work.

City laboratory: There have been examined:

- 357 samples of milk
- 112 specimens of water
- 854 bacteriological specimens
- 17 suspected rabies

Several miscellaneous specimens, including urine, mother's milk, various foods, drugs, etc. We feel that the city laboratory is doing good work, which will be even better when additional help is provided.

Public health nursing: Our force of public health nurses is of the greatest value. Their visits to schools and homes, carrying their health messages wherever they go, do more real good than any force at our command. Our nurses, in addition to their school work, made nearly 9,000 outside visits to homes, which were distributed among contagious diseases, prenatal, post-natal, instructive, coöperative, etc.

Publicity: Many columns of newspaper space were used, thousands of bulletins pertaining to health matters distributed, several papers read before clubs, societies, etc., a health exhibit at the county fair was made, posters were displayed, etc.

Conclusions: The outstanding features of our year's work have been:

- The issuing of health certificates to food handlers;
- The Health Survey by *Delineator Magazine* and other workers;
- The employment of two additional nurses;
- The typhoid clinic in the summer;
- Making sewer available to all homes;
- Abandoning closets and wells;
- Educational exhibit at the fair;
- Milk exhibit at National Dairy Show;
- Influenza epidemic, 10,000 cases;
- 113 cases typhoid, lowest in history of city;
- 25 cases scarlet fever, also lowest in city's record.

FRANKLIN COUNTY

(Report made by the Secretary.)

Dr. Malone examined every white school child in the county last year, and arranged for several adenoid clubs. They had a specialist come from Raleigh for about five days' work. This was one of the first counties to try the club plan. I will say that much for Dr. Malone in his absence.

GREENE COUNTY—DR. W. W. WHITTINGTON

I did not know anything about making a report to the association, so I have only what I can tell. We have had trouble in getting anybody to report anything in Greene County, because they did not know that they were required to do this. The doctors, however, have coöperated in reporting contagious diseases. We had a considerable number of typhoids last year. We have done some vaccinating for typhoid, smallpox, diphtheria, etc. For only the last four months, I believe, has there been an opportunity for comparison. During the four months that I have been able to compare them, the contagious diseases are much less than they were the year before. For the last two months no contagious diseases have been reported at all. Greene County has been desperately healthy. I do not think that it will last, however. The work is apathetic, and has been all the time, but I hope to get some interest aroused later. I have visited nearly all the white schools and have put up the posters that were sent to me, and have talked with everybody who would talk about it.

GUILFORD COUNTY—DR. WM. M. JONES, HEALTH OFFICER.

I haven't any formal written report made out to give you. For one thing I have done all the ordinary work as nearly as I could—the work called for by the statutes. The only thing to which I want to call your attention is something out of the ordinary for me. I want to talk, in a general way, of the dental work we did in the county. That is the only thing I have done in the last year that is different from the previous years, except, of course, the work during the epidemic.

We employed a dentist and had him work in the county for twelve half weeks. We did not have him for the whole week, but only three days at a time. What we agreed to do was to clean the teeth, extract when necessary, and put in cement and amalgam fillings. We did not take up the treating of root canals and abscesses, nor orthodontic treatment. I felt that in some places in the county we could run up to fourteen years of age. In a fairly thickly settled locality we had to cut the age limit down to twelve. We did not cover the whole county, but took only a small portion, and the dentist was busy every minute of the time, with the exception of one Monday when we had quite a severe storm. Geographically, we did cover one-third of the county, but the population of that third is only eight to ten per cent of the whole population. Our man was a local practicing dentist. My proposition to him was that he was to do the work just exactly as he would do it in his office, just as good work, and that he was to be just as careful. I think there were only two cases that were obstreperous. The figures have been published in the Health Bulletin. That is the only thing we have done outside of the general run of the work.

CITY OF GREENSBORO—DR. B. B. WILLIAMS, CITY PHYSICIAN

I am sorry to say that I have no report to make. Coming into the work at the first of the year, and in the middle of the epidemic of influenza, my entire time has been occupied in an endeavor to allay the public fear in order that our schools might not lose the entire session. This has been no small task for a new man, and especially so, considering the unstable state of the public, who were ready upon the least provocation or upon no provocation to demand that the schools be closed. With this situation demanding almost constant attention, there has been no opportunity to do more than the general routine work demanded by statute.

HAYWOOD COUNTY—J. R. McCracken, QUARANTINE OFFICER.

Outside the usual routine of duties of the county health and quarantine officer, very little has been done in Haywood County during the last year. The medical inspection of school children was taken up but not completed, as the scarcity of physicians and the unusual amount of illness made it impossible for the inspector to continue the work. The State Board of Health kindly sent Miss Pratt—a State school nurse—to help us out, but just as she got started nicely the school stopped on account of influenza. Quite a number, fifty to seventy-five, children were treated, and others will be treated later.

Excepting the big epidemic, infectious diseases have been scarce in Haywood County during the past year. There are now quite a number of cases of measles in and around Canton.

We are still trying to get our people vaccinated against smallpox and typhoid fever.

HERTFORD COUNTY

(Report made by the Secretary.)

The Board of County Commissioners and Board of Education provided for the medical inspection of every white and colored child in the county. They also had an adenoid club for two days. For the latter service the Bureau of Medical Inspection of Schools secured the services of a Raleigh specialist, who operated most successfully and satisfactorily on twenty-three children.

LENOIR COUNTY—T. F. WICKLIFFE, M.D., HEALTH OFFICER.

I—EDUCATION

On taking charge of the public health work in Lenoir County, January 1, 1919, I was pleased to find that my predecessor, Dr. J. S. Mitchener, believed so thoroughly in educational work, especially in the schools, for it is my opinion also that through this source many of our health problems must be solved. Almost the last words Dr. Mitchener said to me on leaving were: "Wickliffe, I feel as if I am leaving my child to you, I am so fond of the work;" and I have had occasion to realize whereof he spoke, as the data submitted in this annual report are largely of his work.

During the past year we have held 114 meetings, reaching approximately 6,000 people, many of whom were school children, and bright ones at that. In teaching these children of the preventable diseases, which they can and ought to avoid having, I explain how the two classes of diseases are spread, and it is surprising how quickly ideas are grasped and what excellent answers are received to questions directed to various children.

II—SOIL POLLUTION

We have made 1,774 examinations for hookworm, found 974 positive, and have treated 1,148. Lack of field workers has considerably hampered results accomplished along this line. The Board of Education was prevailed upon to pass a ruling requiring each rural school to build two sanitary pit privies, the board agreeing to pay half the expense.

III—QUARANTINE UNIT

Our records show the following reportable diseases for the year, most of which were personally visited by the health officer:

Whooping cough	216
Measles	6
Scarlet fever.....	7
Diphtheria	12
Smallpox	3
Typhoid fever.....	37

The typhoid fever proved fatal in only two cases, showing a lowering of the death rate from typhoid of about 86 per cent.

IV—SCHOOL UNIT

Sixty-nine visits were made to schools, many talks given and personal letters written, and much literature distributed among them. Teachers

sent in 1,690 examination cards; 665 children were examined and 513 had defects remedied. We endeavored to interest teachers and pupils in oral hygiene and asked teachers to have roll calls of clean and filthy mouths. Oral hygiene lessons are being frequently given by the teachers. A synopsis of our dental campaign follows:

Treatments	383
Cleanings	338
Fillings: Amalgam	72
Cement	55
Extractions	104
Schools in county.....	46
Schools represented.....	31
Households represented.....	232

This work for three weeks was exclusively rural.

V—LIFE EXTENSION

Only twelve applications were made and examinations given for life extension work last year.

VI—VACCINATIONS

About 7,000 people were vaccinated against typhoid and 330 against smallpox. Last August the Kinston school authorities were induced to order compulsory vaccination against smallpox.

VII—CITY UNIT

Kinston is gradually extending its sewerage, 295 connections having been made during the past year.

Since taking charge of this work I have been making regular weekly visits to the county farm, convict camp, etc., with a view to bettering conditions for the unfortunate inmates. Some improvements have been noted.

LENOIR COUNTY

DR. J. S. MITCHNER, EDENTON.

In the first place I want to express thanks to my successor for his comments on my directorship of the Lenoir County department. I may add that we are proud to have forced sewerage connections in about 100 homes of the mill section of our town. By attacking an influential corporation at first the individual owner sees that he must do, and does automatically.

We had in Lenoir two towns, with about 200 homes in one, and 30 in the other. Each of these was almost completely sanitized with pit closets. The pits were installed outside the sewerage district of Kinston and it was a blessed fear that followed this, for some of the landowners began to cry extension of sewerage, which was begun, and, I believe, five blocks have been laid.

The two things that have done more toward getting the Lenoir County department well known and liked are, first, the intensive lecture course carried to almost every white and many negro communities, using a lantern slide machine to illustrate; secondly, the summer dental campaign. Too

much can not be said for Dr. Cooper in successfully engineering this pioneer work. People really felt they got something for their taxes, and all were satisfied.

MACON COUNTY

(Report made by the Secretary.)

The children had medical inspection last fall, and one hundred and twenty-nine children were treated, six of the cases being trachoma.

MADISON COUNTY

(Report made by the Secretary.)

All the children have had medical inspection. About seventy-five of the children were taken to Asheville for operations, and 150 have had dental treatment.

MARTIN COUNTY—DR. WILLIAM E. WARREN, COUNTY PHYSICIAN,
MEDICAL INSPECTOR OF SCHOOLS

My duties are those of county physician and quarantine officer. I have to perform the usual routine work, such as looking after the various county institutions, viz: the county home and county jail. Monthly reports are made to the county commissioners. Since June 1, 1918, I have had reported to me: Typhoid fever, 23; diphtheria, 10; whooping cough, 13; chickenpox, 17; septic sore throat, 1; scarlet fever, 1; pneumonia following influenza, 85, and about six thousand of our population had influenza. Am glad to say that the physicians and householders are cooperating in reporting contagious diseases. We have about 50 white and colored schools in the county, about evenly divided; the buildings are of modern structure, the light and ventilation are very good in the white schools but not so good in the colored. But I think they are as good as the majority of the colored school buildings in the country districts throughout the State. A large majority of the defective children that I examined last year have been treated and it has been a Godsend to them. There is plenty of diphtheria antitoxin kept on hand in my office to be used by the physicians of the county absolutely free. The county institutions are kept in a most sanitary condition. For five months, beginning October 1, 1918, to March 1, 1919, we had no contagious diseases, but the epidemic of influenza eliminated them, I suppose. Had two cases of lethargia encephalitis, or "sleeping sickness," in twins two weeks of age. They slept incessantly for ten days, taking nourishment only one time. No medicines were administered to them and at this writing they have recovered. The mother had influenza-pneumonia about one month before they were born. They were born at term. Wish to say the typhoid epidemic was in a thickly settled negro population in the extreme end of the county and typhoid vaccine had never been used.

CITY OF CHARLOTTE—C. C. HUDSON, M.D., HEALTH OFFICER

Below is given a report of the activities of the Charlotte Health Department for the year ending April 1, 1919. Some of the work was done in cooperation with the U. S. Public Health Service and the Red Cross Unit Number 20, both of which organizations were withdrawn from Charlotte in

February, 1919. The withdrawal of these organizations, however, has not interfered materially with the city work, as means have been found to continue the work practically as it was during the existence of Camp Greene.

1. The office work has been maintained, consisting of telephone calls, complaints, filing records of births and deaths, issuing burial permits, newspaper reports, etc.

2. A laboratory was maintained during the year, in which specimens from communicable cases, water and milk analyses were made. About 7,000 examinations were made in all.

3. Five hundred and three sewer connections were made during the year and 2,948 open privies were placed in a fairly sanitary condition. About 800 homes were provided with city water and many wells filled. A system of cleaning the pail closets was established and about \$6,000 in coal bill was saved, as the material from closets had been hauled to the incinerator and burned.

4. Rules and regulations were prepared and adopted governing communicable diseases. These regulations were printed in pamphlet form, to be left at the homes where cases of communicable diseases were reported. Investigations of all cases of diphtheria, scarlet fever, smallpox, typhoid fever, and meningitis were conducted by the health officer in person.

5. Inspection of all dairies supplying milk to Charlotte was instituted and regular and systematic bacteriological and chemical examinations have been made.

6. All restaurants and soda fountains have been regularly inspected under regulations adopted during the year.

7. An ordinance was adopted requiring that all stables be cleaned at least once each week and a limited amount of work has been done toward enforcing this ordinance.

8. Thirteen thousand two hundred feet of ditching was done during the year and many additional pools of water have been drained.

9. Vaccines supplied by the State Health Department have been kept in the health office and supplied to the physicians upon request and administered free of charge upon application to the health office. One thousand eight hundred and fourteen persons were vaccinated for smallpox and between five and six hundred people vaccinated for typhoid fever. Diphtheria antitoxin has also been kept on hand and supplied either free or for the 25 cents charged by the State for the syringes.

10. Nearly 7,000 children were examined for physical defects in the schools and 677 have been treated. A number of cases of trachoma were found in the schools and all of these were operated upon during the year, either by private physicians or in clinics arranged by the health officer. About 65 operations were done in the clinics.

11. An ordinance requiring the reporting of cases of venereal diseases and prescribing a quarantine for cases refusing to keep up the treatment, and also requiring druggists to keep a record of the names and addresses of persons purchasing drugs for the treatment of these diseases, was adopted and a free venereal disease clinic was established. More than 11,000 treatments were administered during the year.

12. A city physician was employed to visit charity cases and a free general clinic has been recently established. The work in this clinic is growing rapidly and promises much good to the community.

13. A clinic for the diagnosis and treatment of persons having tuberculosis has been maintained two days each week, and a visiting nurse has been maintained to do the follow-up work in connection with the clinic, and to supply sputum outfits and precautions to tubercular cases.

14. The visiting nurse work of the community has been coordinated under the Charlotte Coöperative Nursing Association and a supervising nurse employed. At present seven nurses are employed in various activities, and provision is being made for the employment of two colored nurses and a white nurse for infant welfare work.

Charlotte has had the same trouble experienced by many cities in securing proper help during last year. However, we believe we have made fair progress in health work.

MITCHELL COUNTY—DR. C. E. SMITH, COUNTY QUARANTINE OFFICER

We have had less sickness in Mitchell County this last year than for five to ten years previous. School inspection was agreed upon and would have been carried out had it not been for the epidemic of influenza. We have had very little diphtheria. Just now we are having an epidemic of measles. There has been very little typhoid fever, only one or two deaths, I believe. The school inspection will be carried on next fall. I would emphasize what I had to say about the influenza and add the further fact that we had some 500 cases during the first appearance of the epidemic, with some 25 or 30 cases of pneumonia following, which ended fatally, and quite a number of cases of pneumonia, which ended in recovery, and during the second outbreak of the epidemic we had some 300 cases, with a greater pro rata of pneumonia, which was more fatal than the first, and pneumonia in the last epidemic caused about 20 deaths. No deaths from uncomplicated flu.

MONTGOMERY COUNTY—C. DALIGNY, COUNTY PHYSICIAN

The scarcity of infectious diseases in the county of Montgomery during the year 1918 speaks well for the sanitary condition of the county. The adoption of sanitary closets and septic tanks in our towns has nearly eradicated typhoid fever and other diseases from our midst. The screening of doors and windows to a great extent also eliminated the fly. Our people have become more conversant with the ills produced by the fly and insanitary privies, and are making strong efforts to protect themselves.

The campaign of education on sanitary topics which has been carried on for the last year is beginning to show results which are very evident.

During the year there were only three cases of typhoid fever reported in the county, and one of these was an imported one.

A severe epidemic of measles prevailed over the county from January to March, inclusive. This epidemic was followed by whooping cough, which lasted to the end of May. These two epidemics were general over the county. Only eight cases of diphtheria were reported, six of tuberculosis, five of smallpox and two of cerebro spinal meningitis.

Propaganda—Many articles were from week to week published in the *Montgomerian*, the county paper. All these articles were on the topics of sanitation and disease prevention.

School Examination—Unfortunately the school examinations did not bring the results sought for. Many of our schools closed in the latter part of 1917 on account of an epidemic of measles and whooping cough, which prevented an early examination of the pupils by the teachers. Nevertheless the examination was completed, all teachers making their reports. Owing to the meagre sum appropriated by the board of county commissioners for the treatment of defective children, this important phase of the movement failed to be put in execution, believing that it would not be fair to have some children treated and let others go untreated.

Epidemic of Influenza—From October to the last of December, and especially during October and November, the county was in the grip of a serious epidemic of influenza; 38 deaths resulting from its activities.

During the epidemic the schools were closed, also churches and all public gatherings forbidden.

Midwives—The County Board of Health passed an ordinance regulating the practice of midwifery. Twenty-two midwives were examined and instructed as to their duties and given license.

The vital statistics of the county shows that during the year 1918 there were 477 births, 352 whites and 125 colored; also 165 deaths, 111 whites and 54 colored. In comparison with the statistics of the year 1917 there were 22 fewer births and 10 more deaths.

NASH COUNTY—DR. G. W. BOTTS, HEALTH OFFICER

I took up the duties as health officer in Nash County November 20, 1918. The following is a brief summary of the work done since that time:

- Public meetings, 26; total attendance, 1,635.
- Number of letters received, 602.
- Number of letters sent out, 1,255.
- Number of specimens examined for hookworm, 16.
- Number of diphtheria cases reported and quarantined, 5.
- Number of scarlet fever cases reported and quarantined, 10.
- Number of chickenpox cases reported and quarantined, 7.
- Number of smallpox cases reported and quarantined, 1.
- Number of cases quarantined, 23.
- Other reportable diseases reported, 6.
- Number of quarantinable cases visited, 16.
- Number vaccinated against typhoid fever, 6.
- Number vaccinated against smallpox, 517.
- Number vaccinated against influenza, 7.
- Number of schools visited, 46.
- Number of visits to county jail, 25.
- Number of visits to county home, 12.
- Number of postmortem examinations, 3.
- Number of lunacy examinations, 11.
- Number of children examined, 28.
- Number of children having defects remedied, 3.
- Number of urinalyses, 54.
- Number of sputum examinations, 18.
- Number of persons prescribed for at jail and county home, 67.
- ated two children reported bitten by a rabid dog."

Examined 121 applicants for permits to practice midwifery in Nash County, granting 61 permits to practice.

As a result of my clean-up campaign, I had reported to my office 3,886 yards and homes cleaned up, in the county.

JOINT BOARD OF HEALTH OF WILMINGTON AND NEW HANOVER COUNTY— CHARLES E. LOW, M.D., HEALTH OFFICER

It is manifestly impossible to formulate a report in five hundred words which will give a detailed account of the activities carried on for a year under the Joint Board of Health of Wilmington and New Hanover County. However, I have the honor to submit the following summary for 1918 which I trust may be satisfactory.

The work as organized under our board embraces so many activities that it should be understood at the outset that the accomplishments spoken of were not the result of my personal effort alone; in fact, most of the actual work was done under my supervision by assistants and regular employees to whom the credit belongs for such results as were attained.

The department lost by death two valued members. Dr. Arnold Stovall, the assistant health officer, died from influenza early in the epidemic, having contracted the disease in line of duty. Dr. Thos. B. Carroll, our food and dairy inspector, died suddenly at Camp Bragg while on leave from the department in the service of his country in the Veterinary Reserve Corps. The loss of these able workers was felt as a personal loss and also as a severe blow to the efficiency of the department, because their positions were vacant for about three months.

The various independent nursing forces of the city were reorganized and affiliated with the health department, a supervising nurse being put in charge. A survey of the city water supply was made with the assistance of Mr. Streeter, an experienced water works engineer detailed at my request by the United States Public Health Service. As a result of that survey much needed extensions and improvements of the plant were made. Active "clean-up" and "anti-fly" campaigns were conducted and as a part of the latter undertaking 5,000 fly swatters were furnished free and 150 flytraps were built and sold at cost. An official central organization for handling the influenza epidemic was quickly built up with the assistance of Prof. Stiles of the United States Public Health Service, the Red Cross and National Special Aid and a host of self-sacrificing citizens associating for that end. An appropriation of \$30,000 was secured from the city government for mosquito control work. The detail of Assistant Sanitary Engineer A. W. Fuchs was obtained from the United States Public Health Service to supervise the work and that Service spent approximately \$3,700 for salaries and appropriated \$5,000 for experimental work.

The assistant health officer's report shows 1,525 professional visits to indigent of city and 245 to indigent of county; 459 cases treated at clinic held at department office (an incomplete list); 61 visits to stockade and convict camps; 79 visits to county home; 82 visits to county jail; 23 visits to schools; 11 autopsies held; 20 police calls attended; 12 visits to recorder's court; 210 smallpox vaccinations; 834 typhoid vaccinations. There were reported 21 cases of diphtheria, 76 cases of typhoid; 2 cases of scarlet fever; 250 cases of whooping cough; 268 cases of measles; 311 cases of German

measles; 37 cases of chickenpox; 41 cases of mumps and 1 case of smallpox, 617 quarantines were established and about 20 doses of diphtheria antitoxin distributed. The nurse's report shows 11,376 nursing visits; 131 school visits; 170 pupils referred for treatment; 44 visits to baby clinic and 50 infants under care.

Other departmental reports show: 783 cases referred to James Walker Memorial Hospital; 47 cases referred to Red Cross Tuberculosis Sanatorium; 6,761 laboratory examinations, including 857 milk tests and 5,266 tests of city water; 103,784 sanitary inspections; 411 plumbing inspections; 2,427 inspections of food handling places; 9,252 inspections of food animals; 12,709 loads of trash and garbage were incinerated.

NORTHAMPTON COUNTY—DR. F. M. REGISTER, HEALTH OFFICER

This report covers the activities of the Northampton County Health Department for a period of twelve months; from April 1, 1918, to April 1, 1919. It has been quite a busy year, especially on account of the influenza epidemic, and a good many plans we had mapped out went wrong on that account.

During April, 1918, the day preceding county commencement day was set apart as Health Day. Governor Bickett made the principal address. On the following day, commencement day, the health department had a float in the parade.

We inaugurated two new features in our department during the year. One was the school health officer. We asked each school to appoint two pupils from each room each week to act as health officers, taking charge of the sanitary condition of school grounds and school buildings, also reporting on the hygienic condition of the pupils. We offered a small prize to the school doing the best work. We also got an ordinance through our county health board making it a misdemeanor for a midwife to practice her profession without a permit from the county health officer. A few simple rules were formulated for the practice of midwifery. All the midwives of the county were notified that instructions would be given them at nine different points in the county, and they could attend the point most convenient. Fifty-five midwives met with us and were given minimum instructions.

During July and August we had dental dispensaries at twenty-one different points in the county. At the same time we gave typhoid vaccinations, hookworm examinations and treatments, weighed and measured babies and gave advice to the mothers. We gave out bulletins and instructions for sanitary privy building. At the same time and places the farm demonstration agent and the white and colored school supervisors were present and gave talks along their respective lines. Our party usually consisted of six persons.

During the latter part of August the farm demonstration agent, with the assistance of the health officer and others, held a three-day encampment of one hundred and thirty-five agricultural club boys of the county, camping in tents and doing their own cooking. They were given some valuable instructions along agricultural and health lines.

In October came the influenza scourge. All the welfare forces of the county were taxed to the uttermost to mitigate the suffering of the people who were smitten with the disease. Our life extension unit, that should

have started about this time, was stopped entirely, and has not amounted to much up to the present day. We hope during the summer to push it along more effectively.

We are trying to form a Woman's Health Auxiliary for the county. This is to be composed of about six women in each school district, both white and colored. They are to keep in close touch with the county department of health, and are to give and receive aid in disease prevention.

Of course, in a report of this kind there are hundreds of things we do and small details that are looked after that we cannot mention, but which take up quite a good bit of time. The following is a brief summary of the most important things done during the twelve months passed:

Public meetings	50
Attendance	7,030
Children examined	1,276
Letters sent out	2,017
Bulletins given out	7,300
Children having defects remedied	567
Persons vaccinated against smallpox	39
Persons vaccinated against typhoid	1,961
Schools visited	75
Hookworm examinations	581
Hookworm treatments	256
Original newspaper articles	119
Babies weighed and measured	495
Contagious diseases quarantined	166
Contagious diseases visited	14
Influenza cases visited	298
Gauze masks given out	300
Sputum cups given out	100
Sanitary closets built	794
Visits to jail	4
Visits to county home	14
Visits to chain gang	3
Children examined for diphtheria carriers	130
Examined for insanity	7
Life extension examinations	27
Miles traveled	4,250
Number permits issued to midwives	55

Dr. Cooper read the following telegram from Dr. W. A. Bradsher, quarantine officer of Person County:

ROXBORO, April 11, 1919.

DR. G. M. COOPER:

Regret my absence today. We aim to make Person County an effective unit in State health work this year. Will visit Raleigh soon to get, in a way, what I am missing today.

W. A. BRADSHER.

PERSON COUNTY—W. A. BRADSHER, M.D., COUNTY HEALTH OFFICER

The general health of the county during the year has been unusually good, barring the epidemic of influenza. This struck us a heavy blow. It came in two ways. One in September and October, which was very extensive and very fatal. Another in December and January, also very extensive but less fatal. We are meeting its after effects every day in the county.

We had no school inspection during the year, but conducted an anti-typhoid campaign, immunizing something over four thousand.

The quarantine system has not been as completely carried out as I would like. It is, however, being made more effective and is yielding excellent results in an educational way—in teaching the people the real facts about communicable diseases.

Our public institutions have had few inmates and they have required little of my attention.

Dr. S. A. Stevens moved that where reports are written they go into the minutes without being read. This motion was seconded. Dr. Wickliffe offered an amendment to the effect that those present should read their reports. No action was taken on the motion.

Dr. Cooper asked that a vote of thanks be given to Miss Hayes, Dr. Mudgett, and Dr. McBrayer for the afternoon's entertainment. A motion was put to this effect and passed unanimously.

NIGHT SESSION

PITT COUNTY

DR. C. P. FRYER, HEALTH OFFICER.

The educational work in Pitt County consisted of public meetings, which were held throughout the county. The lantern slides were used with good success, as people liked the illustrated picture talks. Talks were made to the school children along the lines of sanitation and hygiene, special stress being laid on oral hygiene, and the teachers urged to talk to the children on these subjects. Letters of an educational nature and literature on prevention urging their cooperation were sent out to the people. Prevention methods were discussed at all our public meetings and the people urged to report all cases of infectious diseases.

Educational work is very important and people have to be educated up to a certain standard before they can realize how disease can be prevented. As a result of the educational work, we have been able to organize active health clubs among the women in the following towns: Ayden, Bethel, Farmville, Grifton and Grimesland. These clubs are taking up the local conditions in the respective towns. Special attention is given to the anti-typhoid vaccinations, life extension, physical defects of school children and better sanitary conditions.

Number of public meetings, 37; schools, 16; attendance, 3,858; others, 21. Number of letters sent out, 2,379.

Number of newspaper articles published, 121.

SOIL POLLUTION

The soil pollution work was not as successful as we had anticipated. People were very busy with their tobacco crops, which promised such financial returns that they would not, in a great many cases, quit work to build sanitary toilets. High wages, scarcity of labor and material are other factors that entered greatly into the result.

Number of sanitary closets built.....	425
Number of specimens examined.....	634
Number of specimens positive for hookworm.....	171
Number of treatments given.....	148

QUARANTINE UNIT

This is a very important unit, as we have a method of controlling the spread of disease. The physicians and householders have been very good in reporting quarantinable and reportable diseases.

Whooping cough.....	176
Measles	28
Diphtheria	111
Scarlet fever	5
Typhoid fever.....	113
Smallpox	26
Infantile paralysis.....	1
Epidemic meningitis.....	4
Ophthalmia neonatorum	1
Chickenpox	6
Mumps	2
Pneumonia	4
Tuberculosis	1
Gonorrhoea	2

SCHOOL UNIT

The physical examination has revealed many facts. Physically defective children do not do as effective work in school as the nondefective child. Many of these children are repeaters in their grades, and teachers are often blamed while the physical defects are holding the child back. Parents are realizing the defective child should be treated.

Number of schools visited.....	47
Number of examination cards received.....	3,568
Number of children examined.....	1,229
Number of children having defects remedied.....	157

TYPHOID CAMPAIGN

One of the most important results is the typhoid campaign. For the years 1914-15-16-17 the death rate was 40.1 per cent and 1918 death rate 5.0 per cent, which shows a decrease of 35 per cent. We did not find one member of a household who had contracted the disease from a patient. Decrease in the number of cases was due to education and the anti-typhoid inoculation campaign.

Economic value of protection. One bank in our county asks the following of a man who makes application for a loan. Have you and your family been vaccinated for typhoid fever? Have your children been treated for hookworm? Have you a sanitary toilet? Have you a good water supply? This bank, after an experience, found that lending a man money who died from typhoid was a liability, while the man and his family who were protected was an asset.

HEALTH OFFICERS' ASSOCIATION

VACCINATIONS

Number vaccinated against typhoid fever.....	3,362
Number vaccinated against smallpox.....	650
	4,012

CITY REPORT

Market inspections.....	153
Dairy inspections.....	2
Sewer connections.....	199
Number of sanitary privies cleaned.....	1,329

RANDOLPH COUNTY—C. A. HAYWORTH, COUNTY PHYSICIAN
AND QUARANTINE OFFICER

I was only recently elected county physician and quarantine officer for our county—January, 1919—so my report will necessarily be brief.

As county physician I have looked after the health of the inmates of the county home and county jail, among whom there have been no epidemics, but many of the inmates of the home frequently require medical attention, due to the infirmities of old age.

Our county authorities are now planning the erection of a modern county home which can be kept sanitary.

Upon my recommendation, sanitary drinking fountains have been placed in the court house, in place of the common drinking cup formerly used.

I have procured and placed at six different points in the county the anti-toxins and vaccines furnished by the State Board of Health, in order to make them easily available to the citizens of the county, and have used the press, posters, and letters to notify the public where and of whom they may obtain them free.

As quarantine officer I have endeavored to perform the duties of this office as the law requires. We are now having an epidemic of measles over a portion of the county, and six cases of smallpox were reported during the month of March. Influenza is again mildly prevalent in two sections of the county.

I want to add to this report that we have just recently completed arrangements, under the guidance of Miss Ehrenfeld, of the State Board of Health, for the employment of a public health nurse.

ROBESON COUNTY—DR. W. A. MCPHAUL, HEALTH OFFICER

I—EDUCATIONAL

Number of public meetings: Schools, 52; attendance, 5,249; others, 37; attendance, 3,419.

Number of letters sent out, 3,627.

Number of newspaper articles published, 120.

II—SPECIAL REPORT OF SOIL POLLUTION UNIT

Number of sanitary closets built, 756.

Number of specimens examined, 62.

Number of specimens positive for hookworm, 35.

Number of treatments given, 150.

Number of field workers employed, 8.

Total number of days worked by field force, 381.

Total amount paid field worker, \$1,379.70.

III—SPECIAL REPORT OF QUARANTINE UNIT

Reported and quarantined	Visited
Whooping cough.....168	2
Measles.....56	14
Diphtheria.....34	15
Scarlet fever.....2	0
Typhoid fever.....117	2
Smallpox.....65	17
Infantile paralysis.....2	0
Epidemic meningitis.....1	1

IV—SPECIAL REPORT OF SCHOOL UNIT

Number of schools visited, 56.
Number of examination cards received, 9,455.
Number of children examined, 2,128.
Number of children having defects remedied, 1,602.

V—SPECIAL REPORT OF LIFE EXTENSION UNIT

Number of applications received, 985.
Number of physical examinations made, 821.

VI—SPECIAL REPORT OF VACCINATIONS

Number vaccinated against typhoid fever, 2,634.
Number vaccinated against smallpox, 583.

VII—OTHER ACTIVITIES

Number visits to county home, 20.
Number visits to county convict camp, 12.
Number visits to county jail, 78.
Number visits to paupers (other than county home), 66.
Number of paupers given free treatment, 58.
Number of examinations made under child labor law, 108.
Number of postmortem examinations, 2.
Number of examinations for commitment to insane asylum, 42.
Number of meetings with town officers concerning health work, 6.
Number of pieces of literature distributed (over), 23,000.
Number of dog heads sent off for examination, 6.
Number of samples of water sent off for examination, 9.
Number of meetings of midwives held, 4.
Number of lectures given to midwives, 4.
Number of sanitary ordinances passed by the small towns at the suggestion of the county health officer, 7.

ROWAN COUNTY—DR. A. J. WARREN, COUNTY HEALTH OFFICER

The activities of the Rowan County Health Department since last April can be classified under six separate headings, namely:

1. Educational
2. Quarantine
3. Schools
4. Vaccinations
5. Soil pollution
6. Miscellaneous

I. Under the head of "educational" the following has been done: a total of ninety-four public meetings have been held for the purpose of lecturing and discussing public health questions. These meetings were attended by 9,496 people.

A total of 3,732 personal and circular letters have been mailed in the interest of the public health of the county.

A total of 20,045 bulletins, pamphlets and leaflets have been distributed to the citizens of the county. The major portion of these were prepared by the State Board of Health; the others were prepared by the health officer, with the exception of a few hundred that were furnished by the Metropolitan Life Insurance Company.

II. Under the division of "quarantine" a total of 620 cases of contagious diseases have been reported and quarantined according to the regulations prescribed by the State Board of Health. Of this number 233 were visited personally. Sixty-three of these visits were made at the homes of cases of typhoid fever. The diseases quarantined were distributed as follows:

Whooping cough.....	208
Measles	212
Diphtheria	24
Scarlet fever.....	30
Typhoid fever.....	103
Smallpox	21
Chickenpox	30
Meningitis	1
Infantile paralysis.....	1

III. Under the heading of "schools" come the activities of the medical inspection; and in this connection the following has been accomplished:

Examination cards received.....	887
Children examined.....	1,170
Defects remedied.....	978

Rowan County has the distinction of being the first county in this or any other State, so far as I know, to install a permanent immobile dental infirmary that gives free dental treatment to her school children, rural and urban, between the ages of six and twelve.

IV. Under the division of vaccinations the following has been done:

Vaccinated against typhoid.....	4,665
Vaccinated against smallpox.....	428
Vaccinated against whooping cough.....	10

Of the total vaccinated against typhoid, in 2,981 instances a triple typhoid lipo-vaccine was used. The systemic reaction from this lipo-vaccine was about the same as from the three-dose method of administration. The local reaction is more severe and lasts for a longer period of time, and in a few instances the local induration was so severe as to result in abscess formation.

V. Under the head of "soil pollution" the following results have been accomplished: 1,973 specimens of feces have been examined for intestinal parasites. Of this number, 89, or four per cent, were found to be positive for hookworm. The percentage of ascaris infection was about seven per cent. A total of 118 treatments have been given for hookworm and ascaris.

One thousand, nine hundred and eighty-four homes have constructed sanitary privies. Of this number, 1,804 were of the pit type, while 180 were septic tanks.

VI. The miscellaneous work has been that of looking after the county institutions, which number three—the jail, with an average of fifteen occupants; the chain gang, with an average of thirty-six, and the county home, with an average of sixteen—the examination for the commitment of the insane, and the hundred other miscellaneous things that county health officers have to do.

SAMPSON COUNTY—E. T. HOLLINGSWORTH, M.D., HEALTH OFFICER

Some days ago I received from the secretary of this association a letter, asking me to make my report for the year, which should not exceed 500 words. It was my purpose in preparing this report to do this, but it is very hard to do, and include all important things that I have accomplished.

The population of the county is 32,244, with about 10,000 negroes. The county contains about 921 square miles and is divided into 16 townships. Clinton is the largest town, with a population of 2,000; therefore, 80 per cent of the population is rural.

In making this year's report I group the work under five heads, as follows:

1. Educational work
2. School work
3. Life extension unit
4. Prophylactic
5. Quarantine

In the educational unit, I have tried to interest the public mind in health matters for the past year. This included sending out 300 letters and 500 pamphlets to citizens in the county, publishing 12 original articles and 10 press articles in the county papers and making 50 talks to an attendance of 5,000 people.

The school unit began in the fall of 1918, during the teachers' institute, and also at the county teachers' meeting, where I discussed with the teachers plans and methods for making physical examinations of school children. Following these meetings I visited 44 schools in session and talked direct to pupils relative to their health and organized health clubs, which required daily inspection of children and school premises. During that time, I examined 500 school children, found 178 defective and have had 50 of these treated.

March 1st, immediately after I completed a post-graduate course at the State Sanatorium, I began the life extension work; since then I have received 15 applications for examinations and have examined nine, and installed five sanitary privies, examined 56 specimens for hookworm, and given 62 hookworm treatments.

During the year I have vaccinated against the following diseases:

Whooping cough.....	60
Influenza colds.....	71
Smallpox	121
Typhoid fever.....	6,000

I have had reported to me, and quarantined, the following contagious diseases:

Measles	102
Diphtheria	22
Whooping cough.....	33
Chickenpox	4
Scarlet fever.....	11
Cerebro spinal meningitis.....	4
Epidemic sore throat.....	4
Bacillary dysentery	1
Smallpox	3
Typhoid fever.....	28
Broncho pneumonia	27
Ophthalmia neonatorum	1
Gonorrhoea	1

I have also made 36 visits to see these contagious diseases.

County home, visits.....	80
Jail, visits.....	16
Convict camp, visits.....	32
Outside poor, visits.....	100

I have examined 8 insane persons for commitment to the State Hospital. In the absence of the county coroner I was appointed temporary coroner, and conducted one coroner's inquest. I have fumigated ten houses in which deaths occurred following contagious diseases. During the year I was examining physician for the local exemption board, and examined 800 men for the army, and have traveled 8,515 miles on the county roads.

October the 5th the county was organized, with a unit in each township, to fight influenza. A soup kitchen was established and 60 quarts sent out daily. Automobiles were sent to all parts of the county with masks and Dobell's solution, gratis, with instructions.

SWAIN COUNTY—DR. A. M. BENNETT, QUARANTINE OFFICER

We employed a nurse; got up clubs for four days' work; operated on 80 children for removal of tonsils and adenoids, Dr. McCracken doing the work. Successful operations, all patients doing nicely.

UNION COUNTY—S. A. STEVENS, M.D., QUARANTINE OFFICER

The usual routine work has been done during the past year. On the whole, the outlook for a wider interest in health matters is brighter.

The reporting of cases of contagious diseases has perhaps not been as thorough as it would have been under normal conditions. The thinning of the ranks, due to war and the unusual amount of work to be done by these few by reason of the epidemic of influenza during the past winter, left the physicians but little time to attend to outside matters.

Fortunately, there seemed to be a decrease in the incidence of the reportable diseases during the epidemic—this being due perhaps to the closing of many of the schools and the quarantine measures resorted to to control the influenza epidemic.

The following is a summary of the report of diseases from April, 1918, to April, 1919:

	Whooping Cough	Scarlet Fever	Measles	Diph.	Typhoid
1918					
April	32	1	1	1	0
May	143	1	1	1	2
June	61	0	2	0	0
July	116	2	0	2	5
August	85	2	0	0	19
September ...	45	11	0	3	5
October	2	2	0	2	2
November	10	2	0	2	1
December	4	0	0	1	0
1919					
January	0	1	3	1	1
February	0	1	6	0	0
March	0	1	5	2	1
Total....	498	24	18	15	36

WAKE COUNTY

(Announcement by Dr. Cooper)

Dr. Waller is down tonight on the program with paper on "Results of Extra-cantonment Work at Camp Polk," and this embraces the report he would ordinarily make.

WASHINGTON COUNTY—DR. W. H. WARD, QUARANTINE OFFICER

I am sorry I have no written report; I did not know it would be possible to attend until thirty-five minutes before train time. I tried to do good work. We had a great many cases of measles; 16 or 18 cases of smallpox; two epidemics of influenza and I was the only physician in town (the rest gone to war). I have not done as much work visiting the schools, etc., as I would like to have done, because I had so many sick people on my hands, but I hope to do better work in the future.

HEALTH DEPARTMENT, CITY AND COUNTY OF WILSON

L. J. Smith, M.D., Health Officer

STAFF:	Miss Harriett J. Sherman, R.N.
	Mrs. S. D. Harrell, R.N.
	L. G. Whitley, Field Worker
	B. J. Ferguson, City Sanitary Inspector
	Miss Lora Smith, Office Assistant

Two important events have materially influenced the amount and the character of work accomplished by our department for the past year, viz.: The world war and the epidemic of influenza. The war caused us to realize the necessity and importance of the conservation of human lives, while on the other hand it materially handicapped our progress by making it almost impossible to secure labor and material to carry out the program outlined. The epidemic of influenza has been the most potent factor in popularizing the work of our department. It has brought about a more sympathetic understanding among all classes of people, teaching us the broader and more comprehensive meaning of the word *Service*. However, three months of our time, October, November, and December, were devoted entirely to the relief of influenza victims, in which time none of the usual activities were carried on.

Following is a detailed report of results accomplished under the different unit headings:

I—EDUCATIONAL

Forty-three public meetings at schools and other places, with an attendance of 2,665 people. Three thousand letters were written and numerous handbills were written and circulated on "What you can get free from your Health Department," on "Life Extension Work," on "Free Dental Work for School Children," etc.

II—SOIL POLLUTION UNIT

We secured the enactment of a county-wide sanitary privy ordinance; secured the cooperation of the banks and time merchants by having them incorporate the following questions in the questionnaire for applicants applying for a loan or credit. First, "Have you and your family been vaccinated against typhoid fever?" Second, "Have you a sanitary privy at your home?"

We believe the moral effect of these two questions, even if they are not adhered to in every case, will be of untold benefit in carrying out the program of the Health Department.

Number of sanitary privies built.....	95
Number of specimens examined.....	102
Number positive for hookworm.....	30
Number of treatments given.....	24
Number of field workers employed.....	1
Number of days worked by field force.....	23

III—REPORTS OF QUARANTINE UNIT

The quarantine work has been carried on very successfully and is becoming more successful as the physicians and laymen become familiar with the real purpose of quarantine regulations. We have done much to bring about a better understanding among the physicians through the County Medical Society. Only three physicians have been convicted for failure to report communicable diseases, and these were not wilful violators of the law, neglect and indifference being their sin. Influenza was made a quarantinable disease by our County Board of Health and this has added much work under this unit.

IV—SCHOOL UNIT

We are proud of the work accomplished in the schools of Wilson County. The good results were accomplished through and by the direction, cooperation and assistance of Dr. G. M. Cooper, State director; Prof. C. L. Coon, superintendent of schools, and his efficient teachers, and Dr. J. V. Turner, the dentist in charge of free dental work.

ITEMS:

Number of schools visited.....	85
Number of examination cards received.....	5,462
Number of children examined by health officer.....	2,173
Number of children having defects remedied by eye, ear, nose, and throat specialists.....	70

DENTAL REPORT:

Number of places worked.....	20
Number of children examined.....	1,219
Number of children treated.....	914
Number of lectures given.....	22

Probably the most interesting and unusual work done in the schools was a thorough physical examination of 150 boys from the age of 12 years and over conducted by request of the physical director of the Y. M. C. A. Among other defects found were 38 boys who needed circumcision very badly. Through the efforts of the Y. M. C. A. secretary and myself, we have so far had 15 of these boys operated on. Mention is made of this special feature of the school work because: First, the family physician is rarely, if ever, called upon to make an examination for this defect. Second, the parents are almost in entire ignorance of the existence of this condition and its ill effects. Third, it is in direct line with venereal disease prevention. Fourth, it is probably the most neglected field of disease prevention, therefore we wish to call the attention of all interested in preventive measures to this important field. Fifth, it is one of the best methods of approach to teach young boys the principles of sex hygiene.

The superintendent of schools has already made great progress in consolidating the public schools of Wilson County into ten up-to-date graded schools. This is being done by means of motor buses and school wagons to transport the children to and from school. Three motor buses and three wagons are now in use. When these schools are consolidated, public health work in Wilson County will be simplified and made more efficacious.

V—REPORT OF LIFE EXTENSION UNIT

Number of applications received.....	218
Number of physical examinations made.....	178

This work was cut short by the appearance of influenza just at the time when we were doing the most efficient work. No work we have conducted showed more evidence of greater possibilities for good among the adult population. The most notable defects found were pyorrhea alveolaris (Rigg's disease), probably 75 per cent of applicants examined; high blood pressure and suspected tuberculosis. By special arrangements with Dr. McCain, he came to Wilson on March 27th and examined 14 of the suspected cases of tuberculosis and, according to his findings, 50 per cent were found positive.

VI—REPORT OF VACCINATIONS

Number vaccinated against typhoid fever.....	2,427
Number vaccinated against smallpox.....	2,453

This work is carried on throughout the year. Lipo-vaccines have been used almost exclusively since last August. No untoward results have been observed. In fact, most people call for the "one dose" vaccine in preference to the "three dose," as they express it.

VII—SPECIAL REPORT OF CITY UNITS

A—*Sanitary Inspector*: This officer has performed his duties most satisfactorily. He quarantined 160 homes; made 13,500 inspections; sanitized 245 homes; abated 310 nuisances; condemned and destroyed 5,350 pounds of meats; brought 29 indictments with conviction for failing to comply with sewer regulations; served 275 written notices; posted 1,600 placards and condemned and filled up 12 wells.

B—Nurse's Report—City Visiting Nurse:

Number of visits made.....1,100

County Educational Nurse: This service was begun March 1st, 1919. Her duties are divided into three special units, with special emphasis on infant hygiene and child welfare, viz.:

School lecture and inspections.
Tuberculosis work.

Added to these duties she will be expected to do soil pollution work throughout the year.

VIII—SPECIAL LABORATORY REPORT

Number of complete milk analyses..... 93
Number of sputum examinations for tuberculosis..... 25
Number of blood examinations for malarial parasites..... 9
Number of specimens feces examined for parasites.....102
Number of tests for butterfat in mothers' milk..... 20

Milk analyses are done once a month and the complete reports are published in local papers. This, we believe, has done much to bring about a marked improvement in our milk supply. The bacterial count for the first month showed an average of 90,000 per c.c., while the last count, in March, showed an average of 6,500 per c.c.

IX—FINANCIAL STATEMENT

Total expenditures for the year 1918.....	\$6,241.04
Total estimate of cost of work if done in private practice:	
2,427 Typhoid vaccinations @ \$1.50.....	\$ 3,640.50
2,453 Smallpox vaccinations @ \$1.00.....	2,453.00
328 Complete physical examinations @ \$5.00.....	1,640.00
2,020 School children examined by health officer @ \$1.00.....	2,020.00
93 Complete milk analyses @ \$5.00.....	485.00
102 Specimen feces examined @ \$1.00.....	102.00
8 Blood examinations for parasites.....	16.00
25 Sputum examinations for tuberculosis.....	50.00
914 School children treated by dentist.....	1,399.00
Total	\$12,805.50

At least 50 per cent of the work carried on by our department is not included in the above tabulation.

YADKIN COUNTY—V. F. COUCH, M.D., QUARANTINE OFFICER

During the past year I have reported the following cases: Mumps, two; whooping cough, eleven; septic sore throat, one; cerebro spinal meningitis, one; chickenpox, one; cholera infantum, eleven. Reported and quarantined: Measles, ten; scarlet fever, fourteen; diphtheria, eight. Reported and placarded: Smallpox, eight; typhoid fever, thirty-four.

I have visited twenty-two homes with reportable diseases, vaccinated twenty-eight persons against smallpox, made three examinations for commit-

ment, visited the county home twenty-six times, examined seven inmates of the county jail and disinfected courthouse and jail three times. (No convict camps in Yadkin.)

YANCEY COUNTY—J. B. GIBBS, M.D., QUARANTINE OFFICER

In our county we attempt nothing during the winter months except the regular routine work outlined by the State Board of Health. During June and July I worked half time, and it was intended that I give all my time to the school inspection and health work during the four months that our schools were to be in session. During August and September we completely immunized twenty-two hundred against typhoid, and gave one or two doses of serum to about a thousand others. About one hundred school children had been examined and work on their teeth commenced when the epidemic forced us to close the schools, and during the rest of the year influenza demanded our entire attention. In addition to this, several articles were published in the county paper, several health talks were made by the ministers, teachers, and health officers, and several hundred health articles distributed throughout the county.

In conclusion, I wish to say that the people generally showed an intelligent interest in what we were attempting to do, the teachers gave cheerful cooperation, and our county commissioners readily made all appropriations necessary to carry out the work.

DR. B. E. WASHBURN, Director of Bureau of County Health Work, State Board of Health, Raleigh: I am sure that we were interested in the talk of Mr. Hedrich, in which he outlined the American Public Health Association's cooperative plan for work with this association. As we decided upon the plan of cooperation I would like to make a motion that a standing committee be appointed to confer with representatives of the American Public Health Association, with power to act with regard to our affiliation with them.

DR. W. S. RANKIN: Mr. Hedrich asked me to place on the table these application blanks, for the convenience of any member of the association who may care to use them.

Dr. Washburn's motion was repeated, seconded, and carried, and the following committee was appointed:

Dr. W. S. Rankin, *Chairman*.

Dr. C. C. Hudson.

Dr. L. B. McBrayer.

THE PRESIDENT: The next number on the program is a paper by Dr. Washburn, "The Dog in the Manger: A Modern Fable."

DR. B. E. WASHBURN: *Mr. Chairman, Ladies and Gentlemen:* Several months ago, when the Secretary was making up the program, he

asked that I prepare a paper with the title: "The Dog in the Manger: A Modern Fable." The intention was to make it an exhortation to some of our backward counties which could provide but have not provided public health work. When the paper was prepared the dog appeared too ferocious, so thinking it might be misunderstood, and instead of encouraging health work might create misunderstanding, and believing it would be better to prevent any suggestion of hard feelings, I beg to be excused from appearing on the program tonight.

It was suggested that the paper might be read and not appear in record of proceedings, but Dr. Washburn said that he did not have the paper.

RESULTS OF EXTRA-CANTONMENT WORK AT CAMP POLK

CAPT. C. E. WALLER, P. A. SURGEON, U. S. PUBLIC HEALTH SERVICE

The activities of the Public Health Service in the Camp Polk Extra-cantonment Zone began about the middle of September, 1918, when a preliminary survey of the area about the site of the proposed camp was made to determine the extent and character of the district over which it would be necessary for the Service to establish sanitary supervision for the protection of the health of the troops, to ascertain the status of existing health organizations and sanitary conditions in this district, and to establish a satisfactory working arrangement with the local authorities for the operation of proper sanitary control of the zone.

The area decided upon included two counties, Wake and Durham, comprising in the aggregate about 900 square miles, with a population estimated at 130,000.

Wake County employed a part-time superintendent of health at \$2,000 a year, whose principal duties consisted in looking after the sick in the public institutions of the county. Some progress had been made in school sanitation and in vaccination for typhoid fever; aside from these practically no other activities had been undertaken. The city of Raleigh was spending about \$6,000 a year on its health department. Of this amount, \$1,800 was required for the salary of a part-time city physician whose official duties consisted in looking after the indigent sick of the city; \$1,500 went for the salary of a registrar of vital statistics—also sanitary inspector and executive for the health department—whose duties consisted principally in performing the clerical work of the office, placarding, fumigating, etc.; \$1,500 paid the salary of a milk and meat inspector; while an additional \$900 paid an employee who inspected "back lots," etc. In other words, the county and city together were spending about \$8,000 a year, apparently for the protection of the

public health, but really getting very little actual preventive work out of it. Both had a high death rate from preventable diseases, and sanitary conditions showed urgent need for more efficient health work.

Durham County was found to have a very well equipped health department, operated jointly by the county and the city of Durham at an expenditure of about \$10,000 a year. Study of the organization showed the need, however, of several additional employees and better transportation facilities, to enable the department to take up important lines of work not then being carried on.

Carrying out the policy of the Public Health Service toward the strengthening or building up of local health organizations in extra-cantonment zones wherever possible, in order that permanent good might be the result of the work, plans were made, after consultation with the State and local authorities, for the temporary assumption of sanitary supervision of the district by the Service; for the securing of an increased personnel and adequate transportation facilities for the Durham County organization; and the construction of a permanent joint city-county health organization for the city of Raleigh and Wake County. Accordingly, estimates of funds needed for the remainder of the fiscal year to maintain an organization consisting of a health officer, one bacteriologist, one milk and meat inspector, two sanitary inspectors, six nurses and one clerk, with three automobiles and two motorcycles, were submitted to the local authorities in each county; \$10,000 was secured from Durham County for enlarging the existing organization, bringing the annual appropriation for health work in that county to \$20,000. Five thousand dollars each was appropriated by Raleigh and Wake County for the maintenance of a joint local health department for six months, equivalent to an annual expense of \$20,000. At the same time an agreement was secured from the authorities of Raleigh and Wake County pledging their support of a plan for the creation of a permanent organization when the State Assembly should meet in January. An additional \$20,000 was appropriated jointly by Raleigh and Wake County for antimalaria work in a zone contiguous to the proposed cantonment, for permanent operations to be carried on in 1918 and maintenance through the year 1919.

The Public Health Service was asked for, and provided, an officer to assume temporary supervision of the administration of sanitary affairs in the district, a medical officer for assignment to each county for the organization of school and communicable disease work, a sanitary engineer for supervision of mosquito control operations, an officer to take charge of the rural sanitation work, two other officers to organize

milk control and instruct the inspectors in general sanitation, and one public health nurse to assist with the organization of the communicable disease work.

The work was actively begun about October first, but, with the exception of the mosquito control operations, little progress was made until the first of November as a result of the influenza epidemic. Nearly all activities other than civilian relief were suspended for over a month and it was with considerable difficulty that employees for the two health departments were secured.

The results of the work, as would be expected, owing to the short period over which it has extended, are as yet more or less intangible and can hardly be appreciated at the present time, and it is my purpose to acquaint you briefly with some of the details of the work which we have done, leaving the discussion of actual results, possibly, for another time.

For Wake County the construction of practically a new organization was required. The registrar of vital statistics for the city of Raleigh was removed from the health department by the city authorities, and the medical work for the city and county, separated from the health work, continued to be carried on by the city and county physicians. The city milk inspector was retained. With the Service officer in charge acting temporarily as health officer, an organization consisting of one bacteriologist, six nurses, two sanitary inspectors and one clerk has been built up for the city and county. Two automobiles and one motorcycle have been provided for transportation of these employees. The department is now quartered in the county court house, easily accessible to the public, and provides Raleigh and Wake County with a health service 24 hours a day.

Medical inspection of school children has been in progress since January. The initial examinations are being made by four nurses, under the direction of a medical officer. Children found or suspected to be defective by these nurses are reexamined in groups by the above officer, and notice is then sent to the parents. A number of parents' clubs have been organized, principally for the purpose of stimulating interest in the correction of defects, and the results have been very encouraging. In one school in Raleigh 75 per cent of the defects which could be corrected have been remedied since the work was begun. This inspection will be followed up during the coming summer by the nurses, who will be assigned to different districts throughout the county.

The communicable disease work has been organized under the direction of a Service medical officer. Two nurses, who act as quarantine officers, are engaged in visiting cases. They establish isolation and

quarantine, see that proper prophylaxis is maintained, and release the cases at the proper time. Their work is confirmed by the medical officer whenever necessary, and especially when there is doubt with regard to the diagnosis. In addition to the report card a case record has been instituted, composed of a card for each case, containing all available information, including epidemiology, disposition of contacts, etc. In this way special studies can be made with relation to milk and water supplies, etc. Spot maps now in use show the current prevalence of the more important diseases.

Through coöperation with the State Laboratory of Hygiene, advantage was taken of available facilities and a laboratory service established by the placing of the bacteriologist of the county health department in the State laboratory. A thoroughly modern and adequate laboratory service was thus secured without delay and at minimum cost. A comprehensive diagnostic service including several branches of serology has been offered to the local medical profession, and an incubator, with a supply of free culture medium, has been placed in one of the Raleigh drug stores, in order to facilitate quick service on diphtheria work. Arrangements have also been made with practically every druggist in the county for the distribution of the diphtheria antitoxin manufactured by the State laboratory, at cost price, which makes this biological product available to the public at 25c a dose, whether the number of units be 500 or 10,000, the price being merely the cost of the syringe. Daily examinations of the water supply of Raleigh are now being made, where only three or four examinations a month were made before. The water supplies of every hotel, restaurant and soda fountain in Wake County have been examined and will henceforth be continually under supervision. Evidences of pollution thus found have led to the improvement of the sanitation of a number of public wells.

A comprehensive survey of the milk situation in Raleigh was made in October by a Service officer. This survey showed a serious shortage, which could be remedied only by bringing in more distant supplies. As a small beginning a pasteurizing plant was established, through the coöperation of the State Agricultural College and the State and Federal Service, who desired to use the plant for demonstration purposes, primarily for the purpose of supplying milk for the camp and for public eating places. It has increased the supply of milk in Raleigh by about 100 gallons a day, thus diverting a part of the wholesale supply directly to the consumer. In the meantime efforts have been directed toward the securing of adequate pasteurizing facilities for Raleigh, as a result of which a local ice cream manufacturer has been interested in a pas-

teurizing plant which should give the city an abundant supply of safe milk within a short time.

While the control of other food supplies has not yet been instituted as planned, on account of the lack of adequate local regulations, inspection of food-handling establishments has been carried on with very satisfactory results. The use of sanitary paper cups has been enforced in every soda fountain in the city and county, and the handling of eating utensils, foods, etc., in restaurants has been considerably improved.

An intensive sanitary survey of the city of Raleigh is now in progress and connection of premises to the sewer system where possible is being enforced. A preliminary survey has already been made for the purpose of determining the needs of the city in the way of sewer and water line extensions and recommendations have been made to the city authorities. An ordinance requiring the installation of a can privy system in portions of Raleigh where sewers are not available has been passed and its provisions are now being carried out. A survey of the water supply of the city was made shortly after the work was started, as a result of which chlorination was recommended and has been instituted; the bacteriological control on the water shows very efficient results from this procedure.

A survey of rural homes in the county has been in progress since December and several of the smaller towns have become interested in the possible installation of sewer and water systems. Expert advice of the Service sanitary engineer has been furnished to these communities, where requested. Regulations requiring the installation of sanitary means for the disposal of excreta in every home in Wake County have been passed by the county board of health, and the carrying out of these regulations has begun.

Mosquito control operations have been carried on since September in the city of Raleigh and in a zone one mile in depth adjacent to the city, comprising sixteen square miles of territory. This work has included the draining of ponds and swamps and the clearing of the edges of running streams. All of the permanent work to be done in the city before the advent of the next breeding season has been accomplished, while about 80 per cent of like work in the one mile zone adjacent has been completed. Plans are being made for demonstrating maintenance work during the coming season, including clearing, oiling, and the use of minnows for the destruction of larvæ.

From the twentieth of October to the tenth of November practically the entire organization was engaged in local influenza relief measures. The Service organization assumed the direction of this work, aided by

local civic organizations and private citizens, who also provided the funds required for the financing of the project. Three emergency hospitals were organized and maintained for about three weeks, and medical aid, medicines, and food were supplied to many individuals and families who could not be cared for in the hospitals. A class for the instruction of volunteer nurses was also organized and maintained during the early part of the epidemic.

What is regarded as the most important result accomplished in Wake County has been the securing of legislation this spring creating a joint city-county board of health for Wake County and Raleigh, and providing for a full-time health officer and a permanent organization. The commissioners of the city and county have agreed to a program beginning July 1, when the Public Health Service retires from the field, for perpetuating the work which has been started, at an annual expenditure of \$10,000 each.

To the Durham County health department have been added two nurses, two sanitary inspectors, a bacteriologist and a clerk, thus bringing the organization up to the desired strength. The department now owns three automobiles and two motorcycles for transportation of its employes.

Medical inspection of schools has been extended to the rural part of the county and enlarged considerably in its scope, this work in both the city and county having been placed temporarily under the supervision of a Service officer for the purpose of organizing and training the force of four nurses now available for school inspection, along lines similar to those being followed in Wake County. The communicable disease work of the department has also been systematized and increased in its scope.

The securing of a bacteriologist has made it possible for the milk inspector, who formerly was obliged to do the laboratory work, to now give his entire time to the sanitation of milk and meat supplies. Regulations for the control of food supplies, including the requirement of physical examination of employees, have been promulgated and are being enforced, along with other sanitary work, by the two inspectors who have been added to the organization.

An ordinance has been passed establishing a can privy system for the disposal of excreta in portions of the city of Durham where sewers are not available. Work has been begun on the installation of sanitary can-type privies in the city, and a house-to-house canvass of rural homes, as part of the rural sanitation demonstration in the county, is in progress.

Acknowledgment is made, with appreciation, of the valuable aid which the State and local authorities, the press, and many public spirited citizens have rendered in helping us to carry out what has been accomplished.

OVERSEAS OBSERVATIONS REGARDING PUBLIC HEALTH

LT. COL. CHAS. O'H. LAUGHINGHOUSE, GREENVILLE, N. C.

Mr. Chairman, Ladies and Gentlemen: Ah, but I wish I had a dog like that one Dr. Washburn has!

Several days ago Dr. McBrayer and Dr. Cooper wrote me that they were thinking of placing me on the program for some subject which they did not mention. I wrote them immediately, telling them that in all probability I would not be here, and on account of the fact that I have just gotten back in the States I was not in position to prepare a paper. I did not know I was on the program until a few minutes ago.

There is a good deal to say, however, concerning overseas observations relative to public health. The first and most striking thing I saw was on my journey overseas.

I went over with three organizations—Base Hospital 85, an artillery organization and an infantry division—in the Steamship *Canada*. It was rather an antiquated ship, and accommodations for the comfort and safety of the men were decidedly meagre and unsatisfactory. It was my misfortune to be assigned Ship Surgeon, so immediately I began plans by which I could keep not only men but officers out on deck just as many hours during the day and night as it was possible to keep them there. We had a very rough voyage and a number of men had never seen a body of water bigger than a bath tub, and some of them not that size. I remember one fellow lying down on deck, sick as could be. I passed by and said: "Son, how are you feeling?" "I don't know, I have quit feeling." I told him to brace up, he was working for his Country. He said: "Yes, sir, I know I am doing this for love of Country, but if ever I get back to the States I ain't never going to love no other damn country."

Another fellow had vomited everything but his shoes. I was trying to comfort him and he said: "I am just thinking about the Germans fighting for the freedom of the seas; so far as I am concerned they can have the whole damn sea!"

But, with the exception of seasickness, we did not have a single man report on sick call from the time we left the States until we arrived in Glasgow, and I believe that it was due to the fact that everything that could be done as to ventilation was done and there were officers

constantly on guard in all parts of the ship to see that ventilation was as perfectly and consistently carried out as conditions would permit.

We left Glasgow for Southampton. When we got to Southampton we found the whole place absolutely stampeded on account of the fact that one of our biggest transports, the *Olympic*, had come into Southampton with 1,800 sick. Neither Southampton nor the Army had facilities to take care of those 1,800 men, and my unit was held for the purpose of handling the ship's sick. We had a job getting those 1,800 men out of the ship's hold, and while it was a modern ship and was looked upon as one of the best that sails the Atlantic, the men were shipped without proper consideration as to ventilation. That was the first and biggest public health observation that came to me.

Another striking thing that came to me was this: Base Hospital 85 had 216 enlisted men. They left Fort Sill, Oklahoma, with a clean venereal record; they spent almost five months in Paris; they were given every privilege that it was possible to give under the circumstances. I left them the 3rd of February, or somewhere along there. The venereal record among these 216 men was one, and only one. That is a public health observation that struck me very forcibly. Those men were not preached to; they were not told whether or not they could get to heaven. They were simply told that a fighting man has to be a clean man, and they were told that if they were anything other than clean they disgraced the very thing for which they were fighting. They were told also that they were not fit to be fathers of American children unless they were clean men. That was all the preaching they had. The venereal record of my unit is a little bit better than the record of the American army taken as a whole, but not very much. So much better was the venereal record of the American army than that of the American citizens at home that the soldier can come home and look his civilian associates in the face without being ashamed.

This venereal disease prevention is a public health problem that the State of North Carolina has got to handle from now on. If my information is correct, the Legislature has put it absolutely up to the medical profession as to whether or not we shall have a venereal record fit for a clean people. If we fail to meet the obligation which the State has put upon us, we are morally liable to the citizens of the State and responsible for the futures of the syphilitic and gonorrhoeal children, therefore as men we must come up and make this venereal record even better than the American army made it: (Applause).

The health record of the army you are too familiar with for me to take your time to discuss, but I think we have every reason to be proud of the Health Officers' Association and the public health work done in this State.

In my own county we had forty-six cases of typhoid and two deaths in 1918. I have had 46 cases of typhoid fever in my own town more than once in a year, and I remember on one occasion that a single doctor doing a country practice had 38 cases at one time.

The American army did more than did the citizen population toward protecting itself, and those for whom it was responsible, against typhoid fever, and you can go down the line of all infectious diseases that are preventable, and I do not think that the Sanitary Corps or the Medical Corps, or anything that had to do with public health in the army has any reason to be ashamed. (Applause).

The President: The next number on our program is an address by Mrs. Vaughn, Director of the Bureau of Infant Hygiene of the State Board of Health.

MRS. KATE BREW VAUGHN: *Mr. President, Ladies and Gentlemen:* I deeply appreciate the North Carolina Health Officers' Association allowing me the privilege of attending this meeting and am particularly grateful for being allowed to present the subject which, to me, is of so much importance. I have listened with much interest to the excellent papers of your members, and the reports of the county representatives, and while applauding the many excellent forms of work which have engaged your attention during the year, I have been duly impressed that the saving of grown folks in North Carolina has been of the most significance.

We have heard of the fight against tuberculosis, typhoid and diphtheria, to say nothing of the heroic struggle against influenza. I grant you that the saving of a man desperately ill with typhoid fever, or a child of 9 years in imminent danger with diphtheria, is a feather in your cap and most satisfactory to view in retrospect. I have listened in hope of hearing some one champion the cause of the infant, but the mother and her child have been mentioned only three times during the whole session. Dr. Carlton of Winston-Salem and Dr. Smith of Wilson have told of installing nurses, part of whose time shall be devoted to infant hygiene and care of the mother. Dr. Register of Northampton, has told of the nurse installed in his county cooperating with the Bureau of Infant Hygiene of the State Board of Health, and so I am most grateful to Dr. Cooper, who has made room on his already full program to allow me to tell you the plans of the State Board of Health as regards the reduction of infant and maternal mortality.

When England and France had been engaged in war one year, they were impressed with the fact that in order to protect their population in the face of the thousands of young men dying on the fields of France

in mortal combat, it would be necessary to protect the lives of the babies in the home. They began on a big scale what in times of peace had given them little concern, making surveys to find their needs, and applying the best methods at hand to protect the infant. The United States, ever ready to learn whatever might make our country stronger, began to apply these methods to our States. Last year, with the whole country looking towards the blood-stained fields of France, the children at home might easily have suffered had not our President instituted ways and means of attracting the attention of all people to the child. "Children's Year," conducted by the Children's Bureau, Department of Labor, found in the Council of National Defense a willing machinery for familiarizing people with the child's needs. All over the country women were weighing and measuring babies, but the time was limited and those working too untrained to be able to do more than attract attention to the necessity for really intelligent care to supplement the mother love which for many years was considered the all important ingredient.

—North Carolina, as you have heard from many sources on this floor today, has a wonderful State Board of Health, and I feel that I can say this without appearing to brag, as I am such a late addition that I do not count. Its Secretary, Dr. Rankin, does not allow anyone to get ahead of him in procuring for his State the things which will add to the efficiency of the Board of Health. When he saw that all over the country women were thinking of children from a standpoint other than the old one, he picked me to be the director of this new bureau—I do not know why he should, but possibly because he knew I have five well grown babies of my own, and because I had specialized for ten years in nutrition. I came of the old school, when club women spent more time discussing literature than the things which should have vitally interested them and which shaped the lives of those dependent upon them. I had consequently, in rearing these five children, made every mistake a mother could, and my babies had lived in spite of me rather than because of me. Doctors were not prone in those days to talk very much to patrons concerning their children, lest they be misunderstood, and when my youngest son, a baby of four years, became afflicted with incipient tuberculosis, and my good old family physician was honest enough to tell me that I did not have very much common sense, I woke up to the fact that I had spent much time hemstitching ruffles instead of learning to properly prepare his food. I put in a good deal of time thereafter in studying foods, and later made it a means of livelihood. I think, then, Dr. Rankin selected me for the faults with which I was familiar and with which I could sympathize.

After being engaged, I was sent sightseeing to Kansas, New York, New England, and after several months I came back to Raleigh, my mind in a whirl, for the infant hygiene units I had visited were applied to the Harlem negroes, the immigrant Irish, Italians, Jews, etc., in the East, and the thrifty pioneer stock in the west, and the problem here is distinctly a North Carolina problem, with its 90 per cent American stock and its American habits and traditions.

The North Carolina State Board of Health, through its Vital Statistics Bureau, shows 74,795 births (of course you know North Carolina has more births per its 1,000 population than any other State in the Union), and 34,914 deaths in 1917, which is an average year. On a close analysis of these deaths I found that 11,749 of these deaths occurred in children under five years, and that 557 of them were women who died from accidents of pregnancy; 2,046 babies died during the first month of congenital diseases or because they were too weak or too diseased or too poorly nourished to live, and 2,626 died during the first two years of life of diarrheal diseases. In the Bureau of Infant Hygiene, gentlemen, we are considering two problems—(1) The intelligent care of the mother; (2) Intelligent care of the child, educating women in the hygiene of pregnancy and giving them all the information regarding this condition and assistance for a normal pregnancy possible. The midwife, apparently an economic necessity in North Carolina, is largely to blame for the 3,153 stillbirths yearly, and for many of the 557 deaths from accidents of pregnancy. With supervision of the midwife and education of the expectant mother as to the care she should have, we hope to create a demand for a different class of midwives in North Carolina, as well as save many of the unnecessary deaths. I understand that a newborn baby has an economic value of \$90 to the State, and anything which would decrease the number of stillborn babies would be an asset to the State. If these creatures happened to be pigs instead of human beings, and pigs were worth \$90 each, do you think the Agricultural Department would be sitting around doing nothing about it? Up to this time we have heard no hue and cry over these 3,153 stillborn babies here; 2,046 too poorly nourished to live longer than one month, 2,626 babies under two years of age died last year of diarrheal diseases, caused by improper food or by germs carried into the intestinal tract by food. If it were humanly possible to save these lives, the outlook would be appalling—if these deaths were due to tuberculosis or typhoid fever, I dare say few of us would be willing to linger in North Carolina, but gentlemen, you know and I know that at least two-thirds of these lives might be saved with the same system and attention to them which has yearly reduced the number of deaths from

these two causes. What has been done with tuberculosis? They have been saving for four years two hundred lives yearly over the previous record. How was this done? By education and by taking cases in the incipient stages and curing them. How have they checked typhoid? By education and such preventive measures as were found necessary.

When in New York I asked to be sent to that part of the city in which diarrhea was most prevalent. I was told that they had no such section. I asked "How have you eliminated it?" and was told, "We have made it almost criminal for any mother or doctor to allow a baby to die of diarrhea," while we in North Carolina, with our American population and the healthiest climate to be found, allow 2,626 babies to die yearly of diarrhea, and I am going to ask those of you who have heretofore not thought of it seriously as a vibrant health problem to take it home with you and give to it some thoughtful attention. Will it not pay us to teach mothers the causes of these deaths and make them responsible for the lives of their offspring?

When I was a little girl, my father, who had a number of fine mares, permitted us to use them until within a few months of time for foaling, but for two months at least they were turned out on pasture, given the best care and allowed the run of the field, later on repaying for the care by bringing forth very good colts.

The stillbirths, the large number of deaths from congenital diseases, the number of maternal deaths will show conclusively that many women are not so well treated. If we could educate husbands to understand what a strain for women the maternal experience is, if we could educate the woman herself as to the responsibility and the best ways of meeting it, if we could get the cooperation of the doctor in this education, it would make a marked difference in these appalling figures. Doctors somehow like better to operate for appendicitis than to take obstetrical cases; they find more satisfaction in setting a broken arm than in the intricacies of obstetrical practice, but the death rate of North Carolina must be reduced by the doctors facing this as a problem with an individual responsibility.

I want to tell you what we are anxious to do. Since we cannot personally visit all of the expectant mothers of the State, we would like to write to each one not only one letter of cheer and advice, but nine, in which we would anticipate her ailments and prepare her for combating them, or at least understanding them, and pointing out the danger signs of pregnancy with a warning to seek advice of a physician and have frequent urine analysis. We are getting the names of women in need of this advice in various ways. They see the Bureau mentioned in the Bulletin and ask for literature; nurses, club women, ministers,

teachers and a few doctors send us names. We began in January last to secure these names and today we are corresponding with 853 expectants. I find women, especially the country women, are awfully lonesome—husbands get newspapers, a farm paper, and get in them all they need. The woman in the majority of cases takes no newspaper, has no correspondents, and during the months of expectancy is peculiarly lonely, as she infrequently leaves home. Now the State Board of Health finds out her condition and one of the members writes her a letter each month, chatting about patterns for clothes, telling her what a wonderful being she is and what a great opportunity is hers, and what a responsibility she has accepted, all the while patting her on the back, figuratively speaking; advising her to seek a physician's guidance, and to have the urine examined; suggesting proper food, rest, bathing, etc. Knowing full well that all cannot afford a physician she is advised regarding midwives, and so important is this advice that it is put on a lurid pink paper to attract attention—the pink sheet contains such information regarding midwives that if the prospective mother has, by that time, any confidence in our advice, and is able to afford it, she seeks a doctor instead of midwife. The ninth letter goes a few days before the expected confinement and contains full instructions for caring for the new born. Later on we write her for information about the baby—asking its weight, condition, etc., and from her reply, we can tell how she is feeding it, etc. We keep close to her, advising as to feeding regularly, or giving proper modifications if bottle fed, with such specific advice as she may ask for.

You have no idea the questions they ask—often too intimate for a timid woman to ask a physician—one woman wrote a few days ago "A month seems too long to wait for your letters." Gentlemen, I am not going to tell these women with whom I come in contact anything you would not tell them if you had the time to sit and talk with them. You have not the time for this, and if you had, many of you would hesitate to stop and tell these intimate things to some ordinary woman who is not even good looking (applause), even a woman who ordinarily is good looking so often becomes hysterical at this time that you are not anxious to spend much time talking with her.

Aside from this we are trying to educate them to avoid diarrhea by teaching cleanliness, swatting flies, screening homes, building of sanitary closets, properly boiling and keeping milk, and later properly preparing the supplementary food.

We have two nurses in the State doing this work in counties; have two nurses of organizations cooperating with us, and hope before many

months to have eight others bending every effort to reduce sickness and death among mothers and babies by educating parents.

Governor Bickett has given me the week of May 11th as Baby Welfare Week. Mrs. McKimmon has given her Home Demonstration agents, Dr. Brooks has promised his teachers, and Mr. Hudson, his farm demonstration agents—all to give some thought and effort to attract the attention of the public to the number of deaths and remedial agents for lessening them. By their cooperation we confidently hope to reduce the deaths which have been increasing in the State, largely because you gentlemen have been so busy with tuberculosis, typhoid, measles, etc., that you have not been able to see how appalling the prospect in this field is, nor how promising it is of recovery when we have enough cooperation in looking after them, all of which I feel confident of securing when you become assured of my sincerity.

Prolonged applause.

DR. McCracken, President: We shall be glad to hear from Dr. Way, the President of our State Board of Health.

MAJ. J. HOWELL WAY, Waynesville: If a man has been away from his practice, has been away from the familiar call of "Doctor" for nearly two years, it is a very welcome sound, and I think there is nothing that pleases one of my profession quite so well as to be called "Doctor." So I am glad to be called, even though I have little to say.

I think the first thing to do always is to pay debts, as quickly as we can, so I am going to let you pay your debt to Mrs. Vaughn for her very lucid, timely and splendid address, by moving a rising vote of thanks to this lady. (This was passed unanimously).

It is very pleasing to believe that the spirits of those who lived and worked and toiled among us, though their bodies go hence, their spirits come back and watch over us and are interested in what we are doing. As the President of your State Board of Health, as I sat here today and saw this splendid body of public health workers, when I heard our gifted Rankin, when I listened just now to our equally splendid Laughinghouse, when the last and best, Mrs. Vaughn's most charming lecture, came, my mind went back to the days when the late lamented Thomas F. Wood, who will always be known to the State Medical Society as the father of the State Board of Health—my mind went back tonight to that gifted and lamented man, and I thought, "He is with us tonight, his spirit is looking in on us, and he is delighted at seeing how the little acorn he planted has grown into such a great, splendid and powerful tree as the public health work of North Carolina is today."

We have lived wonderfully fast in the last few years, and I am one of those who believe, ladies and gentlemen, that we have lived during this time to noble purpose. No period in our existence has been fraught with so much of physical, intellectual and moral uplift. On every line, ladies and gentlemen, the great world war has been a fine investment for the American people, and worth every drop of blood, every dollar of treasure it has cost. Some months since, as chief of a Service in one of our large base hospitals, I became interested in finding out how much more the average man weighed when he went out of the hospital demobilized than he did when he entered the army. You know, we have records of everything in the army. If there was anything that an army officer heard, first, last, and all the time, it was that "blank, blank, blank paper work." But it had a purpose, and never in the history of the world was an army recorded and written up and about, and the details and the doings, physically, of every man kept, as they were during this war. I had many hundreds of men checked up, and I found the net gain of the average man going out of the Service was approximately twelve per cent in pounds more than he weighed when he came into the service. That was fine from the physical standpoint, and I believe, ladies and gentlemen, that from the standpoint of intellectual uplift, from the standpoint of moral and spiritual uplift, the gain was greater, that it could not be calculated in pounds or measured by figures. The four million of Americans, young, vigorous and active, hearts buoyant with life and with expectant years before them—those men will carry with them the spirit of the American army, which is, ladies and gentlemen, the finest spirit of real manliness, of self-sacrifice, of striving to secure human happiness, of living and working and striving for lofty ideals. The spirit of the American army, not excepting that of the Christian, is the finest spirit on earth today. These men go back into civil life with an appreciation of what it is to be clean, clean physically and morally. They go back strengthened in their bodies, inspired and exalted in their conceptions and ideals. They go back holding their shoulders up, they go back with ideas of sanitation. They return with a knowledge of how to live, of how to be regular in their habits and correct in their modes of life, that will be an inspiration to them during the rest of their lives and a Godsend to the men and women with whom they associate.

But I did not get up here to make a speech. I got up here to show my politeness in responding to a call. I thank you, ladies and gentlemen.

We had this morning from our President a splendid resumé of what North Carolina is doing for her unfortunates. I move, sir, that it is

the sense of the North Carolina Health Officers' Association that the address of the President be given to the press of the State for publication in their Sunday papers, affording all the people of North Carolina an excellent epitome of what our North Carolina government is doing and striving to do for the care and relief of the unfortunates in this State.

Now, the public health problem used to be a doctor's problem. But it has ceased to be that. It used to be a man's proposition. That is funny. How on earth could we ever imagine that any proposition was just a man's proposition, as if anything that concerns the vitality and life of men and women and babies is just a man's proposition? Funny, is it not, that, instead of thinking of it as a man's proposition, we have not always thought of it as a woman's proposition? Thank God that we have now reached the point where we have ceased to have men's propositions. These are now humanity's propositions, and the women, God bless them, are taking their full share of responsibility and are marching side by side with us in their solving.

Mr. President, I move you, sir, the public printing of our President's address.

This motion was seconded and unanimously carried.

DR. COOPER, Secretary: Dr. Thompson, we would like to hear from you now.

DR. CYRUS THOMPSON, Jacksonville: Really, Mr. President, I was standing out there and did not get the substance of Dr. Cooper's remark. I do not know what you want, unless it is simply to look at me and compare me with this picture which Dr. McBrayer, of his own motion, put on these badges. I paid for the original picture, but I did not pay for those. You have the pictures, and you are expected to pay for them. If any of you are dissatisfied with what you have to pay, give me back the picture and I will bear the cost.

I could not be responsible for it, to be right serious, unless I were a very vain man. Two ladies told me tonight that I could not be responsible for it on the ground of vanity, for no man could be vain of his looks if he looked like me. You had better keep the picture and carry it home with you, for sometime I shall be dead, and then you will want to know how I looked.

(Addressing the Secretary): Dr. Cooper, are you satisfied now? (No answer.)

It is always a very difficult proposition to be with a man or a woman that cannot hear well. But the deafest of all people are those who do not want to hear. You remember the Mother Goose rhymes—and no

man is well educated if he does not learn those rhymes in his childhood days and carry them with him through life. I recall one of them now, and this is it:

"Old woman, old woman, shall we go a-shearing?"
 "Speak a little louder, sir, I'm very thick of hearing"
 "Old woman, old woman, I love you very dearly."
 "Thank you, kind sir, I hear you very clearly."

I take it that Dr. Cooper would have heard my question if he had been in the humor for hearing. He simply wanted to have me talk some more. But I don't feel like talking. I want to listen to the proceedings.

I am pleased to see so many here so early in the session, and I am delighted to see so many ladies. We are going to have a real good meeting, and I have a real short address that I am going to read to you tomorrow. It has one redeeming quality, it is not long. Sometimes I speak right long. One time I made a Fourth of July speech in the town of Fayetteville that paralyzed people for two and a quarter hours. When I stopped they clapped their hands for joy that I had finished.

I heard just a little of what Dr. Way said about public health work. There is only one great question before the medical men in North Carolina, and that is the public health work.

Now, I am going to quit, and not say another word, and it does not make a particle of difference whether Dr. Cooper is satisfied or not.

Dr. McCracken, the president, called for remarks from Dr. Thos. E. Anderson, of Statesville, and Dr. Fletcher R. Harris, of Henderson, members of the State Board of Health.

Dr. Anderson did not respond.

DR. HARRIS: Mr. President, I thank you for the invitation, but I have really nothing to say. I have enjoyed the sessions, and am sorry I could not get here earlier in the day. I was very glad indeed to hear from Mrs. Vaughn, and I am going home and see if I cannot help more with that great question. It is really paralyzing to know of such things. I am confident that if the people of North Carolina can be informed they will take more interest.

The following report was presented by the committee on resolutions:

We, your committee on resolutions, beg leave to submit the following:

Resolved: First, that the Secretary prepare a blank form to be used in making the reports for the various counties, and with sufficient space at the bottom thereof under the head of "Remarks," for recording of any special work not included in the general form. Further, that these reports be submitted to the Secretary and published in the transactions, but not read in the open meeting of the association.

Resolved: Second, that the North Carolina Health Officers' Association vote thanks to the entertainment committee, the Secretary, Mr. Tufts, and others who have made this meeting instructive and enjoyable.

Committee: J. S. MITCHENER, M.D.
 WM. M. JONES, M.D.
 A. CHEATHAM, M.D.

Dr. Washburn moved that the report be approved, accepted and placed on the minutes, and this motion was seconded and passed.

The report of the Auditing Committee was made by Dr. D. E. Sevier as follows:

The committee has gone over the books of the Treasurer carefully, and find that they are correct in every detail.

On motion, the report was accepted and adopted.

ELECTION OF OFFICERS

DR. COOPER: Mr. President, before any nominations are made, I want to say just a few words. I have done all the heavy work of arranging for the annual meetings, for the past four years, such as getting together an interesting and instructive program, and working hard to bring out a full attendance, all of which has been cheerfully done. But my duties with the State Board of Health are increasing to enormous proportions, and therefore I must decline to serve longer as secretary. You have many abler men who can serve you better and so in all sincerity I ask you to elect a new secretary.

I have never missed a meeting since the association was organized at Charlotte nine years ago. I love the organization and I have been delighted to see it grow each year in power and usefulness. I am proud to say that we have never had any politics except to better health conditions in North Carolina. We have seen the number of deaths from typhoid fever reduced to five hundred in 1918. Last year the State Board of Health alone, with the assistance of the county health officers, was able to get more than eleven thousand defective school children treated. When the association was chartered medical inspection itself was scarcely known or ever had been heard of in the State. So I feel proud of the record we have made and I feel sure that all constructive health work will be greatly increased and expanded from year to year. But—folks, please elect a new secretary.

Dr. McPhaul nominated Dr. E. F. Long, of Davidson County, as President. This nomination was seconded, and Dr. Long was unanimously elected. Dr. McCracken then asked Dr. McPhaul, Dr. Sevier, and Dr. Jones to conduct the newly elected President to the chair.

Dr. Washburn nominated for vice-president Dr. Carl V. Reynolds, health officer of Asheville. This nomination was seconded and carried unanimously.

DR. REYNOLDS: I am going to make the best speech that has been made this evening. I will simply say, I thank you.

DR. LONG: We have before us the election of a secretary.

DR. D. E. SEVIER, Asheville: It has been said, and well said, on this floor today that the Health Officers' Association of North Carolina is the strongest association of its kind in the South. It is because we have had a secretary who is largely responsible for the success of this organization. I admit that it is a hardship, and I do not see why, since he is connected with the State Board of Health, they cannot assist him with the work. Therefore, gentlemen, I offer for your consideration, as secretary of this organization, the name of Dr. G. M. Cooper.

DR. ARCH CHEATHAM, of Durham, seconded this nomination, and Dr. Cooper was elected by a unanimous rising vote:

DR. COOPER: Mr. President: The only speech of acceptance I can make is to say that as I am one of the most appreciative fellows in the world, I thoroughly appreciate the honor of being reelected for the fifth term as secretary, and though I know you have again made a big mistake, I will do my best one more time.

There being no further business to come before it, the Health Officers' Association adjourned.

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