

TRANSACTIONS
OF THE
NORTH CAROLINA HEALTH OFFICERS
ASSOCIATION
EIGHTH ANNUAL SESSION

DR. D. C. ABSHER, Henderson: The eighth annual session of the North Carolina Health Officers Association will now please come to order. We will open with prayer by Dr. Jordan.

INVOCATION

T. M. JORDAN, M.D., RALEIGH

Almighty and most merciful Father, we thank Thee that Thou hast permitted us to again assemble ourselves together in this, the eighth annual session of the North Carolina Health Officers Association. We pray for guidance in all that we may do. We ask Thy blessings upon us all, collectively and individually. We thank Thee for the blessings that we have received from time to time and pray that they may continue.

All of which we ask in Christ's name. Amen.

DR. D. C. ABSHER: In making up the program for this meeting our Secretary has left off the usual preliminaries. Usually we have an address of welcome and a response to the address of welcome, and so forth, which takes up quite a bit of time, and being in the military service of the country I have not had an opportunity to prepare a paper which will take up very much time myself. Consequently, I am afraid that our session this morning, instead of being late, will have time on its hands.

The next number on the program, however, is the President's Annual Address, and I will read it.

PUBLIC HEALTH AND THE WAR

ANNUAL ADDRESS BY D. C. ABSHER, M.D., PRESIDENT NORTH CAROLINA HEALTH OFFICERS ASSOCIATION

One year ago when this association met in the city of Asheville we did not dream that the year which has just passed would be so full of epochal events in the history of our country as it has been. It has been a period in the history of the world to which all future ages will look back with wonder and awe. Many millions will look back to this time with sadness, and yet pride, in the memory of the loved ones who have sacrificed their lives for the cause of freedom; for the cause which is dear to every American heart; for the cause which the arch-enemy of civilization is now attempting to trample under foot. At this time, with enemies abroad and enemies within our own borders, it behooves all true Americans to stand shoulder to shoulder, to give firm and loyal support to our great President, and to work and pray for the success of our brave boys on the fields of France.

One year ago when this association did me the honor of electing me its president, I did not dream what the year had in store for me. As some of you know, I had hardly more than returned to my home in Henderson from our last annual meeting, when I accepted a position with the International Health Board which took me to the State of Arkansas, and I had been there only a few months when I was ordered into the service of my country. Since entering the service I have been on duty in camps in Georgia, Texas and now in good old North Carolina. Having thus been out of the State during the greater part of the past year, I am more or less out of touch with the work which the health officers of North Carolina have been doing during the year, and I am at a loss to know just what I should discuss. But first of all I must thank you for the honor which you have conferred upon me, no honor which the future may hold can be more deeply appreciated. I am delighted that my orders have been such as to allow me the pleasure and privilege of attending this meeting, and I am sure that we are all glad that we have this delightful place among the sand hills and pines in which to meet. I have stood upon the topmost peaks of many of the highest mountains in our beautiful Western North Carolina, but I have never seen a more extensive and inspiring view than that which spreads out before the eye, in every direction, from the top of the big Sandhill upon which is located our splendid State Sanatorium, and which we shall have the opportunity of visiting while here.

It has been suggested that some explanation of army methods of sani-

tation and disease prevention would be of interest to you. I shall therefore say something about our work in the army, though not in an exhaustive way, nor will I go very deeply into details.

In many respects disease preventive work in the army is similar to that done in civil life, in other respects it differs radically. A knowledge of the fundamental laws of health and disease is, of course the first essential for doing public health work anywhere. The next most important qualification is tact, and it is just as valuable in the army as it is in civil life. If I were to attempt to give advice to health officers anywhere, I would impress upon them the great and vital need for tact. In fact, public health work consists, largely, in the tactful teaching of public health truths. Teaching the truth tactfully—and the truth is enough, it isn't necessary to stretch it—will get you further than bluff ever can; but tact plus backbone means that one must have the courage to use force where force is necessary. The tactful man seldom has to use force, for he is able to make people see good health as something to be desired, as something for which it is worth while to put forth effort and to spend money in order that it may be retained.

Sanitation in the army is carried on according to military custom. Inspections are made by those having authority to make them, and whenever errors are found it is often possible, with a little instruction to get the error corrected immediately and without further procedure; on the other hand we sometimes find that kindly advice and instruction is not properly received, and it is then that tact must be accompanied by backbone. There are regular military channels through which such corrections are brought about, and which it is not necessary to discuss here. The inspections are daily, and when they are made attention is given to such matters as the cleanliness and ventilation of barracks and tents; the arrangement and number of cots in the tents; the cleanliness of kitchens, mess halls, and table utensils; the manner in which food is handled and protected from contamination, and whether it is handled by healthy men or not. The amount of left-over food and its disposal is carefully watched. Picket lines and latrines are inspected daily in order to be sure that they are kept so that flies may not breed in the one nor gain access to the other. The breeding of mosquitoes is prevented by constant attention to drainage; the filling of holes and oiling of such places as cannot be drained or filled, and the importance of flattening or punching holes in tin cans is not lost sight of.

In the matter of infectious diseases, notification is prompt in every case. Isolation of patient and contacts is even more prompt, so that no patient is allowed to become a menace to the public either within or without the army.

Great care is taken to discover all carriers by bacteriological methods and whenever one is found he is isolated until free from infection. Prompt reports of all communicable diseases are made to the Surgeon General's office, and the frequent reports from that office is proof that the public is kept fully informed as to health conditions in the army. This is quite a contrast to the old way of handling infectious diseases in civil life, and even now there are health officers who carry out the old foggy ideas of some of the laity in that they keep from the public information of the presence in their midst of infectious disease through fear that such information "might hurt business" or "might hurt the reputation of the town." I fear that there are still a great many private practitioners who conceal the cases of their favorites, but I am glad to say that health officers who do that are growing few and far between. Enlightened public opinion is no longer satisfied with the concealment of disease.

Let disease, if it is one that is preventable, come out in the open—give it publicity—and soon it will meet such a defeat as we hope the kaiser will receive in the near future.

Publicity of the right sort never hurts, and in civil health work it is of the greatest importance that the public be kept informed of the health officer's activities, of the presence and location of communicable disease, and that the people be educated through the public press as to the means of preventing disease. The words of the beloved Charles B. Aycock still ring true, and they apply to public health as much as to anything else—*Educate! EDUCATE! EDUCATE!*

The disposal of human excrement is a question which has been discussed ever since the days of Moses. In recent years we have learned that we have been more crude in our methods than were the people in the days of the patriarch, for we learn by reference to scripture that the laws handed down to the people of that day required them to dig and cover that which came from them. Three or four years ago when the fly-tight pit privy was advocated as a method of improving the old open surface closet, which was usually in vogue where there was a privy of any sort, great discussions were started and have continued ever since. The pit closet has never been advocated as the one perfect method of improving privies, but that it is an improvement is certain. It is not devoid of dangers—no privy is—but where a reasonable amount of attention is given to location, construction and maintenance, it is a safe privy. In the army I have seen these closets installed in many kinds of soil in several states and I have yet to see where any harm has come from their use.

The French are said to be expert in the use of camouflage, but I have

come to believe that they are not the only experts. We are developing many of them right here in our own country. In fact a great many of our own people have been experts for a long time without knowing it. Recently I have heard of some concerns who are commercializing our public health teaching by going out among the people and selling septic tanks. They call them septic tanks, but those put out by some of these concerns are pure camouflage, that is they look like septic tanks but they are not. I just mention this in passing in order that you may have your eyes open, and if you don't know what a septic tank is, find out, and protect the health and pocketbooks of your people against this commercial camouflage, remembering that the name "septic tank" means nothing, and that sewage treatment should be studied and the method adopted should be one which will fit each particular case.

Vaccination against typhoid is rapidly reducing the prevalence of that disease, but we still have the dysenteries and the various intestinal parasites with us, so that we cannot yet cease our efforts toward better methods of sewage disposal. Even if there were no danger from disease, esthetic reasons should lead us to put human feces where it cannot contaminate our water supply and where flies cannot gain access to it.

Returning to our discussion of army methods, the first thing a recruit gets, after being accepted, is his vaccination. He is immunized against typhoid and para-typhoid with the army triple-typhoid vaccine, which is administered in three doses, with intervals of ten days between doses. As the name indicates this vaccine contains the killed bacteria of typhoid, and types A and B of para-typhoid. Experience has shown that the reaction following the injection of this triple vaccine is very little, if any, more severe than that following the use of typhoid vaccine alone; and it is obvious that protection against three fevers, with no more inconvenience than would be experienced with inoculation against one, is something to be desired.

Each recruit is vaccinated against smallpox at the same time he receives his first dose of triple-typhoid. The reason for this is the simple fact that it requires three to five days for the smallpox vaccination to take, by which time the reaction from the first dose of typhoid vaccine is over.

At the present time we have more men in uniform than ever before in the history of the country, and there are perhaps more people immunized against smallpox and typhoid than ever before in this country. The fact that all these hundreds of thousands of men have been vaccinated with very little inconvenience to themselves ought to be a very strong argument in the hands of health officers in getting the folks back home protected against these dreaded diseases.

Strenuous efforts are being made to eliminate the physically and mentally unfit from our fighting forces. The reason for this is plain, for we can readily see that only the physically and mentally fit can hope to stand the strain at the battle front. We must not, therefore, encumber our forces with useless men to be transported and fed, for just now our one first aim must be to win the war. But, with the elimination of so many defectives, especially mental defectives, and the sending to the front of the very best of our young manhood, one is led to wonder what type the future American will be, and to question if the day has arrived when the sterilization of criminals and mental defectives should be practiced. These stray thoughts bring to mind the great problem of the control of venereal disease, and I divulge no secret when I tell you that venereal diseases, contrary to public opinion, are being more effectively controlled in the army than in civil life. This is proven by the fact that there is a much higher sick rate from venereal diseases among new recruits than there is among those who have been enlisted for several months. This evidence points to the effectiveness of army methods of control; but in spite of that, the records show that the sick rate per thousand for all troops in the United States for the past several weeks, has been higher for venereal disease than for all other acute infectious diseases combined. Now, if with army control, where the method used is more effective than any yet devised, we can only obtain the result mentioned, there is evidently a great field in civil life which is ripe for the harvest; and with the exception of tuberculosis there is perhaps no other class of diseases so important from a public health standpoint.

During the past winter there have been a great many cases of measles in the cantonments. Many of these cases were followed or accompanied by pneumonia, and quite naturally some deaths resulted, as would have happened with the same disease anywhere else; but with all that, I often wonder if the great mass of our people have yet awakened to the fact that measles is not a harmless disease, and that it should be reported and quarantined always.

We have also had a number of cases of meningitis, and no doubt the reports which have reached the public have been very alarming, but as a matter of fact the number of cases has been comparatively small; and the mortality, thanks to Flexner's discovery, has been only about 30 per cent of those attacked by the disease. Some of the cases were due to the streptococcus, or infections other than the meningococcus. In these non-epidemic cases the mortality was much higher, the rate being 75 per cent at Camp Greene. The total number of cases of epidemic meningitis occurring at Camp Greene to date is thirty-three, the number of nonepidemic cases to date (March 26) is four.

Meningitis is a disease which results from over crowding. The germ does not thrive in the open and outside the body it survives only a very short time.

When a case of meningitis occurs in a camp, the patient is immediately sent to the base hospital where he is isolated. All those who have been in immediate contact with the patient are sent at once to the detention camp where they are isolated until it is certain they will not develop the disease and that they are not carriers; frequent microscopic examinations of smears from nose and throat being made to determine this point. Smears are also taken from the noses and throats of all the other men in the company in which the case developed. Carriers are frequently found among the apparently healthy. When a carrier is found he also is isolated until repeated examinations show that he is free from the germs.

As far as possible, this procedure is carried out with all other infectious diseases.

Pneumonia along with the other respiratory diseases has been prevalent in the camps, and quite a bit of work has been done along the lines of serum therapy and there are hopeful signs as to future prevention by vaccination—but that will be an interesting story for the discoverers to tell us in the future.

The enforcement of the law which requires communicable diseases to be reported and properly isolated is one of the most unpleasant tasks that a health officer has to perform, at the same time it is one of the most important. The first requisite for the control of any communicable disease is a report of every case. Military regulations are such that we have little trouble in getting the cases reported in the army. In civil life, however, it was my experience that doctors had to be constantly reminded of their duty, and there were times when patience ceased to be a virtue and tact had to be accompanied by backbone—sometimes in the form of legal proceedings.

I do not know how many counties are giving special attention to the reporting and control of tuberculosis, but I am sure that there is not a more important field in the realm of preventive medicine. Tuberculosis offers a problem to a county health officer which should delight him with the prospects of work and accomplishment. It is one of the most deadly and most dreaded of diseases, yet it is easy to prevent and easy to cure if managed with intelligence. What a field it is for work, and what wonderful results are possible of accomplishment!

Just here I cannot refrain from referring to the magnificent work which is being done by every department of our State Board of Health, and especially our State Sanatorium and its extension service, and I

take this opportunity to urge that every health officer give Dr. McBrayer the closest coöperation in his untiring efforts against "the great white plague."

I have for several years believed that the full-time county health officer plan would be the means by which all public health work will ultimately be accomplished. I am as thoroughly convinced of that now as ever; but I am also convinced that, before the plan is thoroughly established and thoroughly successful new laws will have to be adopted. The needed legislation should be such as would prevent doing away with the work at the whim of some person of power or influence; in other words, the office should be made just as permanent as the sheriff's or any other office. The incumbent should be required to possess certain qualifications and he should be selected by a non-political board and required to work in harmony with the State Board of Health. Furthermore such health officers should be paid a living wage. Counties do not expect sheriffs, clerks of court, treasurers, etc., to serve at one-fourth pay and then go out and earn their living doing other things; then why should they expect health officers to do it? A capable full-time health officer is, as a rule, and must be a much better educated man than any of those mentioned; his work for the prevention of disease and prolongation of life is far more important, then why should he not be entitled to a living wage, and why should he not be assured a reasonable tenure of office?

Dr. Hastings, in a recent number of the *Toronto Bulletin*, says that "in the various nations engaged in this war, in times of peace, over 6,500,000 die annually of preventable diseases, and that there have been fewer than 7,000,000 killed in action on all sides since the outbreak of war. Obviously, then all the battles in the interest of humanity and the interests of nations are not fought in the firing line." The *Ohio Health Journal* says that "Prof. Irving Fisher has estimated the United States loses each year over a billion dollars on preventable or postponable deaths, another half-billion on doctors' fees, medicine and nursing for needless illness, and still another half-billion on time and wages lost because of such illness. In other words, development of public health work to the point where the ideal result of wiping out all preventable disease and deaths could be achieved, would in one year produce a saving that would pay off the first liberty loan. War-time is above all other times, the time when our efforts in preserving the health of the people should be pushed to the fullest extent. It is the patriotic duty of every government—local, State or National—to provide every dollar possible for this cause."

In conclusion, let me remind you that we are at war, and every true

American wants to win and is willing to help win. If we win, we must not only conserve food, fuel, and the thousand and one other things which we may be called upon to conserve before it is over, but we must conserve the health of our people, and nobody is in a position to do more to win the war than you men who are doing your bit at home for the improvement of the race.

DR. D. C. ABSHER: We will have the report of the Secretary and Treasurer.

DR. G. M. COOPER: My report is short this morning. If there were any way in the world the Secretary of an association could express the cumulative burdens for one year's work we would not have time for anything else, even the Secretary of a small and compact association like this.

I want to say a word here, perhaps out of order. This is the eighth annual meeting of this association and we have never opened under more favorable auspices, and some of the men have come more than two hundred miles, some have driven fifty miles across the country last night in time to get here for the meeting this morning; and I think a loyalty like this is a tribute to the healthy condition of this association, and with the possible exception of one or two men, the men who are doing health work in North Carolina are here, all of them, and if there was ever a time for efficient effort in health work I think that time is now, and I think you gentlemen agree with me by coming here and showing an interest in this meeting.

Just a word by way of explanation in regard to the program. Thanks are due to Dr. Hays and the State Medical Society for their courtesy in printing our program. Of course, every man in the Health Officers Association is a member in good standing of the State Medical Society and we judge all of us pay our annual dues. In that way, of course, the State Medical Society is justified because every man is a loyal member. In regard to this program this is what you might call a home-made program. Dr. Absher is in the army service and was too busy to help in its preparation and the other men whom I might have consulted were too busy so there was nothing for me to do but do the best I could in making the program. You will note that the program is not full, that there is plenty of time left for free discussion. There was some criticism at Asheville last year of the fact that the members of the State Board of Health and the whole-time health officers were a little too conspicuous by their presence on the program. This year—I take full responsibility—I have swung to the other extreme, not that we mind

criticism because most men in health work could not sleep without criticism, but I think it is best to have a program in which every man interested in health work is vitally interested.

I am much obliged to every man for coming up according to the program.

REPORT OF SECRETARY-TREASURER.

G. M. COOPER, M.D., RALEIGH

The minutes of the meeting at Asheville one year ago may be found in the transactions of the State Medical Society. For this and many other courtesies I wish to thank the Society and its Secretary, Dr. Benjamin K. Hays. I also wish to express my grateful appreciation to Mr. Leonard Tufts and Dr. L. B. McBrayer and their associates for their painstaking arrangements for our meeting. Thanks are also due Mr. Warren H. Booker and the press service of the State Board of Health for public notice in calling attention to this meeting. I also feel under many obligations to the gentlemen who have so kindly agreed to present papers and help in the discussions.

I have prepared and mailed out 262 letters to health officers and county commissioners relative to getting a full attendance this time.

As Treasurer, I have expended for

Postage	\$ 7.86
Multigraphing	19.24
Total	\$27.10

The above, including stationery, has been paid by the State Board of Health, and is justified because of the assistance of the Association in the dissemination of health education and the prevention of disease.

Balance on hand at close of Asheville meeting	\$23.46
Interest on deposit to April 10, 191893
Total on hand	\$24.39

The President announced the following committees:

Auditing Committee—Dr. E. F. Long, Dr. K. E. Miller, Dr. J. R. McCracken.
Committee on Resolutions—Dr. B. E. Washburn, Dr. Benj. K. Hays, Dr. C. M. Walters.

DR. D. C. ABSHER: There will be no Nominating Committee this year as you remember we adopted the rule that nominations should be

from the floor, and our nominations will be made this year in the same way.

In giving the names of the committees on Auditing and Resolutions I find I had Dr. Long's name on both committees, so I will substitute the name of Dr. Washburn on the Committee on Resolutions.

DR. K. E. MILLER: I think I can say truthfully that I have never been in a more inspiring congregation than we have here today, because this is the only organization of its kind that I know of in the country. I do not know of any State or section of the country that is ambitious enough to try to get together its local health officers in a meeting of this kind, I count it a special privilege, therefore, to be one of you, and I am one of you because, as you probably know, I have been in the State of North Carolina about a year conducting some work in Edgecombe County.

DEVELOPMENT OF COUNTY HEALTH WORK

K. E. MILLER, M.D., U. S. P. H. SERVICE, TARBORO

There are roughly about 3,000 counties in the United States. Among this number may be found widely differing varieties—large and small, rich and poor, densely populated and sparsely populated, high and low, hot and cold, agricultural and industrial, white and black, foreign and native, and those combining two or more of these general characteristics. It is obvious, therefore, that a discussion of county health work must be somewhat specific, if it is to be intelligible. We are met here as health officers of the State of North Carolina, and although what follows may apply equally well to county health work in general, this discussion will endeavor to adapt itself particularly to conditions at home. And in so doing our objective will be the average county. As to size this county will be about 600 square miles; in population about 30,000, with a notable proportion of negroes; economically prosperous, but not rich; and distinctly rural.

Having indicated the field of operations the first problem to be met with is that of funds. Inasmuch as the whole program hinges upon this factor, it is deserving of special consideration. There is probably not a county to be found anywhere that has any surplus of money over current expenditure, and it is the universal belief of the citizen wherever he lives that he is paying all the taxes he can stand. This impression is neither always true nor always false. There are obviously limits beyond which we are not justified in going as regards expenditures for health protection. If there were any such things as absolute protection of health we might deserve to be more ambitious in our call for funds. But there is no such thing. On the other hand it is believed that there is an optimal point where the degree of protection afforded per dollar of expenditure reaches a fastigium, and that the expenditure represented by this optimal point is within the reach of the average county. It is perhaps as unwise to ask a county to pay too much for health protection as it is to ask too little, but there is a certain minimum below which organized and efficient health work in a county cannot be undertaken. This minimum is found to be not less than \$3,000 per year. Can our average county afford this amount of money? We believe that the answer is "Yes, because they can't afford not to spend this money, provided it is invested in the right man." This means an expense of ten cents per capita in our average county. That this is not excessive is shown by the fact that certain purely rural counties are now exceeding that amount and are proud of their investment. Indeed, if the money

that is spent in most counties in the old haphazard way in the absence of an adequate health machine were applied to a businesslike health department, the increase necessary to reach ten cents per capita would be surprisingly small.

Under our present system our only recourse is to direct taxation for county health work, but we hope for the time when State and Federal coöperation in a financial way will supplement county funds to such an extent that all financial obstacles to county health work will be removed.

In attacking the county health problem we must do so with the proper perspective. We must draw a sharp distinction between rural and municipal conditions. In a city of 30,000 the area covered is perhaps ten to fifteen square miles, as compared to 600 in a county of similar population. While disease incidence in the latter is lessened somewhat by less personal contact, the administrative difficulties are multiplied enormously by the area over which the health officer must work. Bad or impassable roads, also, during certain months in the year are important obstacles. In addition rural people are not so accustomed to rules and regulations, and are therefore, harder to control. Furthermore, the rural health officer is lone-handed in the average county, without sanitary inspectors, policemen, and nurses at his beck and call. Therefore rural health administration is in a class by itself. Not long ago, I sat in a symposium on rural health administration, which was positively ludicrous. Not one of those participating showed evidence of even a speaking acquaintance with genuine rural work. Also, while I am not discounting the value of special instruction for health officers given by the medical schools, I wish to say that not one of the courses is conducted from the standpoint of rural needs and conditions. Indeed, I believe, that the average man is rather systematically unfitted for this work by the courses now given, because he is trained from the municipal standpoint only.

Nowhere is the man himself more paramount than in rural health work. In comparison, the personality of the municipal official is insignificant, since he is fortified by a routine system which keeps him more or less behind the scenes.

In order to attempt any effective health work, in a county there are certain minimal requirements which must be provided for, some of these have been alluded to already but will be recapitulated. 1. Funds amounting to at least \$3,000 per year. Two thousand of this should be set aside for the salary of the health officer, and the remainder for running expenses.

2. Equipment. (a) Automobile, bought and operated by county money. (b) Stationery and office furniture. (c) By all means an adequate sys-

tem of preserving records. This is one of the weakest points in county health establishments generally. (d) Office help. Under the above budget not much can be invested in this way, but it is very essential to have some one, if only a child, always in the office to answer telephone calls, and to keep the simple, but necessary records. (e) Mimeograph, typewriter and stereopticon.

3. A well trained medical man who has the instinct for work, and the personality and judgment suitable for accomplishing the desired ends. The idea of making health officers out of nonmedical men has gained popularity in some quarters, but in county health work there are many reasons that would make this even more of a mistake than elsewhere. In any case, however, the health officer must be a full-time man.

Starting with the foregoing minimal requirements other facilities may be added, *ad infinitum*. Roughly speaking, a county can get as much health protection as they are able and willing to pay for. But for the average county these minimal requirements are about all that can be expected at first. This being the case, the first plank in the health officer's platform should be that at first, some things must go undone. His first duty should be to find his own limitations, and be prepared cheerfully to sacrifice the less important for the more important, so that his full capacities may be applied at the strategic points. One of the favorite fetishes, for instance, that dies hard is a laboratory. But unless the one-man health officer divorces himself from the idea early, he will waste precious time and good money, providing always that such good services are obtainable from the State laboratory, as we now enjoy. Also many new developments in public health work, more or less of the nature of refinements are very attractive but cannot be actively incorporated into the early stages of rural health work. Among these may be mentioned the venereal problem, prenatal care, eugenics, welfare work of various kinds, and life extension work. Some of the older health establishments, however, seem to have leisure to specialize in these so-called refinements, inasmuch as they claim to have practically eliminated the needs for sanitary work. However; the beginner in rural health work must stick close to earth. As regards contagious diseases he has no choice in the matter. These constitute emergencies and he must therefore attend to them as they arise. In connection with these he finds a duty in the performance of which he must be tireless. This is the training of his people to prompt reporting of diseases. This is indeed a developmental process, requiring time, patience, sometimes the pressure of law, and every atom of the health officer's ingenuity in the bargain. A great many devices may be employed very effectively for the purpose of getting more complete reporting but these cannot be dis-

cussed here due to lack of time. If, however, he accomplishes this task with satisfaction the remainder of contagious disease control is practically automatic. The practice of quarantining by registered mail is looked upon as particularly well adapted to rural needs, but should not be employed as a routine measure.

At least all health establishments in their infancy will find themselves confronted with almost universally dangerous filth disposal systems, or lack of any at all, in every home. No real progress can be made toward control of filth borne diseases, therefore, until the insanitary practices are supplanted by sanitary measures. In a county this may not be done completely until the millenium arrives, but in practice we meet with a most surprising phenomenon. It has been found by the extensive rural sanitation work done by the United States Public Health Service in the past three years that we get better returns from small amounts of sanitary reform than we really deserve. A very notable drop in the typhoid fever rate has invariably followed the rural sanitation campaigns even when the actual numbers of sanitary privies constructed bore but a small percentage to the total. It is fortunate that our labors in this field are so rewarded because it is a sordid and unattractive business in itself, and if the fruits of such work were not unmistakable many health officers might persuade themselves to neglect it. The fact remains, however, that the health officer cannot escape the problem of human filth disposal, and he must plan to devote the major proportion of his energies to it, especially during the summer months.

For the fall and winter months the health officer finds a job which from the standpoint of importance compares favorably with the foregoing. This is the work among the school children, which comprises not only a physical examination of the children, but some system of follow up work.

Two other basic problems, namely, tuberculosis and infant welfare are unfortunately rather beyond the reach of the one-man health officer in a direct way. It is possible and essential for him to stress these subjects in an educational way from every possible angle, but further than this he can hardly venture without the assistance of a nurse.

The foundation of all rural health work, of course, must be education. In the large cities imperialistic methods may be tolerated but not so in county work. It does not, however, come within the province of this article to discuss the various aspects that education work may assume. No method or practice which will accomplish the desired end can be disregarded.

The one idea about which county health work revolves is that of de-

velopment. A full grown health machine will have to be pruned back some before it will take root when planted into virgin soil. But when a healthy stalk is once rooted its branches may be trained to practically any desired form and extent.

Having started with the fundamental problems in rural health work others may be taken on from time to time, but not until either help is added or the elementary objectives get so well in hand that some attention can be diverted from them to new tasks.

A characteristic mistake in trying to develop county health work is to attempt to get results by an overabundance of new rules and laws, calculating perhaps that by allowing a discount of 90 per cent, more will be accomplished with many laws than with few. This practice tends rather to disorganize than to develop health work. Good health legislation should be such that its effects should be its own recommendation. Make no laws except those capable of 90 to 100 per cent effectiveness with the machinery one has at hand. That is to say, a few reasonable laws which a health officer is able to make mean just what they say will inculcate unto the people the habit of observing health laws. These, then, will serve as a nucleus around which other laws may be added in similar fashion. So that the health machine will become a real live creation instead of a grand game of bluff.

When an engineer lays out a drainage system he so executes the plans that the smallest branches bear a definite relation to the main collecting channel. The size and slope of each branch must be such as to harmonize with its fellows, so that orderly function will prevail throughout. In the scheme of health administration we find a close parallel in which the county organization represents the smallest branches or indivisible units, and the State and Federal organizations respectively the larger ones. Each have their own separate functions to perform but neither can successfully operate independently of the others. While this fact is so simple that its statement seems a mere platitude, a glaring disregard of it is sometimes seen. Few states, perhaps, have suffered more mischief from this source than has North Carolina in the years past, and even now to a lesser extent.

But when the turmoil of war subsides we may confidently look for a great impetus to internal development of our country. Unquestionably health matters will receive greater recognition than ever before. We may therefore conceive of the time not far distant when funds may be available for a coöperative health program in which county, state and Federal Government will all share proportionately. Such a scheme would necessarily bring about a close coördination of policy in the different units and wipe out all barriers to interdependent coöperation that may

now exist between them. But whether this plan is ever realized or not, the wise health officer in developing the work of a county will go about his task with the idea that the health forces of our country constitute an organic whole of which the county organization is an inseparable unit, both ministering and being ministered unto.

DISCUSSION

DR. D. C. ABSHER: This paper is now open to discussion. It is a subject I am sure every county health officer is interested in—every public health man is interested in. I hope we will have free discussion.

DR. W. S. RANKIN: I want to express my appreciation, and the appreciation of the Board of Health, if I may, for the paper and what the paper represents that you have just heard.

Dr. Miller is a United States Health Officer, loaned to the State of North Carolina, and detailed to Edgecombe County, a county which has all the health problems in which this State is interested, that is including malaria and hookworm. Before Dr. Miller went to Edgecombe County he visited a large number of county health officers, whole time health officers, in this State and other Southern States, and studied their work, and after some two or three months inspection and planning he went to Edgecombe County and started to work. As a result of a year's experience—you have heard the paper just read, which, according to my way of thinking is one of the soundest, most practical papers on county health work that I have ever heard, and which will bear careful comparison with all other papers on that subject.

There is just one thing I want to comment on that Dr. Miller mentioned, and that was particularly gratifying to me in coming from a representative of the United States Public Health Service. The United States has established a precedent of extending their financial assistance to rural communities. Several years ago the United States Government passed a law providing for the construction of public highways. That law appropriated something like five million dollars and was to be increased so much per year until it reached a total of twenty-five million. That sum was to be apportioned to states on a basis of population. The Federal Government later passed another precedent of which I am coming to, which set aside an apportionment on population and a square mile area basis for employing vocational teachers, agricultural demonstrators, both for farmers and for teaching home economics. All those Federal apportionments are not available to a state until a state itself puts up so much money, and then the state can get the Federal

apportionment. I think the state must match the Federal apportionment dollar for dollar, and then that state fund and the Federal fund are combined and are invested in the county that will put up one dollar for two from state and nation. That is a financial participation of the three constitutional units of government: the Federal, the State, the county, in solving problems of common interest. The same thing should be done in providing for health work, because health work is work that concerns not only the county, but the State and the whole country. With thirty-three per cent of the population thrown out for military service at the healthiest age period the advantages of such an arrangement are emphasized. If the United States would make an appropriation on a population and square mile basis, available to counties that match the appropriation, if the Federal Government would put up between \$20,000 to \$25,000 for North Carolina, one twenty-fifth of what is spent on roads, one-tenth of what they spend on vocational education, then it would not be necessary to argue with the General Assembly to make appropriations for rural sanitation, because they would lose their Federal apportionment if they did not. The State Government would immediately appropriate twenty to twenty-five thousand dollars, which would be combined with the Federal, making a total which the State would have of forty to fifty thousand dollars for rural health work. It is nothing but right that all should participate—should bear the common burden.

There is another interesting principle that comes in here that applies in each of the other precedents that the Federal Government has established. A county determines how many miles of road it wants, how much money it proposes to spend per mile and the material out of which it is going to build its road, carries the plan to the State Government, the State Government puts its O. K. on it, and if the Federal Government's engineers approve it the money is available. The point is the plan has to be approved by all three, and that makes out of the State a clearing house on planning road construction, and it makes out of the Federal Government a still greater clearing house. The same applies to State vocational education, the same should apply to health work. A plan should be submitted to the State, approved, and if the Federal Government approved, the funds therefor would be available. A bill has been drawn, Mr. Lever, Chairman of the Committee on Agriculture of the United States Congress is ready to introduce the bill, which would now be before Congress but for the war. If the health officers really want to lay the basis for county health work, they should see their Congressman and get him interested in arranging for rural sanitation in the way that other matters of interest to Nation, State and county have been cared for.

Let me say, inasmuch as Dr. Stevens's remarks are partly personal, what I have said time and time again in this Association: I sincerely appreciate what Dr. Stevens has said, but I want to say this, and I say it because I mean it, that the direction and the impetus had already started, both the force and the direction, had started when I came into office, and the men who started it and the men who gave it this impetus (a thing that gains momentum every foot it makes), were Dr. Wood and Dr. Lewis. The credit of the men who are working today is nothing as compared to the work done by those men, because they had to work without support. We can look ahead and see results. The total deaths from typhoid fever in 1914 was 839, the next year 734, and last year 626. Well, anybody can be encouraged by that sort of stuff, even the people are encouraging us, but Dr. Lewis could not see a year or two ahead. He had to live by faith, which is a much finer kind of living than by direct observation.

DR. BENJAMIN K. HAYS: Every great work comes as a result of some man's dream, previous to the coming of the man of action. All honor to Dr. Lewis, all honor to Dr. Wood, but in a hundred years from now, when the history of North Carolina is written up, the name that will stand highest in pioneer work will be that of Dr. Rankin.

DR. CHARLES E. LOW, Wilmington: I am here from Spartanburg, S. C., to represent Wilmington and New Hanover County, in which city and county I expect to locate as full-time health officer. I was asked to come here by the Joint Board of Health of Wilmington and New Hanover County, and I wish now to acknowledge my appreciation of the courtesy you are extending in allowing me to appear here as their representative.

I want to revert to Dr. Miller's paper, and a thought that occurred to me during the discussion of it by Dr. Rankin. I refer to the question of records, which involves the keeping of accurate vital, morbidity and mortality statistics, as a thing which makes it possible for the health authorities to make an appeal to the people. In other words, public health work has resolved itself, so far as its proved necessity and absolute justification goes, into a system of accurate bookkeeping. The pioneer work as referred to has been done by Dr. Lewis and those early workers, who started this organization. All honor to them; they were workers by faith; they did not have the records that Dr. Rankin now has with which to go before the people and lawmakers in seeking support, the records in figures which show, for instance, that the cases and death rate of typhoid fever has decreased. The best way we can get before the people to ask for appropriations—that is not the way it was

done by Dr. Lewis and his collaborators, who by perseverance and faith accomplished so much for the work—is in showing them that it is a matter of economy to them in dollars and cents, figuring out what the monetary saving has been and would be to the State of North Carolina by the number of lives saved, figure at the low estimate of \$5,000 per life, what has been the saving to the State of North Carolina in dollars and cents in the number of lives and amount of illness saved during those years since health work was started and complete records of its results kept. I venture to say one-tenth of the money saved in lives and expense caused by illness; I venture to say one-tenth has not gone back to the Health Department. Now, gentlemen, I practiced medicine for fifteen years as a private physician before I got into public health work, and I want to say candidly to this body of medical men here that, taking the medical profession as a unit, it is a great hindrance to public health work through lack of cooperation. I honestly believe it is true; it is my experience everywhere, and I hope you will take that criticism in the kindly spirit in which I make it. I come to make an appeal to every man engaged in the practice of medicine in this State and especially those from New Hanover County, to realize his obligation to cooperate and to help perfect the records, as it is only through the profession that this can be done. If the reports are not properly made the records cannot be perfectly kept. No matter how good a bookkeeper you have, if you do not get the reports properly they cannot be properly recorded.

The question that Dr. Rankin has spoken to you about, that of national aid, concerns us all. Such aid is coming, and it is coming through the uniform effort of public health workers, with Dr. Rankin as one of the leaders of that effort. I had the pleasure of being in Washington last October at the American Public Health Association, and of hearing Dr. Rankin on the floor of that great clearing house for the exchange of the best ideas in our work. I want to say to this body assembled here, without throwing any bouquet to anybody, what may be news to this assembly, that Dr. Rankin's name was mentioned favorably as President of the American Public Health Association, an honor of no inconsiderable amount. Dr. Rankin is a man of whom North Carolina should be proud, and I trust North Carolina is proud of him. He is a coming man in public health work in the Nation, and needs no introduction here as being a leader in the South. I am not handing this as a bouquet. I am telling what I believe to be a fact.

The way to bring this national aid about is through uniform, organized effort. To do this, get into the American Public Health Association, and I am ashamed to say the South was not numerically well represented at the last meeting. I do not know, Dr. Rankin, how many men

you had from this State, but there were mighty few from South Carolina. Get the men engaged in public health work together in that and similar organizations, and then let them work individually and as organized units to get the appropriations which will make national aid possible. Others are getting what they ask for through organized effort, so why should public health workers not likewise succeed? I want to ask this body to attend the Southeastern Sanitary Association, with the idea in mind of building up a strong organization in this section. That meeting will be held in Knoxville, Tenn., in May. You probably have the notice. Get together, organize, and ask for the help we need. The more we advocate these matters the more support we are going to get.

DR. K. E. MILLER: I think Dr. Rankin's discussion needs no reply except it is rather overdrawn perhaps as regards the personal remarks about me.

Dr. Stevens evidently has gotten a little wrong impression from the remarks I made with regard to coordination. I admit that my remarks on that subject were vague, and I made them so purposely. I did not have any underlying meaning at all regarding the coordination between the Federal and State Government, but I made it vague with regard to coordination between the State of North Carolina and certain of its counties in order to avoid digging up buried bones. The relation which has existed in the past between the county organization and the State Board of Health is generally well known among you, and it is not considered a fit subject for discussion amid the present harmonious conditions.

Dr. Low made reference to records in which he mentioned vital statistics. I am very glad indeed he did, because I would like to have taken the opportunity in my paper to have said something on that subject. Our present system is taken from the model law for state registration of births and deaths. What I am going to say is not with any idea of criticising at all, but I do say that for my part, at least, I have not found it very satisfactory, and I would like very much to see it changed, as regards my own county. Of course, we are all familiar with how it works. Each township has its local registrar and each reports to the State Board of Health. Now, the latest report that is available is that for 1915—that is, without writing to the State Board of Health for information in specific instances. I find myself very much handicapped, because there are many purposes for which one can use the birth and death records aside from putting the facts before the people. In fact, that is the least use I have for them. I find in checking up the reporting of diseases that a knowledge of the deaths from contagious diseases is a

very important thing to have, because, by getting access to these deaths you frequently find incidents where the case, while the patient was living, was not reported. I found one, a case of typhoid fever, last week. I did not get any mortality report at all in the case. Consequently, it furnished me a bit of information by which I could trace up the error. I have made use of these death records in a number of instances just that way. Of course, I do not have access to this through the regular channels, but I make use of a little scheme of my own by which I can get partial reports from the local registrars, at the end of each month. They make these reports if they see fit, but if they do not there is nothing I can do about it. I have been able to get about nine out of fourteen townships reporting fairly well since the first of the year. I pay a small sum for it out of the county funds. A fee of twenty-five cents is paid for a monthly list of the persons dying from communicable diseases. It is a small matter for them to attend to. This is the regular fee for death reports which they make to the State Board of Health. Twenty-five cents per month is probably not much of an incentive, but it shows that we are not beggars. In the same way I have been getting birth reports. The birth reports are very much more important to the health officer than the death reports. The first of this year we put into operation a new law with regard to the control of midwives in the county. In Edgecombe County, for instance, in 1916 we had 904 births, and 636 of that number were attended by midwives. So you see the midwife proposition is very enormous. Consequently it results in a very high death rate, a great deal of them being among mothers, but the infant death rate is especially high. We find in birth registration in Edgecombe County any number of stillbirths. That is what they are called, but if the babies live two or three days even, they are nevertheless likely to be reported as stillbirths. I am inclined to believe that a great majority of these births regarded as stillbirths are due to negligence and carelessness on the part of these midwives through lack of intelligence. In order to operate this law regarding the control of midwives it is necessary to have a knowledge of the births not two years afterwards, but at the time they occur.

Likewise a knowledge of the births is an absolute essential if any kind of infant welfare work is contemplated. Even without a nurse much can be accomplished by sending appropriate literature to the parents, provided the health officer knows when and where the births occur.

I would urge therefore that where there is a full time health organization in a county, the birth and death reports should be handled through his office rather than by the township registrars.

QUARANTINE

S. A. STEVENS, M.D., MONROE

The purpose of this paper is to discuss (1) Quarantine in its general aspects, (2) the practical application of the present quarantine law.

The right of the state to enact laws to promote the physical wellbeing of its citizens I need not argue before this body. Unsanitary surroundings, disease-producing conditions and disease-producing individuals are just as truly a menace and evil to the community as is the thief and the robber. Their methods of working are just as stealthy and lurking as the thief's, and they filch from you something of much more importance than your coat or your pants or your jewelry, namely, your health. You may, and usually can, replace what the thief has taken, but it is often impossible to recover your lost health.

Any one who keeps up with modern medical thought knows that the trend is towards prevention of disease. This tendency finds its most logical and natural expression in the modern quarantine laws. Hence the fundamental or basic ideas underlying quarantine are (1) to foster health, and (2) to prevent disease. Another underlying principle is that it is much easier, cheaper, and more efficacious to deal with the few who are sick than the many who are well. Another fundamental idea of the modern quarantine law is that an individual suffering with a contagious or infectious disease is the most usual and most dangerous source of transmission. The trash heap, the garbage can, the stagnant pool, the burst sewer pipe are eyesores, and for the sake of cleanliness ought to be looked after, but they are not necessarily a source of disease. If no pathogenic germs have been deposited in any of these places, then while they may smell bad and look bad no one can contract scarlet fever, measles, whooping-cough, or tuberculosis from them. Clean up days are all right, and should be encouraged, but the point I make is that too much attention is paid to dirty things and not enough to disease dirty individuals. Fortunately for mankind the majority of disease-producing germs die when expelled from the human body and subjected to sunlight, fresh air and so forth; in other words, the human body is one of the best germ fosterers and germ transmitters that we know. I know that there are other culture media favorable to germs. It is known that the chief sources by which disease-producing germs reach the human body are (a) water, (b) milk, (c) the house fly, (d) food. Granting this, still some infected individual is usually the source of contamination. For these reasons the modern quarantine law says that the best way to prevent the spread of disease is to isolate the infected individual, teach

him how to so take care of himself or rather his various discharges as to minimize the probability of infecting those who must necessarily come in contact with him; instruct those who must come in contact how to protect themselves as much as possible. By continuing the isolation during the known period of infection and by using the proper measures to destroy the germs that perchance were thrown off during the acute stage, the individual and his habitat are no longer sources of danger, and this quarantine stops the disease.

Present Quarantine Law.—The most surprising and gratifying fact in connection with the present law is its favorable acceptance by the people at large. The explanation of this can be attributed first to the excellence of the law, its fairness and reasonableness. Another feature contributing to this is the campaign of education along these lines that has been waged by the State Board of Health in a modest yet efficient way by means of the Health Bulletins, typhoid and hookworm units. In short the minds of the masses have been led to think about health matters and disease prevention, and they have realized that a just quarantine law is for their advantage. To use their own expression, "They don't want any one to bring a contagious disease to their children," and, consequently know that by the same token they ought not to allow their own children to take it to others.

All laws depend upon a favorable public sentiment for their efficient enforcement. I have yet to hear any unfavorable opinion expressed, even by the most ignorant, with reference to this law.

The law on the whole is as free from objectionable features as it can well be made. Another reason for its favorable acceptance has been the most excellent letters for publication furnished to quarantine officers for their county papers by the State Board of Health. These letters have served most admirably to explain, in a simple manner, the essential provisions of the law as they affected the ones in whose homes contagious diseases occur. Another excellent feature of the law is enlisting the aid and cooperation of the teachers. Many cases have been reported by the teachers that would not have been even heard of from other sources. I have been gratified at the number of cases reported by householders. My records show that of the total number of cases reported, over one-half have been reported by householders or teachers.

As to the physicians, I am sorry to say that more interest has been shown in the present law by the people generally than by some of the regular practitioners. I have puzzled my brain no little in trying to explain this indifference, but have not been able to do so thus far. Perhaps some still hold to the old idea that people must have the ordinary diseases, measles, mumps, whooping-cough sooner or later, and that child-

hood is really the best time to have them. This position might be tenable if it were possible to restrict these diseases within certain age limits. It is probable that the chief reasons some physicians fail to report their cases is the habit of putting off, or in other words constitutional negligence. Some physicians no doubt purposely refrain from reporting their cases, hoping to curry favor and make themselves popular with their patrons. Others are just naturally and constitutionally opposed to doing anything that there is no money in, or that puts them to any trouble. One man in my county gave as a reason for not reporting cases the fact that some cards had been sent him without stamps; that he would never report a case if he had to buy a stamp. Of course, that was merely an excuse. He simply is opposed to the law. He was supplied with stamps, and has not reported a case since that time. As to how to reach this class of physicians I am in doubt. As a rule, the only form of persuasion that will accomplish results is force. In short, use the teeth in the law. Let him pay a fine, and let the people know that he is failing to report his cases. By the way, the method of the present law with regards to bringing indictments is very wise and expedient. It helps both to enforce the law and to *secure quarantine officers*.

Finally, allow me to suggest not a change in the present law, but an addition to it—a provision dealing with venereal diseases. I see no reason why venereal diseases should not be reported. Why should the State control other and less harmful infections and make no effort whatever to control these? It certainly has the right to do it, and the necessity for some method of regulation is apparent and admitted by all who are familiar with the situation. There certainly ought to be some way to protect innocent wives and unborn children from the evil consequences of uncured cases of gonorrhea or syphilis. I know a veil of secrecy has surrounded and still surrounds this class of cases, but it is high time that common sense and common justice should rend this veil and at least let in the light of knowledge.

I think that a provision not too radical at first should be incorporated in the law at least requiring physicians to report venereal diseases; a record should be kept. It need not and probably ought not to be published, but it ought to be accessible to a prospective wife or her *bonu fide* representative. In short, I think a carefully prepared, conservative law that would serve at least as a beginning for legislation along this line ought to be framed and put into immediate effect.

DR. W. S. RANKIN: I want to move that the courtesies of the floor be extended to Major Kinyoun, of the United States Army, and to Dr. Low, now of Spartanburg, but who shortly becomes health officer of Wilmington.

DR. D. C. ABSHER: I am sure we are glad to follow your suggestion.

DR. T. M. JORDAN: I hoped when Dr. Stevens announced the title to his paper that he was going to differentiate between the old and the new quarantine law of our State. (Dr. Stevens: There is no new quarantine law.) Yes, there is a new quarantine law, and the State Health Department has had some of its nicest compliments upon its new law. We have a prevailing idea in our State, however, that our present quarantine law is not an entirely different law from the law of former days. This was impressed upon my mind forcibly some time since when explaining the law to one of the State's prominent physicians he said, "Why is it a new law? I thought you were just notifying us again with the same old law." Our present law will go far toward dispelling the erroneous idea that no one but a doctor can and has any business trying to prevent disease. Now the head of the house becomes his own quarantine officer. You want to emphasize this fact, too, in the enforcement of the present law, for if there is any lesson that North Carolina folks need to learn about preventive disease, it is that it is their business as much as the doctors to take part in the work, yea more.

The present quarantine-law deals with the householder and makes him stand sponsor for his own home with the placard, increasing the respect for the placard which was negatived before for the lack of a policeman on guard with the card. The policeman now is the head of the family, and he is himself held responsible for any violations. This law is different both in execution and application from any law we have heretofore had, and the enforcement of it will go further in the education of the people to the fact that they have some part in the work of disease prevention than any other unit of public health work.

DR. H. LEE LARGE, Rocky Mount: One of the most interesting features of this paper was the reference to the venereal disease problem.

The realization of the necessity for taking steps toward the control of venereal disease is becoming more general each day, and I believe every one here will agree that a discreet campaign—I use "discreet" advisedly—against venereal disease is a most necessary thing, particularly at this time. I believe, too, that the time is not far distant when venereal diseases will be reportable diseases generally, but in trying to control this class of disease we are confronted with a problem far more complex than that presented by any other of the controllable diseases, because venereal disease is more intimately associated than we can express with the morals and passions of man. This is not true of any other class of disease, and we must not overlook this fact in considering measures for the control of venereal disease.

You can by legislation control the reporting of cases of venereal disease, but you cannot legislate morals into a man, nor can you control the passions of an individual through legislation.

Therefore, I believe that a discreetly conducted campaign of education which would give the lay people an intelligent understanding of these diseases, and the ravages they make in the welfare of the race, together with legislative enactment, in the State of North Carolina and of every state in the Union, that would require the man when he puts his dollar down at the clerk's window for a marriage license, to present a certificate from a reputable laboratory, such as our State Laboratory, showing that he has a negative Wassermann and a negative gonorrhoeal fixation test, would go further toward the control of venereal disease and its ravages than simply getting the cases reported.

INTERESTING THE PUBLIC IN HEALTH

BENJ. K. HAYS, M.D., GRANVILLE COUNTY HEALTH OFFICER

Success, in the modern business world consists in the application of two general principles: (1) The ability to perceive undeveloped resources of wealth, to lay hold upon that wealth and to convert it into a marketable commodity; and, (2) the ability to advertise.

The first of these two general principles is illustrated by our great "captains of industry" who have perceived in oil, cotton, tobacco and automobiles possibilities which have completely revolutionized commerce, and have made of these individuals multimillionaires. Thus, a lumber merchant rides through a forest, perceives its value in timber, organizes a corporation, buys the land, builds a railway, constructs saw-mills, and in a short time places upon the market a highly valued commodity: an engineer beholds a waterfall, estimates its horse power and converts this power into a live copper wire that turns the machinery of a dozen cities.

The second principle, or the ability to advertise, has been well illustrated in this country by certain politicians, pulpit orators and patent medicine venders, who, by means of the press, the platform and the pulpit have obtained widespread notoriety. They are ever in the public eye. You simply cannot forget them. It does not matter that you are not interested in the commodity which they represent or that you do not endorse their methods of obtaining publicity. They buzz about your ears like flies in summer. You brush them away to gain only a moment's respite from their claim upon your attention. And no matter how much you may despise and condemn them, you are compelled to admit that the methods which they employ spell success.

Permit me yet one other generalization: The two classes to which I refer are composed of people who were dreamers before they were doers. These people are not simply time servers and wage earners. They are not slaves of labor. They are artists who love the game and agonize to excel because of the joy which they find in their work. These people are not materialists who labor for the sole purpose of amassing dollars. They are idealists with lofty visions whose chief joy is to convert their dreams into realities.

Into this period of action and age of achievement there has recently been introduced a new set of workers. It is the army of public health officials. Throughout the past there have ever been a few men who devoted themselves to this work, but recent development in the knowledge of the cause and prevention of sickness has made of "preventive medicine" a new art. The man of today who accepts the position of a county health officer has the glorious privilege of doing pioneer work. He does not garner gleanings, but stands like the discoverer of a rich mine of gold or the owner of a vast forest. No pick has disturbed the soil, no axe has felled a tree. He stands alone with limitless wealth unfolded before his vision. For ages past priests have told the people how to care for their souls. For ages past statesmen have told the people how they should be governed; but no man has yet told the people the laws of health and disease. This priceless message has been committed to you. You stand as one watching children upon a precipice playing at blind man's buff. First here and then there a child tumbles headlong into eternity. Yet, ignorant of their danger, they go right on in their play, while to you it is given to see and to understand. It is said that the early settlers in America found the Indians planting gunpowder, hoping thereby to reap an abundant harvest of this much-desired possession of the white man. In like manner you daily behold your fellow-mortals pinning their faith in matters of health to methods which you know to be the product of ignorance and superstition. And these people are just as certain that their ideas about health are correct as they are that their ideas about government or their ideas about religion are correct. To lead all the people to your way of thinking about health matters would be a task no less difficult than to start a new form of government or to found a new religion. And yet, this is the very task to which we have committed ourselves. How shall we go about it?

It has been said that eighty-five per cent of a health officer's work is educational. Let me change that figure to ninety-nine per cent. The other one per cent is well represented by the health officer who carries out the letter of the law. He reports contagious diseases, placards houses, condemns nuisances, attends the sick in the jail and county home,

draws his salary, and, like the Pharisee that he is, thanks the Lord that he has done all that is required of him.

Now let us consider the other ninety-nine per cent of the work. First, a health officer must become the impersonation of an idea. Like the politician, the evangelist or the patent medicine vendor, he must be associated in the minds of the community with the idea for which he stands. To the politician a given community represents so many votes. To the evangelist that community represents so many souls going to hell. To the patent medicine vendor that community represents so many throats to swallow a nostrum, and to the health officer that community should be but so many people who are needlessly dying or languishing upon beds of sickness. Nor should the facts and figures in the case be other than upon his tongue's end. Not from the State Board of Health, or from Washington, should he learn of the number of deaths or of the character and amount of sickness in his county, but rather should the official reports, which are frequently inaccurate, be corrected by him. So much for the knowledge obtained in the field. Yet this knowledge counts for nothing unless the official knows the cause and the cure of the evils which he witnesses. The undertaker knows as well as does the health officer that a given number of deaths have occurred during the year from tuberculosis or that an epidemic of typhoid fever has brought grist to his mill. The practicing physician knows the causes of these diseases, and in a general way the methods of their prevention. But the practicing physician's detailed knowledge is not that of a specialist. The health officer is a specialist, and unless he has burned the midnight oil over Rosenau, and Chapin, read from cover to cover the periodicals bearing upon public health subjects and conned the health bulletins from the states that are really doing things—unless he has done all of this, he cannot hope to be regarded as an authority in his community nor will he burn with that enthusiasm for public health work which is an absolute essential to success.

We now come to the caption of my paper, "Interesting the Public in Health Work." The very first step is to secure a health officer who is himself interested in the work. To his interest must be added an intelligent knowledge of his subject, and what is of even greater importance, a knowledge of the people with whom he has to deal.

A great many counties in the State have secured just such men. In fact, I realize that I am talking to a body of such men. For that reason there is no need for me to dwell upon details. I will simply mention the avenues through which the public may be reached:

1. The county paper.
2. The churches.

3. The women's clubs.
4. Circular letters.
5. Personal letters.
6. The public schools.
7. Individual personal talks.

I have not mentioned the district nurse because where she is found she is active, and where she is not found it is to be hoped that it is not because the health officer has not tried to secure her services.

A word of caution. Do not waste time trying to bring old people to your way of thinking. Direct your efforts to the education of the youth of the land. In addition to frequent health talks before the schools offer prizes to the county school children for compositions on health subjects.

Remember that a southern health officer's most important work is with the negro population. As a people, our greatest menace is the diseased cook and the diseased infant nurse. It is through the cook and the nurse that tuberculosis, syphilis and many other diseases are most frequently spread.

In working with negroes it is highly important to let them know that you are their friend; that you are not a sheriff nor a policeman, and that you are not seeking to reach them through the arm of the law. Let them know that your relation to them is purely advisory, and that you stand to them collectively exactly as does the family physician individually.

It is commonly believed that a health officer who does his duty makes a great many enemies in the community. This is a mistake. Politicians, ministers, lawyers, physicians and editors find it necessary to make certain concessions to public opinion. The health officer also should make these concessions. In the end the man who leads will accomplish more good than the man who undertakes to drive.

DISCUSSION

DR. K. E. MILLER: I want to say in regard to the North Carolina Quarantine Law, that I believe it is the most sensible piece of legislation that has ever been adopted for rural communities, as it is especially suited to rural needs. Inasmuch as North Carolina is a rural section, it is therefore especially valuable. I think that quarantine officers are in the habit of meeting with a certain amount of resentment from the people on account of the posting of a yellow sign on the door. There are a great many people who cannot stand to see a yellow sign on the house. They do not care so much about the isolation; they just have a constitutional dislike for a yellow sign on the front of the house. I think you can always convert those people to the opposite view of the

things just by a little skillful argument. I have been very successful in every attempt of this kind. I put it up to A from the standpoint that the yellow sign is not any stigma or anything that he should be resentful of, but it is the thing he should insist on, because if B, his neighbor, should fancy that he had contracted whooping-cough from A's home, B can in perfect justice condemn A, who does not have a sign to ward him off. But if the sign is on the house, it takes off the responsibility from the home affected, and protects the householder from any criticism. That little trick always produces the desired effect, and I think if it is practiced more generally people will be much more favorably inclined toward the quarantine and much more anxious to see that they do have the quarantine sign on the door.

In regard to Dr. Hays's paper, I was very much interested in what he said about the possibilities of health work among the negroes. The population of Edgecombe County happens to be about two-thirds black, and consequently health work is complicated on that account. I have an average of at least one or two meetings a week in negro schoolhouses. I want to relate an incident in regard to educational efforts which I hope will happen to none of the rest of you. I was at a negro meeting a few nights ago. I showed pictures and explained them, and did my very best to give my colored friends something worth while. This meeting was held in connection with a regular meeting of the negro community organization, after which it is their custom to serve refreshments. When I got through several started out the door, and the negro teacher in charge said, "Please, people, don't leave, for the best is yet to come."

DR. J. S. MITCHENER, Kinston: A dynamic drive for the education of the individual to individual responsibility is the golden road to lowering our morbidity and mortality rate. The physicians may assist in this as the fraternity has done at Kinston. After diagnosis instructing the householder to report is a safeguard against the forgetful doctor. I have had reports from each, the larger the number believing it their duty to report the better the chance. Everybody forgets at times. I am sure I know one health officer that does.

DR. E. F. LONG, Lexington: Several of the speakers have referred to the value of education in health work. It is true that practically all phases of health work must be conducted along educational lines. In order to educate the people we must have the facts.

I want to call attention to a discrepancy in the vital statistics law. We have a fairly prompt and accurate reporting of cases of quarantinable diseases, but no means of knowing when a victim of one of these diseases dies until too late to make announcement of the fact effective.

In announcing the existence of quarantinable diseases, we should be able to announce the results of those diseases.

To illustrate, if a considerable number of cases of measles occurs in a community publicity would be doubly effective if the facts concerning the death rate could be as promptly secured and coupled with the announcement of the number of cases.

I hope that we can soon have some means of making the vital statistics of each county immediately available to its health department.

DR. D. C. ABSHER: This closes the program for the morning session, and before we adjourn we have some announcements to make. Before we have that I would like to hear from some of our visitors—Major Kinyoun, Dr. Low, Major Way. (He is not a visitor; he is President of our State Board of Health.) I am sure you will be glad to hear from him.

MAJ. J. J. KINYOUN, M. R. C., Raleigh: I feel greatly honored in being allowed the privileges of the floor, and especially at this time and under the circumstances that bring me to Pinehurst.

We have, as you all know, a most serious problem confronting us, a problem which requires for its solution the last ounce of muscle, bone and mind.

In assembling the selective drafted army during the past fall and winter, the Medical Department of the Army was confronted suddenly with some very peculiar problems. Some of these were fraught with serious consequences. This was particularly true with reference to men who were drafted into the service from states where the population was largely rural. Several of the camps to which such men were sent became the centers of morbidity from the contagious diseases, particularly so from measles, meningitis, and pneumonia. The mortality resulting from this condition was, in some cases, alarming. The prevalence of the contagious and infectious diseases among these men proved to be due to the fact that these were among those who came from rural communities and had not been subjected to these diseases in childhood, so therefore it was not infrequent to note that these men had the diseases one after the other and sometimes two at once.

The Surgeon General of the Army has agreed to put in operation a plan by which it is hoped that many of the difficulties and dangers which were experienced during the last winter might be avoided. The plan is this: That officers of the Medical Department are to be detailed to this State for duty in the office of the State Board of Health for the purpose of aiding and assisting this Board in any way whatsoever in ascertaining at the earliest moment the prevalence of contagious and infectious

diseases within the State, and so apprise the division surgeons of the several camps to which the North Carolina boys are sent of the possibilities of their being exposed to these diseases so that the necessary precautions can be taken regarding them, and, further, to prevent the spread of such diseases, if they do appear, to others in the camps.

Another very important provision is that the division surgeons of these camps can be informed from time to time of the existence or the appearance of contagious diseases in any part of the State so that in case a man is furloughed to go home and the sanitary conditions of his home or locality appear to warrant the suspension of the furlough, this can be done.

It is the intention of the War Department to cooperate in the fullest measure with the State Board of Health, and all that is contemplated to be done will be done through the agencies of your health organization.

DR. D. C. ABSHER: I will be glad to hear from Major Way.

MAJ. JOSEPH HOWELL WAY: It is a pleasure indeed for me to be here, and I hardly feel like it is necessary to be introduced to North Carolina doctors. If there is any place on earth except in the Army just now that I feel thoroughly at home, it is in an aggregation of North Carolina doctors.

I have enjoyed this morning's session very much; the splendid papers, the interesting discussions, but the one thing that has thrilled me is the blessing, the great, good privilege to be alive, and a part of the working machinery of this great Nation. I feel a continued pleasure in being active and vigorous with the promise of usefulness for many years to come.

I recall when Dr. Thomas F. Wood was struggling and working with a nominal sum. The State Board of Health used to be allowed \$100 a year for laying the foundation of public health work in North Carolina. Later I followed interestedly and closely the work of that great and splendid man, Dr. R. H. Lewis, and it was my pleasure to take a hand in putting in office the present splendid executive Secretary of the State Board of Health, Dr. Rankin. Only a few weeks ago it was my privilege to attend a conference of public health workers at Birmingham, Ala., and not even the distinguished Dr. Wm. H. Welch, head of the public health work at Johns Hopkins, outclassed our own Dr. Rankin.

By the way, Mr. Chairman, when you were introducing Major Kinyoun just now you should have said something like this; you should have said that he had simply come back to his own folks; you should have given some of the younger men in this audience just a little of the noble

wreath that splendid man Kinyoun wears. You should have told them that only a few years ago comparatively, when believing as we have that our splendid isolation secured us a practical immunity from bubonic plague, the great ports of this country neglected it, that man from North Carolina went to the public service of the Nation and was stationed on the Pacific Coast. He said, "We have bubonic plague here." The City Commission of San Francisco said, "No," the local board of health said "No," the State Board of Health said "No, it is not possible; with our splendid isolation we cannot have these diseases." The Government of the United States was appealed to, a special commission went out there and took the subject up and studied it in the careful, most laborious but far-reaching way the Federal Government does things of that sort, and the sad but convincing climax of that local situation was reached when a student working in the laboratories of Michigan from specimens from San Francisco developed bubonic plague and died. Then it was known that Kinyoun was the master sanitary mind who discovered they did have bubonic plague in San Francisco, and that man from North Carolina, honored and respected wherever preventive medicine is known, has been sent back to work among his own people. We are glad to have him.

Many other things have been touched on here this morning that I would like to talk about, but I am aware that it has been said by the Captain just now the best part is in store for us, and in the next few days I will, no doubt, have an opportunity to say something, and especially a couple of days hence at the Conjoint Session of the State Medical Society and the State Board of Health.

I extend to you again my heartfelt pleasure at being with you today.

DR. CHARLES E. LOW, Wilmington: I simply wish to express my extreme appreciation of being here with you, not yet being quite of you, and thank you for the courtesies already extended to me, and apologize for speaking before a formal motion allowing me the privilege of the floor had been made.

DR. D. C. ABSHER: We are glad to have with us this morning the President of our State Medical Society.

DR. I. W. FAISON, Charlotte: I am exceedingly glad to be here this morning, not with any purpose of making a talk, but to listen to what has been said.

I would like to say just one word about Dr. Kinyoun. He had traveled all over the country finding something about antitoxin for diphtheria. It rests with him as being the first man that ever carried a dose

of diphtheria antitoxin into the city of Charlotte. Not that it was ordered, but because he carried it there. Good old lamented, lovable, Dr. McComb had a case of diphtheria and Dr. Kinyoun suggested to him to give this antitoxin that he had with him. It was given, and the result was, as it is now, a cure.

I have listened with much interest to the question of health and quarantine, and as I shall have a little to say about it tomorrow morning, I won't say much about it now, but I want to say the sentiment of my people as to the law of quarantine has been changed and a good deal has been brought about for and by the children. If you go to see them or any one in their house today with a contagious or placardable infectious disease, and that placard is not put on that house the next day, when you get there every child in that house almost at one voice asks you, "Where is the card, and why ain't it on the house?" I have seen the time in Charlotte when it took two policemen to keep a card on the door. Now it takes two or three policemen if you don't put on the card. That is the sentiment among our people.

About the venereal side of it, I always get weak when that comes up, because every man who is guilty of having a venereal disease is a moral slacker. He is a menace to his community, and during the time of his infection his moral character is gone. That is my experience, publicly expressed. I have never been able to collect a fee out of a man who had that trouble if I gave him credit while I treated him.

I want to thank you for calling me out. I want to thank you now, also, for putting on me the burdens of the presidency of the North Carolina Medical Society for this year; and while it has had its pleasures, and while I am looking to the culmination of the last pleasure within the next two or three days, even when I used to plow cotton, no year has had the work that has come to me this year.

I am glad to see you here, and I hope you will stay until the gavel falls Thursday morning when the sixty-fifth annual meeting of this Society shall be in the history of the past.

DR. D. C. ABSHER: Before we adjourn Dr. McBrayer has some announcements to make with regard to the visit to the State Sanatorium.

DR. L. B. McBRAYER: As you note from the program the afternoon session will be held at the Sanatorium, and cars will be in front of the entrance to this building or on the parking space, and it is desired that we leave immediately at two o'clock. That will give you ample time to get your lunch, and at the Sanatorium you will receive a warm reception and a cold bite. It may be that some of the cars in which you ride will be burning kerosene, but the roads are good, as all roads are in this

section, and we will guarantee to get you over there and get you back. The Association will be called together promptly at three o'clock in the Assembly Room, and in addition to the program as printed the Sanatorium staff, at the request of several health officers, will exhibit some reactions from the Von Pirquet Diagnostic Test, ranging from twelve to fourteen hours to three days. That will only take a few minutes. Following the cold bite, after adjournment, we shall be glad to have you visit any and every part of the Sanatorium plant that you may desire. If you care to go on the farm and see the cattle and garden, hogs, etc., the cars can be driven down there. The latch string will not hang on the outside at the Sanatorium this afternoon, because everything will be wide open over there. I trust that you will all be prompt, so that we may leave promptly, and that we will all have as good meeting this afternoon as we have had this morning.

AFTERNOON SESSION

DR. D. C. ABSHER: The meeting will come to order. The program for the afternoon will consist of reports from our county and city health officers, and the reports are not to exceed five hundred words. Some of you perhaps have not written your reports, and those who have not written their reports can just make them orally. Any man who talks longer than five minutes will be called to time.

The Secretary will call the health officers in alphabetical order.

DR. G. M. COOPER: We hope and plan to have this one of the most interesting sections of the meeting, and any man can make it just as interesting as the work in his county will justify, therefore we will call on them alphabetically.

ALAMANCE COUNTY HEALTH DEPARTMENT

W. R. GOLFEY, M.D., GRAHAM

I have no report prepared. I was elected January, 1918, as health officer. Our county institutions are in average condition; very little sickness among either inmates of county homes or prisoners. I find whooping-cough and measles prevalent in several townships; two cases of smallpox. I find people take quarantine more cheerfully than in former years.

ALLEGHANY COUNTY HEALTH DEPARTMENT

JOS. L. DOUGHTON, M.D., SPARTA

Relative to my report as Health Officer for Alleghany during last year, will say that conditions have been normal here or practically so. We have had no outbreaks of contagious diseases reported, with the exception of a few cases of measles and diphtheria, which were promptly quarantined.

BUNCOMBE COUNTY HEALTH DEPARTMENT

DAN E. SEVIER, M.D., ASHEVILLE

The work of the County Health Officer in so large a county as Buncombe cannot be specialized, but of necessity must be very general.

First, there is that work which comes under the head of general practice of medicine, which includes the care and attention of the various county institutions, viz.: the county home for the aged and infirm, the county jail, house of correction for fallen women, three convict forces located in different localities of the county, the children's home, and the reformatory, the above numbering more than two hundred county patients to care for, saying nothing of the many county charges that are looked after and treated by order of the board of commissioners. Have examined all lunatics for commitment by the clerk of the Superior Court, and performed all duties as required by the presiding judge of the various criminal courts. Some of the above institutes are visited daily. Have treated a number of fractured limbs; operated on three cases of hernia, two being strangulated, restoring the men from invalids to normal condition. Have kept all institutions vaccinated against smallpox and typhoid fever.

A part of Mondays and Saturdays of each week I devote to office work, on which occasions my time is given to the correspondence connected with the office, the holding of consultations with those seeking advice, the hearing of complaints of various kinds, and many other things.

The first Monday and Tuesday of each month is taken up by making examinations of persons applying to the board of commissioners for exemptions and assistance from the county.

Have checked the dumping of garbage, dead animals and fowls along our public highways; have removed surface closets and hog pens from the roads of the county.

Have abated thirty nuisances, assisted in cleaning up small incorporated towns of the county. Quarantined a number of families with

'communicable diseases, and at the required time saw that they were released and properly fumigated.

Have attended to the wants of the physicians of county, such as seeing that microscopical examinations were made of the specimens and promptly reported to them. Have seen that all persons known to be exposed to diphtheria, where unable, were furnished the antitoxin free at the expense of the county, and in my judgment many lives have been saved. Have also furnished the physicians making requests with anti-typhoid vaccine.

Have conducted six weeks antityphoid vaccination campaign, and this work has greatly reduced typhoid in Buncombe County.

As far as known, all cases of typhoid and tuberculosis have been instructed as to the necessary precautions to be taken to prevent the spread of the above diseases. All homes where tuberculosis patients die are fumigated at once.

More than five hundred persons have been vaccinated for smallpox and other work has been done of minor importance.

Many water supplies have been examined, with six water supplies condemned. During the past year more than five thousand miles have been traveled in looking after the health of the county.

Owing to the short term of schools and bad weather, practically nothing in the way of school inspection was accomplished, more than the classification of the cards of sixty-four schools, which will have prompt attention when they open in the early fall.

Every minute that could be spared from county work was rendered the Government in doing local exemption board work and making the physical examinations of all of class one men, which numbered more than seven hundred. This service was rendered to the Government without pay.

I might say here that I have made thirty-six health talks, and usually make them at the time we are making these antityphoid campaigns, because you have a better crowd at that time.

MAJ. JOSEPH HOWELL WAY: That is a report from a model whole-time county health officer. You will pardon me if I ask him one question. Have the authorities of the county of Buncombe raised your salary?

DR. D. E. SEVIER: No; for the information of the gentleman, I will say Buncombe County, since the establishment of the office in October, 1913, has paid a salary of \$2,000 per year, that is \$166.67 per month.

MAJOR WAY: When you go back I want you to tell them it was the unanimous opinion of this Society that your salary ought to be raised.

DR. D. C. ABSHER: Would the Association care to discuss any of these reports? What are your wishes? If you have any questions to ask or any discussions to make go ahead any time you desire.

Motion made by Dr. Miller that the discussions of all the papers be at the last; motion seconded; carried.

CALDWELL COUNTY HEALTH DEPARTMENT

L. H. COFFEY, M.D., LENOIR

The work in Caldwell County, I think, is in better condition than it has heretofore been, and the doctors in the quarantine work cooperate; also the individuals, but the individuals are very slow to get on to the laws relating to the quarantine work. I find from the different schools that most of the people in our county would be glad to add to that list mumps, but I suppose the State Board of Health would have that in charge. There is some mumps in the county, and a good many of the doctors sent in reports, but it has not been quarantined. That with chicken-pox and scabies we think very detrimental to the work, and ought to be added to the list.

Last summer I, with the other doctors, vaccinated about six thousand against typhoid, and I believe this, with the quarantine work, looking after the county home and jail, is about all that I have to report.

DR. G. M. COOPER: I will say that I had a letter from Dr. Shipp last night. He is in Johns Hopkins Hospital in Baltimore, and seriously ill. He has never missed a meeting. I wish the meeting to take whatever action they wish tonight.

CHATHAM COUNTY HEALTH DEPARTMENT

L. E. FARTHING, M.D., PITTSBORO

The work in my county has been moving along very smoothly during the past year, and when I say this I deem it a frank admission that there has been but little done, for at this stage of this work in most parts of North Carolina, if anything much is done it will surely cause more or less discord. My county has as yet only required those things done that are specifically required by statute, such as medical attention of the inmates of the county jail and county home, although I have availed

myself of every opportunity of talking to the teachers in their meetings; and I think this is one of the best mediums whereby we can teach the people things they should know relative to health.

I would like to say a few words relative to the new quarantine laws as are now in operation in North Carolina. They have made order out of chaos. Under the old system there was no one that really knew exactly what to do, in case of one of the quarantinable diseases developing in the community, and especially in a school community; but now as soon as the disease is reported to the quarantine officer he sends to the householder a placard with complete instructions as to how to handle the disease, and how long he is in quarantine, and the same mail that takes this to the householder takes a notice of the existence of disease and complete instructions as to what to do and what not to do to the teacher of the school. This seems to me to be an almost ideal system when cost of executing the law is considered. I would make this suggestion, to add to the form letter the date of expiration of quarantine.

Having recently had the opportunity of examining and seeing examined quite a number of our young men—young men at the age when they should be in their prime, and I have been astonished to find that so large a per cent are in poor health, and worse still, with diseases or conditions that could have been remedied. To have a young man apparently in good health come in and to find that he has a hernia with a small ring and easily curable; or to have one say, "Doctor, you will have to sign my name for me, as my eyes would not let me go to school," when glasses brought his vision almost up to normal; or to find one with faulty developed features, and a mentality below the standard, and upon looking into the nasopharynx to find adenoids possibly now somewhat atrophied, but they have done their work for the man. When I see this I feel that there must be something done, we being a liberty-loving people and like to boast of our liberty; but there is a difference in liberty and neglect, and I feel that this is where liberty has lapsed into neglect. I also believe that if our forefathers could speak now they would say this was not the kind of liberty they fought for, but would say instead that if the standards they set up were maintained something would have to be done to better these conditions.

We hope to have medical inspection of the school children this year, for I am of the opinion this is one of the best ways to overcome these conditions.

CHOWAN COUNTY HEALTH DEPARTMENT

J. W. WARREN, M.D., EDENTON

As I understand, my purpose at this meeting is to read a report on health work of Edenton and county of Chowan since August 1, 1917. On this date I was elected Health Officer and Quarantine Officer of said county, and will now read a report of my work since the above date until April 1, 1918.

CONTAGIOUS AND INFECTIOUS DISEASES

August—Typhoid fever: 6 cases. Did not have any other reports that month.

September—Typhoid fever, 1 case; whooping-cough, 8 cases; diphtheria, 3 cases.

October—Whooping-cough, 10 cases; diphtheria, 2 cases.

November—Whooping-cough, 21 cases; measles, 6 cases; diphtheria, 1 case.

December—Whooping-cough, 10 cases; measles, 35 cases.

January—Diphtheria, 1 case; measles, 12 cases.

February—Whooping-cough, 10 cases; measles, 9 cases.

March—Measles, 10 cases; mumps, 27 cases; infantile paralysis, 1 case.

This case of infantile paralysis was reported to me by a negro doctor, and, as we know, they often make mistakes in diagnosis. I didn't see the case. It died in twelve hours. I believe it was a case of spinal meningitis.

Schools.—We have 18 white schools and 15 colored. Our schools, most of them, are of modern structure. The light and ventilation are very good in the white schools, but not so good in the colored, due to the fact that they are not of modern structure, but I presume they are as good as the majority of the colored schools throughout the country. I made one lecture to one of our white schools on rural sanitation, and have visited several white and several colored schools and distributed literature on contagious and infectious diseases.

School Census.—I mailed out to all of the teachers in my county school census blanks to be filled out and returned to me as soon as possible, and only got returned about 30 per cent. Some of the teachers didn't return blanks to me as promptly as I thought they would.

County Home.—The county home of Chowan County is located about ten miles from Edenton. I have to visit the county home once a month, and as often as my services are needed. On inspection of the county home once a month, I usually find it cleaned up and disinfectant used. In one month I had as high as five inmates, but as a rule two or three. I have now one white and one colored.

County Jail.—Our county jail is located behind the courthouse—brick structure. Unfortunately, our jail is poorly ventilated. On inspection once a month, and as often as my services are required, I usually find the cells cleaned up and disinfectant used.

As soon as contagious and infectious diseases are reported to me, I report them to the State Board of Health, and mail them out placards and pamphlets to the householders in the country. If in town, I go myself. I have right much trouble in getting a receipt back stating that said householder received placard, yet on the date said placard is to come down they usually notify me and I get them to receipt it and bring the placard in with me.

Now, speaking for the town of Edenton and Chowan County in general, I must say that there has been very little sickness since I have been Health Officer and Quarantine Officer of Edenton and Chowan County, and the sanitary conditions have been very good. I hope to have less sickness and the cleanest, the most sanitary town and county this year in the State of North Carolina.

I am part-time Health Officer of a very small county.

DARE COUNTY HEALTH DEPARTMENT

FRANKLIN P. GATES, M.D., MANTEO

In order to give an intelligent report of many contagious diseases in Dare County, as provided by law, it is necessary to give an outline of the geography of said county. Many of you are already familiar with the geographical conditions, but it may not be amiss to call attention to these things for the benefit of those who may not be so familiar with the situation.

Like the earth, Dare County is composed of one-fourth land and three-fourths water. The land portion of the county is sparsely populated. In area the county is one of the largest in the State, but in population it is one of the smallest, having less than five thousand men, women and children within its borders. With the exception of Roanoke Island, which contains approximately half the population of the entire county, the inhabitants are settled in isolated groups, separated from each other by wide stretches of water or sand, as along the "Banks," or by water and swamps, as on the mainland.

It is frequently the case that there are contagious diseases in these isolated neighborhoods, where no physician is available, in which the heads of families affected fail to report the disease or seek medical treat-

ment. Under these circumstances it is only possible for the County Health Officer to learn of the existence of the disease in that locality by hearsay, either while the trouble exists, or, as is frequently the case, after it has ended. That conditions may be better understood, I will say that there is no one of the isolated communities in the county that cannot be reached in a boat, either by the sheriff when visiting these communities to collect taxes, or by the Health Officer. Using these facts to illustrate the difficulty in keeping in touch with these isolated communities, in explanation of the conditions confronting the Health Officer of this county, the following statements may be more readily understood.

To illustrate: There was an epidemic of smallpox at Stumpy Point, a community having about two hundred and fifty population, all told, in 1905. The knowledge of the existence of this epidemic was kept strictly within the community. As a result, about half the population were affected. Fortunately there were no deaths. In November, 1914, this same community had an epidemic of smallpox. Upon receipt of information I went to the section for the purpose of vaccinating the school pupils and others who desired vaccination. Only about 50 per cent of the school pupils and very few of the citizens were willing to be vaccinated. Some of them told me they preferred having the smallpox to being vaccinated.

In October, 1914, a resident of this community was a juror at the Fall Term of Dare County Superior Court, and served in that capacity, with the result that every member of the petit jury who came in contact with him was affected, and the disease was well distributed throughout the county. In his own community there were sixty-five cases. The community at the next nearest postoffice had ten well developed cases before the spread of the disease was stopped by vaccination, and the disease was carried to other communities throughout the county, the manifestations of the same being at Hatteras, Buxton, East Lake, and other sections, in addition to fully distributing the disease throughout Roanoke Island, through those who were on the jury with this party or others who got it indirectly from him. It was at this time that I fully tested the advantage of timely vaccination.

Mr. C. was taken two weeks from the session of court. Prior to the manifestation of the disease, his two daughters had been vaccinated with success. During the illness of the father the daughters were in attendance upon him day and night, subjecting themselves to contagion in every possible way, but neither of them then or thereafter manifested the slightest symptoms of the disease. This, perhaps, is the most marked instance of direct exposure we had, but there were numerous other

instances in which there was at this time exposure to smallpox, in which contagion was prevented by vaccination.

During six months of the latter part of 1914, and all of 1915, with the assistance of my associates, we vaccinated more than nineteen hundred individuals, using exclusively the "Park-Davis" virus. In this number not more than eight failed to take *with satisfactory result*, demonstrating vaccination as practically assured means of prevention and protection.

During the summer of 1915 and 1916 we vaccinated about two hundred individuals for typhoid fever. The result of this has not been so closely followed as in preventive treatment for smallpox, for the reason that we are virtually immune from typhoid fever in Dare County. Nature supplies a washout every few weeks, and we are protected from this disease by pure air and abundant sunshine.

Our people live in plain, well-aired homes, exposed to health-giving sea breezes, with abundance of salt air, this having a tendency to sweeten conditions for the fish-and-oyster-fed inhabitants of Dare County.

At this writing there is raging an epidemic of measles on Roanoke Island. It is probable there are more cases of this disease than there would otherwise be, by reason of the fact that parents of children who have not heretofore had this disease wish to have their children have it at a time when they will have home treatment, and home nursing, and be under the direct care of the family physician, while such opportunity for treatment and nursing, under conditions alike satisfactory, might not be present when the children are older and have scattered from their homes. A young man was sent to a training camp last October from Manteo. While in camp he contracted measles, followed by pneumonia, and he was returned to Manteo to be buried. However skilled may have been the physicians who treated him and the nurses who attended him, it is not possible to convince his immediate family that better nursing and better treatment would not have been received by him had he been at home during his illness. This is but an incident illustrating the reason for the existence for the almost universal local desire for members of the various families, yet subject to this disease, to *have it now*.

Our people do not dread measles, mumps, whooping-cough and other contagious diseases, when the home people can do the nursing and the family physician prescribe the treatment. Human nature is the same wherever it may be found.

We would like to go more in detail, but the ruling prevents.

DAVIDSON COUNTY DEPARTMENT OF HEALTH

E. F. LONG, M.D., LEXINGTON

I do not attempt to take up in this paper all the activities of the health department, but rather to give attention to some of the units we have undertaken.

The spring months of 1917 were devoted to inspection of school children and instruction in personal hygiene to school children. This service was resumed in February, 1918. Preliminary examinations by teachers of 85 per cent of school children have been conducted. Forty per cent of defective school children have been examined by the health officer.

On July 1, 1917, the Davidson County Department of Health was organized under the direction of the State Board of Health. An intensive soil pollution campaign has been conducted since that time, embracing a systematic house to house canvass by a corps of civilian field inspectors who make and record a comprehensive survey of the premises of each home, including the water supply, screening, drainage and sewage disposal, as well as the personal and family history of each member of the household. Suitable literature is presented and the family instructed regarding sanitary improvements, screening, ventilation, sunlight, etc. Specimen containers are left and fecal specimens collected and examined for intestinal parasites, treatment provided and delivered to the homes of all infected cases. A total of 3,814 rural homes have been surveyed. Sixty per cent had no sanitary conveniences whatever, 1.3 per cent had safe sewage disposal. Thirteen per cent of home have been sanitized. Eighty-one lectures, illustrated by stereopticon pictures, portraying dissemination of preventable diseases and methods of control have been delivered at school houses and churches with a total attendance of 8,464. Each home satisfactorily sanitized becomes cumulative in its effect—the families so provided are almost invariably enthusiastic exponents of the methods advised.

The County Department of Health, by special arrangement, assumes control of the three incorporated towns in the county. Of a population of thirteen thousand the survey disclosed 1,730 open closets. These are rapidly being displaced by sanitary closets and sewered water closets. The work will be completed in the early summer.

The recent quarantine regulations have proven entirely satisfactory. A majority of all cases of quarantinable diseases are being promptly reported by the householders. Teachers and public spirited citizens almost invariably inform us concerning attempted infractions of the law. A total of 694 homes were quarantined during the year.

Special mention is made concerning improvement of the sanitary arrangements and care of the prisoners at the convict camp. Chapter 286, Public Laws of 1917, provides a minimum standard of hygiene and sanitation for prisoners. In conformity with this requirement, the health officer notified the board of road commissioners that this law should be obeyed in Davidson County. The usual custom of economizing on maintenance, securing the maximum of labor for a minimum of expenditure had been followed. The board adopted the suggestions offered, not without misgivings, however. The results have proven highly gratifying to the officials, the management and the prisoners. Shackles were immediately discarded. No attempt at escape has been made during the ten months operation under the new regime. Each prisoner is carefully examined on arriving at the camp. Safe disposal of excrement is provided, regular baths, individual towels, soap, basins, table equipment, sheets, pillow cases and every garment stamped and scrupulously boiled, cleaned and returned to the individual. The morale of the prisoners is excellent. They perform their duties cheerfully, and show their appreciation by observing the rules without protest. Seventy per cent of the prisoners were allowed to spend a three days vacation at their homes during the Christmas holidays. Every man returned before the hour designated for his arrival. A total of only seven days loss of time from illness has occurred. The management is confident that increased efficiency in labor has resulted.

COUNTY AND CITY OF DURHAM HEALTH DEPARTMENT

ARCH CHEATHAM, M.D., DURHAM

We have been carrying on our usual routine work, inspecting schools, lecturing to school children and the public, when at night time using the lantern slides. The records of susceptibility of school children to contagious diseases are about completed. During the year we have had 416 septic tanks installed in the county, which has added a great deal to the sanitary equipment. Our dairymen we have been educating up to a high standard of milk production, and, as an evidence of their efficiency, they carried off both State and National prizes for the best market milk. The work in our laboratory has been greatly increased during the year. We examine all specimens for physicians in Durham and adjacent counties. The total number of examinations was 1,566, of which 932 were for physicians. We keep on hand typhoid serum and smallpox vaccine, and during the year 1917 we administered 922 doses of anti-

typhoid serum and vaccinated 783 persons against smallpox. I wish to state that we are using the vaccine obtained from the State Laboratory, and find it very satisfactory. We are pleased with the progress made in educating the darkey along sanitary lines. Last summer our colored people took great interest in health work, both in county and city. They carried on a propaganda of health work for better housing conditions, better living conditions, and more sanitary surroundings. At the end of this campaign over 2,000 of their homes were found thoroughly renovated (houses and yards), many houses painted, and fences and trees whitewashed. The same campaign will be conducted again this year.

Organization:

Superintendent.

Bacteriologist, Meat and Milk Inspector.

Two District Nurses, one white and one colored.

Two School Nurses, one white and one colored.

Nurse in office acting as clerk.

Three Sanitary Inspectors (police), two mounted.

EDGEcombe COUNTY HEALTH DEPARTMENT

K. E. MILLER, M.D., U. S. P. H. S., TARBORO

My report differs somewhat from the reports of the other counties of the State in that I have nothing to do with the care of prisoners, paupers, jails, etc. That is done by the county physician. We have our county physician, who looks after that, and I do nothing but health work.

The following summary is prepared to cover the period from February 1, 1917, to January 31, 1918, for the reason that this represents the first year's work. It is considered necessary to adopt this period for a yearly report rather than from April to April, because the initial expenditures for equipment are thereby included, but would be excluded if the latter period were followed:

1. Diseases reported, investigated, and quarantined:

- a. Infant diarrhea, 16 cases.
- b. Malaria, 93 cases; reporting discontinued September 1.
- c. Tuberculosis (pulmonary), 19 cases.
- d. Typhoid fever, 55 cases.
- e. Smallpox, 32 cases.
- f. Diphtheria, 25 cases.
- g. Whooping-cough, 83 cases.
- h. Measles, 131 cases.
- i. Scarlet fever, 2 cases.
- j. Infantile paralysis, 1 case.

2. Vaccinations against smallpox, 463.
3. Vaccinations against typhoid fever, 500.
4. Special investigations, 105.
5. Physical examinations, school children, 1,432.
6. Physical examinations, others, 294.
7. Letters sent out, 3,909.

a. Up to November 1, 1917, 2,349, at 2 cents each.....\$46.98
 b. Since November 1, 1917, 1,560, at 3 cents each..... 46.80

Total.....\$93.78

8. Newspaper articles, 61.
9. Public lectures, 73.
10. Attendance at lectures, 2,208.
11. Prosecutions for failure to comply with county laws regarding infectious and contagious diseases, 2:
 - a. Colored tenant farmer, 1.
 - b. Practicing physician, 1.
12. Installation of sanitary waste disposal system for the City of Tarboro, comprising about 150 sewer connections and over 500 sanitary privy boxes, together with a competent and efficient scavenger service to operate the latter.
13. Many other details too numerous to mention.

The entire cost of this work, aside from the salary of the Health Officer, which is paid by the United States Public Health Service, amounted to \$1,212.86. This, however, does not represent a fair average yearly expenditure on this basis for the reason that the project was an entirely new one which necessitated considerable overhead expense at the start for automobile, office furniture, and supplies. Similarly the volume of the work done must be viewed from the standpoint of a new undertaking which required considerable time to get organized and functioning.

A positive advance is thought to have been scored in case reporting which is considered the foremost task in a new health regime. At first practically all reports came from the physicians. At the present time the reports from householders outnumber those from physicians about ten to one. Thus the consciousness of the presence of a health officer in the county seems to be established in the popular mind.

Of all cases reported the greater part have been visited personally from one to three or more times.

The record for typhoid fever and smallpox is especially noteworthy. It is believed that the reports for these two diseases represent practically all the cases that occurred. There were only 55 cases of typhoid fever in the county, and so far as I have been able to find out, there were only

four deaths from this disease. Two of these should not be charged against the county, as they were brought from other counties in a dying condition in each case. This is highly gratifying as compared with 22 deaths for 1915, the latest report. For smallpox the sickness rate was small, 32 cases, and no deaths have been traced to this cause. Of special importance in the case of both smallpox and typhoid is the fact that in no instance were there any secondary cases after the original report reached this office.

Considerable sanitary improvements were accomplished in the rural homes as well as in the towns, but I have no figures to show the extent of these.

Very promising results are being obtained from a set of regulations covering the practice of midwifery in the county, which were framed and put into operation at the first of the calendar year 1918.

Some of the biggest health problems are represented by the following:

1. High infant death rate.
2. High tuberculosis death rate.
3. Large negro population—about 2 to 1.
4. Bad sanitary conditions:
 - a. General use of open surface privies or none at all.
 - b. Large number of open surface wells.
 - c. Swamps and other abundant foci for breeding of anopheline mosquitoes.
5. Correction of defects in school children, a problem heretofore untouched.

It is believed that a creditable start has been made on some of these problems, but nothing more.

FRANKLIN COUNTY HEALTH DEPARTMENT

J. E. MALONE, M.D., LOUISBURG

Have made all examinations for selective draft in Franklin County, and done the routine work incident to being county physician.

Have visited 25 schools and examined 1,615 school children as medical inspector under the medical inspection law.

FORSYTH COUNTY HEALTH DEPARTMENT

A. C. BULLA, M.D., WINSTON-SALEM

To give an accurate account of the work done in one year, in five hundred words, in a county of seventy-five thousand people, thirty thou-

sand of whom are under our care, and institutions to take care of the unfortunate poor of the total population, is almost as impossible as it is to count the stars in the heavens on a starry night. In making this brief report, I wish to divide the year's work into health and institutional; give an outline of the work pursued and the results obtained. The health work has included quarantining contagious diseases, medical inspection of school children, campaign against filth-borne diseases, sanitary surveys and educational.

The quarantine work has been carried out under the directions of the State Board of Health. Through the press, the postal service and the school teachers the quarantine law has been kept before the people, and I have good reasons to believe that most all cases have been reported. When the physician in charge was in doubt about his diagnosis an investigation was made. As a routine, when possible, I have made a personal visit to all cases of scarlet fever, diphtheria, epidemic meningitis, and smallpox. The number of communicable diseases reported during the year are as follows:

Measles, 437; whooping-cough, 92; scarlet fever, 72; typhoid fever, 43; diphtheria, 19; smallpox, 5; epidemic meningitis, 4.

One hundred and seventy-eight visits were made to placard homes and investigate contagious diseases.

Medical inspection of school children has been made the major work during the winter months, and carried out under the directions of the State Board of Health. Examination cards were distributed to all schools and teachers were instructed how to make the preliminary examination. The results have been most gratifying, while in some instances but very little weight can be attached to the teachers' examinations. Susceptibility reports have been received from most of the schools. Fifty-two schools have been visited, sanitary conditions noted, lectures made on health subjects at each school and one thousand three hundred and ninety-seven school children examined for physical defects. No accurate data has been collected as to the number having defects treated.

During the summer months principal attention was focused on typhoid fever and other filth-borne diseases. Eighteen typhoid dispensaries were held and two thousand eight hundred and ninety doses of vaccine given. Health literature was distributed at each dispensary.

A sanitary survey was made of the one hundred and eight public school buildings, both white and colored, which included locations, buildings, source of water supply and sewage disposal. The survey was made for the purpose of securing, if possible, better hygienic conditions, such as proper ventilation, good light, safe water supply and sewage

disposal. Report was made to the Board of Education with recommendations.

All health work being educational, it is hard to estimate the amount done. The avenues through which I have endeavored to reach the people are the local papers, postal service, public lectures, talks to school children, personal visits and distribution of health literature on various health subjects.

The institutional work in Forsyth, which includes county home, reformatory, jail, two convict camps and a tuberculosis hospital, has in many ways handicapped the health work and has taken more than half of my time. On an average about two hundred and twenty-five inmates and prisoners are cared for and given medical attention each month. For various causes two hundred and sixty-three visits were made during the year. At the beginning of my work last year a sanitary survey was made of all institutions and a physical, and as far as possible, a mental examination was made of all inmates and prisoners. Since then they have them examined when admitted.

Up until the first of the year the indigents of the county came under my care. Seventy-six visits were made to thirty-two patients.

In conclusion, I wish to say a few words about the tuberculosis hospital mentioned above, which I feel is serving a very important place in health work. It is built on the county farm, and in this way gets the benefit of water and sewer system from the county home, therefore lessening expenses. The site is a very desirable one with a nice one-story frame building, modern in every detail—steam heated, electric lights, water, etc. It accommodates twenty-four patients, twelve white and twelve colored, divided equally between sexes, but by using the porches for bed-rooms, it will accommodate twenty-four of each race, making a total of forty-eight. The building is in three distinct parts, yet closely connected. The main building, which is composed of office, reception hall, two well ventilated and lighted bed-rooms for nurses, with large bath. The nurses' dining-room joins the butler's pantry, which leads into a large and well-equipped kitchen. The patients' dining-rooms are connected with kitchen by swinging doors, with outside doors for entrance. This is all very distinct from the wards, which are on either side of this building, and are connected by covered porches. The wards consist of two rooms each, with bath, dressing room, individual lockers, linen-room, with a wide screened sleeping porch at back and a narrow porch in front for sun bath. The reception room is used by both sexes, situated between the separate wards. It has two outside doors, three large windows, easy chairs, writing table, games, pictures, reading matter, etc. This applies to each ward.

The nursing staff is composed of two graduate nurses. We employ a cook. The orderly is furnished by the county. The health officer is the physician in charge. The hospital was opened to patients September the twentieth, and since we have accommodated thirty-seven patients, ten of whom were discharged, not cured, but we feel that we have instilled in at least a part of them the teachings of right living and proper hygienic sanitation. Ten very advanced cases have died. Of the seventeen now in the hospital, more than half are on the road to recovery.

WINSTON-SALEM DEPARTMENT OF HEALTH

R. L. CARLTON, M.D., WINSTON-SALEM

In presenting this short resume of the year's work of the Department of Health of Winston-Salem only enough statistics will be mentioned to give a fair estimate of what has been done.

Our force consists of full-time Health Officer, laboratory director, who is also dairy inspector, meat and other food inspector, two sanitary patrolmen, two public health nurses and secretary.

There has been no great outburst of enthusiasm during the year along lines of public health, but we feel that good work had been done in all departments, and that the public as a whole is better developed along lines of thinking in terms of public health, and that our people are more nearly ready now than at any previous time to help "keep well folks well."

Vital Statistics.—The following were recorded:

Births during 1917, 1,099; deaths during 1917, 920.

Among the causes of death we note:

Pneumonia, 184; whooping-cough, 22; typhoid fever, 18; tuberculosis (pulmonary), 93; diarrheal diseases, 101; prematurity, 39; stillbirths, 79.

Our department has emphasized the fact that these are preventable diseases and that economic, social and housing conditions must be improved, and insanitary surroundings cleared away and educational influences brought to bear on maternal ignorance and a system of control of midwives instituted to make an impression on these causative agents.

Contagious Diseases.—We had no violent outbreaks of contagion during the year. To be sure there was at all times a plentiful supply of measles and we had a good many cases of typhoid, but no epidemics.

Early in the year the County Tuberculosis Hospital, to which Winston-

Salem patients are eligible, was opened. This gives us 48 beds to help care for the tubercular poor, and is a fine beginning in a great work.

Schools.—School children have been regularly inspected, nurses visiting every school every day or every other day, and following up sick children or suspected cases.

School inspection cards filled out by teachers and nurses for 6,000 children have been turned in to the health office, and at least 500 children have undergone complete physical examination at the health office, and of the defectives found a splendid number have been treated with good results.

Charity.—From our department at least 100 calls per month are made as city physician. All cases entering the city hospital as charity patients are first visited and passed by our department.

Sanitation.—Our city last year began the installation of water and sewer lines costing \$300,000. This work is to be finished this year, and when completed will put city water and sewer into every home in the city.

There are still a good many wells and many surface privies, and as fast as sewer and water lines are completed the wells are promptly ordered filled and privies torn down. Our general sanitation on account of these things is improving very markedly. We have on our streets a motor-driven street flusher recently installed, which is helping to lessen the dust hazard.

Inspection of the city's watersheds, two in number, is done by a member of our department every three months. Conditions generally show an improvement all over the sheds.

Food and Food Handlers.—During the year our milk ordinances were revised and are now being enforced, requiring all sweet milk sold to come up to certain requirements and be graded and sold under label. All cows supplying either sweet milk or buttermilk are tuberculin tested every year. Dairies are inspected at least every sixty days. Samples of milk analyzed every two to four weeks to determine food value and bacterial count.

During the year there was put into operation an ordinance requiring all food handlers at hotels, cafes, restaurants, markets and grocery stores to undergo a physical examination and secure from the department of health a food handler's industrial certificate, declaring them to be free from any contagious disease, before being allowed to handle food at any of these places. This required the examination of some 700 persons, and resulted in the elimination from this class of work of several people affected with tuberculosis and venereal diseases.

City Laboratory.—Inspection of the laboratory records shows that during the year a good many pathological specimens were examined, analyses made of 500 water samples and 700 milk samples, 150 special examinations and 903 bacteriological examinations. Very recently our laboratory has added the equipment necessary for examining dogs' heads for rabies, and we find that having this examination made in our own laboratory, instead of sending the specimens to the State Laboratory, is very satisfactory. Our laboratory is also equipped to make complete analyses of mothers' milk.

Our Needs.—Among our greatest needs in Winston-Salem are a contagious disease hospital, clinics for diagnosis and treatment of tuberculosis, and baby welfare clinics for the diagnosis and treatment of babies, and for the instruction of mothers, and for the dispensing of milk in selected cases.

These things are all coming. The Board of Health and city aldermen are solidly behind the Department of Health, and the public as a whole are relying on it more and more from day to day.

GUILFORD COUNTY HEALTH DEPARTMENT

W. M. JONES, M.D., GREENSBORO

I have no formal report to make, as I have done little of special interest besides the regular routine work, such as is designated by statute, viz., looking after the county institutions, quarantine, school inspection, the examination of the mentally defective, etc.

I wish to call your attention to two communities where similar results have been obtained by different methods. Both of these communities have had to my certain knowledge not one, but several cases of typhoid every summer for the last seven, with the exception of the one just passed. In one community almost the entire population was vaccinated, and in consequence there was only one case, and this party did not take the vaccine. This was a typical small town community, and in no wise an exception to hundreds of such that we have in the State. The other was a cotton mill village of about one hundred and fifty homes. Here all of the wells were deep, and are supplied with a pump, and in addition every house was equipped with an L. R. S. tank, and here we have had no typhoid since the installation of proper sewage.

HARNETT COUNTY HEALTH DEPARTMENT

J. W. HALFORD, M.D., LILLINGTON

I have no formal report to make. I have done the routine work that a health officer is expected to do. I would include in that a few lectures. I have delivered about twenty-seven lectures in schools and at the teachers' institutes. Some of these lectures were illustrated. I also have immunized something like 450 persons during the year against typhoid fever, particularly school children. Of course I have taken care of the county home, and I might say here that we have very few inmates of the county home in Harnett County. Our jail population is even less. We have an occasional inmate, and, of course, I look after that.

Regarding quarantine work, I wish to criticize the doctors of my county. Fully half the doctors have never submitted reports of communicable diseases. One doctor that came under the strong arm of the law has been very prompt since that time in reporting. I think the majority of my reports come from that doctor. I am going to invite Dr. Crouch to visit our county again and stir up the doctors in the lower part, where most of our doctors live.

The county home is an unsanitary institution, and for the past twelve years, since I have been connected with the county health work, I have urged that the condition be improved. I was very much impressed with the report of the gentleman from Forsyth County. When we recall that the State Sanatorium can accommodate 125 persons, we at once realize the magnitude of the work in Forsyth, where forty are cared for. And referring more particularly to the State Sanatorium, I believe every county home in the State should be made an adjunct to this institution. We could take care of these people until the State institution could make room for them. I hope the State Sanatorium may receive sufficient appropriations so it may be made a great blessing to the State and a boon to suffering humanity.

HAYWOOD COUNTY HEALTH DEPARTMENT

J. R. McCracken, M.D., WAYNESVILLE

I would like to say in this connection, with regard to smallpox vaccine, I used vaccine from one of the leading biological laboratories of the country and part from the State Laboratory, and I got more satisfactory results from that manufactured by the North Carolina Laboratory of Hygiene.

On account of several of our physicians being now in the service of our country, and the county physician having been appointed Surgeon of the Haywood County Exemption Board, we have been unable to accomplish many of those things for which we hoped early in the year.

Last spring we had in and around Canton (a manufacturing town of 4,000 inhabitants) a real scourge, in one of the worst epidemics of typhoid fever that has occurred in our State. We called upon the State Board of Health, which responded readily, Dr. Crouch finally deciding that the origin of the infection was the city water supply. This system has been improved, but is not yet satisfactory. Condemnation proceedings are now pending whereby a large watershed will be bought and controlled by the city government, and an up-to-date water system will soon be installed.

We did not have many cases of contagious diseases in the summer of 1917, but in the fall there were quite a number of scarlet fever cases. These were all quarantined according to law and no deaths occurred so far as I know. In the fall and winter we had a general epidemic of whooping-cough reaching, I think, almost every school in the county. I find whooping-cough one of the hardest epidemics to control, especially while the schools are in session. A child contracts the disease and exposes an entire school before his trouble is diagnosed. If, in the beginning, it made children sick, we might suspect it and take precautions, but as it is, we too often suspect it too late.

The medical inspection of schools was to be undertaken, and was undertaken, but without much progress so far. With difficulty I persuaded our commissioners to make the appropriation for this work. On account of the scarcity of physicians in my town, and my having to spend so much time helping to swell the ranks of Uncle Sam's army, I was unable to remind the teachers often enough to get the cards all in, less than half the teachers sending in reports. Now that my examination of class one men is practically complete, I propose to take up the examination of the children at once, and when the schools convene again in August I expect to get reports from those schools failing to report last fall.

We have had some few cases of smallpox in the last few weeks, but the people in the infected communities submitted readily to vaccination, and I think the worst is past.

DR. G. M. COOPER: I would like to say for Hoke County while I am up, that we had one of the most successful medical inspections in this county we have ever had, owing to the follow-up work of Miss Sadie McBrayer, now Mrs. McCain. We got more children treated than we

have ever had up to that time. In Fayetteville one morning just after the campaign closed I saw a wagon loaded with ten children for tonsillar operations from one school in Hoke County.

IREDELL COUNTY HEALTH DEPARTMENT

(STATEMENT BY T. E. ANDERSON, M.D., STATESVILLE)

Dr. McElwee is my townsman and has offices adjoining mine. The reason of his absence today is on account of his absorbing duties on the draft board. I know him to be very busy in this work. He is County Superintendent of Health of Iredell County, and in that office has been most efficient, and has given satisfaction to our people. I am sure it is a matter of deep regret to him not to have met with this Society at this time.

JOHNSTON COUNTY HEALTH DEPARTMENT

GEORGE D. VICK, M.D., SELMA

My tenure of office as Health Officer for Johnston County only began in September, filling the office previously held by Dr. Thel Hooks, who at that time resigned to enter the service. My work has comprised two monthly visits to convict camps, county jail and county home, with sanitary inspections of same and any subsequent calls in cases of sickness among inmates. The County Health officer works in conjunction with Quarantine Officer of the county, visiting communities where epidemics are prevalent, also visiting the schools of the county for inspection of pupils and their sanitary surroundings.

DR. W. S. RANKIN: May I make an additional report for Johnston County? Mrs. Hooks, wife of Dr. Thel Hooks, is the acting health officer of Johnston County, and the quarantine work of Johnston compares favorably with the county health work of any other county in North Carolina.

LENOIR COUNTY HEALTH DEPARTMENT

J. S. MITCHENER, M.D., KINSTON

The Lenoir County Health Department was inaugurated August 15, 1917, the fifth of the counties cooperating with the State and International Health Board. Difficulty in securing men made it impossible to

carry out the intensive soil pollution unit as planned. The work was conducted in six townships, three of which were completed. Seven hundred and sixty-nine homes were surveyed. Of these 253 were owners, 514 had closets, while 255 had none. Open wells were found at 476 and driven at 293.

There have been 3,337 examined for hookworm, of which 1,146 were positive. We have given out treatments to 1,078. In one instance where thirteen were reexamined we found eleven cured. Oil of chenopodium is used in treatments.

There have been 169 pit closets reported as installed. This is twenty-two per cent of the homes reached. All are in rural homes—no villages or communities worked.

The school inspection unit has been introduced this spring. We have had 2,434 cards filled by the teachers. The health officer will examine those that seem to need it this summer. A dental campaign will likewise be conducted.

Intensive hookworm campaign in the rural schools. Seventy per cent of enrollment were examined, sixty-seven per cent positive.

Life Extension unit was inaugurated last fall. One hundred and sixty-seven examinations have been made. For some reason this important unit did not appeal to my people.

We have given 2,794 doses of typhoid vaccine or have immunized about 931 people. No intensive work has as yet been done in this field, as the people need to be educated further to it.

Surveys have been made for Kinston and LaGrange. In each of these towns sanitary ordinances will be enforced during the coming months.

In educational work fifty-nine talks have been made at schools. Sixty-five other meetings have been held. The most of these were illustrated slides lectures. A total of 6,600 people attended. Since January 1 fifty-two newspaper articles have appeared.

Quarantine unit shows registration of 35 cases of typhoid; diphtheria, 22; whooping-cough, 17; measles, 17; scarlet fever, 3; cerebro-spinal meningitis and ophthalmia, 1. Coöperation has been good, I think, on the part of parents and the medical fraternity.

It is my opinion that when any new county is entered on a full-time health office plan the first year is best spent in intensive education. One should find as early as possible that particular phase of work needed in his particular county and use that as the way to demonstrate to the people the advantages he may offer. The first week may be well spent meeting the medical fraternity.

Many treatments for hookworm our department sends to the homes are not taken, has been my experience. A phobia is to be removed and ignorance treated first. Here the family doctor may assist us. As to the efficiency of oil of chenopodium in a small series of thirteen treated at the Caswell Training School through the courtesy of Dr. McNairy, we found eleven cured. Of these one passed ninety-two ascaris lumbricosis. Many who report lower percentage of cures from chenopodium in rural work do so as the medicine has not been eliminated by the gastro-intestinal route.

Regarding the county home and the convict quarters, we have not the best in the State. I am not asking my commissioners for much, as I wish to win their trust in my requests; and, too, I may be conservative, but labor and cost of material are to be considered in these times. Being given authority by the grand jury, I have made my jail prisoners white-wash the jail and do their own janitor service. I wish we could utilize this expensive idle labor in the county's custody in some way for betterment of our health conditions.

MARTIN COUNTY HEALTH DEPARTMENT

WILLIAM E. WARREN, M.D., WILLIAMSTON

I am going to do my best to get to Pinehurst next Monday, and if it is impossible for me to be there, wish you to report for me the work I have done since your visit here the latter part of February. You recall what a handicap I had in the matter of bad weather, bad roads, work on the local board, delays in opening of the schools and the tardiness of the teachers making physical examinations and sending in those cards. However, I have visited practically all of the schools and examined something near one thousand children, mostly white, and notified the parents my findings and the treatment that must be pursued. Will have to reconvene only one school to get the cards filled properly. The parents will report to me as fast as the children are treated, and those parents that are too poor to have it done, I will see that they get it done if money is their only excuse. Am sure that if I had to wait for these children to come to my office to be examined it would take another year to finish the job, as it is going to take right much education in this county to make them take interest; so I go to the expense and trouble to go to the schools (which I have not more than half finished yet) and explain the workings of the medical inspection law and examine them then to have the happy coöperation of the communities. In some

instances, in the far-off districts, a few parents have taken the children out of school to prevent an examination of them by the teacher. From these examinations I find about 75 per cent with defective tonsils, 60 per cent poor vision, and about 90 per cent defective teeth. Mental age is average; nutrition good in most of them.

MECKLENBURG COUNTY HEALTH DEPARTMENT

C. S. McLAUGHLIN, M.D., CHARLOTTE

DR. G. M. COOPER: Dr. McLaughlin is the health officer of Mecklenburg County, and has been for nineteen years. This is the first meeting he has ever missed in attending the Association.

Two weeks ago we sent a nurse there to assist Dr. McLaughlin with school work, and I want to report that phase of the work. The teachers' examinations account for a great many school children being treated.

Miss Pratt, the school nurse, writes: "We are going to succeed. Can you believe it? We have found good many treated from teachers' examination. We also have children to come in every few days to be treated. The specialists here are giving us their support. I have quite a list of 'charity' for them. Mecklenburg is a splendid county to succeed in our work. The people are interested." Dr. McLaughlin is so busy with the medical inspection of school children that he is unable to be present today.

DR. I. W. FAISON: Knowing that Dr. McLaughlin always attends, I did not want it to go by that we were not here. I had a talk with Dr. McLaughlin Saturday, and he said a nurse had been sent from Raleigh to help him in making examinations of the school children in his county, therefore he could not see his way to attend.

Dr. McLaughlin has been county physician there for nineteen years, as he says. He is an easy-going man. I wish he had half the vim in him that my young man Mitchener has. I think we would get a good deal more done.

I suppose there is today, and for the last eight or ten months been more sanitary work done in Mecklenburg County than any twenty counties in the State. The conditions have been such that we have had to do it. The camp being there, with twenty to sixty thousand men, coming from all over this country, has brought every conceivable disease a man can think of except leprosy. Those things have been met. Uncle Sam has been exceedingly kind to Mecklenburg County. Uncle Sam is

spending in our county now, I should judge, \$10,000 a year in working along sanitary lines to protect the soldiers first, that they may go to France to help protect us, and then they came down and put their hands on us and made us do things that we might protect Uncle Sam.

Another thing, in Charlotte we have a whole-time man there, in health work, a most splendid and thoroughly efficient man. We pay him \$2,500 a year. That does not sound like much, but it is rather a good big amount for them to give the first year they started out. That makes something like \$12,000 or more being spent. We have had there as high as seven or eight men that belong to the Government at work. We have had five nurses that Uncle Sam sent there, we have had one or two of our own nurses, and we have three physicians of our own there, one of them we claim that does not belong to us, born and raised there, and practices there—a woman in the medical profession, who wears the insignia today as a lieutenant of the United States, at a salary of \$800. Through the means of a commission form of government we have been able to go and talk to three men and get things done through those men. I went on the stump night after night trying to get the people to elect the commission form of government. We put three men in there that have the heart and soul in their heads to run the government, and we are doing this in the face of living within our means, for the first or second time Charlotte has ever done that since I have been there, and I have been there twenty-six years. Through this board of commissioners, and through the works of Uncle Sam in the sanitary line, we were able there when cerebrospinal meningitis came to our doors, at a meeting of our board one night it was declared that on tomorrow night or the next night a complete quarantine shall go into effect in this town, and General Dickman came forward, as the man that he is, and declared that no soldier should go into the town of Charlotte, and we declared none of our people should go into the camp until every case of cerebrospinal meningitis was wiped off the earth as far as we are concerned. Spinal meningitis was wiped out. We had two or three deaths; we had seventy-eight cases. That, in my opinion, could not have happened without the commission form of government. That is what has been done and that is what is being done.

Our whole-time man would have been here today; he promised me to come, but he has got work of importance in Charlotte. He is busy from early morning till late at night. Whenever you want him for anything he is on hand. We have a cleaner and a better time in Charlotte since it was first created. I noticed in the paper a few days ago where he expected to put in force over 350 sanitary closets the next week. The medical profession has stood behind Dr. Hudson almost to a man, but

we have got it where the law is going to act. He said, "When I get this law I will see that you do it." He has got the backbone; he has got the law.

I want to say to this man from Harnett, we have tried it in our county, and I know how it is done. If you want to get things done through your commissioners get your Superior Court judge to tell him the devilment in your county; tell him what you want done, and he will call the grand jury and will call up the county commissioners and tell them to do what he says. When the Superior Court judge tells them to do things they have never failed to do it. There are more ways to kill a dog than talking him to death. You can do things. It can be done. If the gentlemen will do it, it can be done. I know what I am talking about. I am a pretty slick medical politician, and it is through politics that you can do things. As Mr. Simmons in the United States Senate does it, so can we do it down here. I do not mean dirty politics.

DR. J. W. HALFORD, Lillington: With regard to what the gentleman from Mecklenburg said about the *man* from Harnett, I would like to say I have no idea what he is able to do with the courts and people of his county. I have heard him say on one occasion, when addressing this Association, that if he wished to kill a man he would be sure to invite his intended victim to Mecklenburg County to perform the deed. I have never tried ice cream and cake on our judges, but have tried even more persuasive condiments. I have had my friends go up and recommend the sale of the county home, and then found that the order was not executed. I want to say that the people of Harnett County are a law unto themselves.

DR. I. W. FAISON: I know Harnett County, and they are just as mean as you charge them, but if the judge of the Superior Court orders the county commissioners—if the judge of the Superior Court demands it, they do it. If you get Judge Long interested, and tell him you want that done, Judge Long is going to do it. There are other judges in this State who will not. It is a pity some of them are elected.

MITCHELL COUNTY HEALTH DEPARTMENT

C. E. SMITH, M.D., TOECANE

For the past twelve months we have had fifteen cases of typhoid fever and two deaths. We have had an epidemic in the last ninety days of measles in the schools, also whooping-cough. Since the new quarantine regulations went into effect we have had two families in the county

with smallpox, and every year I imagine before we have had from 100 to 200 cases. I used to think there wasn't much to the German measles, but since the war has come I don't like anything German. I had the German measles about three weeks ago, and I got into such a mental condition I said to my wife, "A man has to get mighty bad off if he don't care if he gets well."

DR. G. M. COOPER: We will now hear from Montgomery. I wish to say that for fear somebody will think Dr. Daligny is a German, he is an orthodox Frenchman, a graduate of the French Military Medical School, and what is more to the point, he served as a soldier in the French legions through the Franco-Prussian war, and he thinks that putting out of commission a whole lot of healthy Germans was doing the best piece of health work he has ever done.

Dr. Daligny asks me to read his report. I cannot hear him, and he cannot understand me.

MONTGOMERY COUNTY HEALTH DEPARTMENT

CHARLES DALIGNY, M.D., TROY

Sanitation.—The efforts to improve the general sanitation of Montgomery County during the year 1917 have been well rewarded. The vital statistics for the county show that there were 494 births and 155 deaths. Only one death from typhoid fever occurred; 23 from pneumonia, but two-thirds of them followed attacks of measles. Twenty-one took place at birth; two-thirds of these occurred in cases attended by midwives. Ten were due to measles, ten to tuberculosis, and eleven to colitis. This shows plainly that death from diseases due to bad sanitation were few, as there was only one death from typhoid fever and ten from colitis. The people of the county have become aware of the fact that the fly will cause diseases, and is a source of great danger, and to ward against it have screened their doors and windows. Having no sewer system in the county, it is an evident proof of the good results obtained by the installment of aseptic tanks and sanitary privies. There are about one hundred aseptic tanks in the towns of Troy and Mt. Gilead.

The soil of the county being of a sandy-loam formation, prevents to a great extent water stagnation, and therefore is a great factor in the maintenance of the public health. Malaria is practically unknown among our people. In fact people who move with us from a malarial district soon are free from chills, and recuperate rapidly in our climate.

Quarantine.—I am glad to be able to say that my quarantine work has been very much more pleasant and efficacious during the year 1917 than in the previous years. The realizing by the people that the intention of the law is not to impose a burden upon them, but to protect them against contagious and infectious diseases, they have reported diseases in their household with great diligence and shown a great interest in the reporting of their negligent neighbors. The deaths from contagious and infectious diseases have been few: ten from tuberculosis, ten from measles, one from typhoid fever, and one from diphtheria.

School Inspection.—Unfortunately the severe weather of the past winter and an epidemic of measles over the county caused the closing of practically all rural schools and some high schools, which retarded the sending and return of the examination cards. I have been over all cards I have received, and made a list of the pupils who are to report for examination. It will be about a month before I can call these children for my examination, and the treatment of defective children will not take place before late spring.

Remarks.—I believe that to lessen the deaths at birth, some legislation regulating the practice of midwifery should be passed. I would like to know if the County Board of Health has the power to regulate the practice of midwifery within their county. I also believe that the teachers of public schools should be instructed in the examination of children.

DR. D. C. ABSHER: Gentlemen, I want to remind you that Dr. McBrayer promised us a warm welcome and a cold bite. I also want to remind you that the hour is growing late, and I wish that we limit our remarks until we finish the reports, and I also want to make the suggestion that if the men who make these reports are not here they should not be read. If they do not think enough to come, I move that it be not read. If there is any objection, I would like to hear it. I mean those who are not ill or otherwise found it impossible to be present.

NASH COUNTY HEALTH DEPARTMENT

T. M. JORDAN, M.D., NASHVILLE

For thirty days I have been continuing the health work in Nash County. Nash has had a great deal of health work done. Nash is more fortunate than some of the other counties in that, not having any large towns, is typically rural, and is therefore not handicapped with city problems.

The county home of Nash is as pretty a place almost as this Sanatorium, clean large yard, trees whitewashed, good deep well water with cement and pump protection. The home is furnished with sanisept tanks.

As to the jail, we have discouraged the use of fumigation and disinfection in the jail and recommend soap and water and paint, consequently the jail is as free from institutional odor as this room, and I don't think anybody will be complaining about the odor of this room.

Since beginning the work we have busied ourselves with the schools. We have distributed some ten thousand pieces of literature bearing upon disease and its prevention. We have placarded the schoolhouses, the bulletin boards inside and out of the court-house with the placard carrying the new quarantine law in regard to householders reporting disease. We have written the doctors, the teachers and magistrates in the county personal letters in regard to the same, asking their coöperation in reporting disease. Two magistrates have already responded by reporting over their own signatures. The latter fact perhaps is of little value except that it shows that you can get coöperation.

As soon as school cards are assembled, I shall go to a number of points to meet the children for fuller examination of those reported by teachers with defects. Nash is fifty miles long, and this will be an accommodation to the parents who have to bring their children.

The town of Nashville is the county seat, and while it is without a full sewage accommodation, 95 per cent of the homes have either sewage disposal or sanitary privies, and we expect to soon put that up to 100 per cent. Nashville has but 217 homes, and is the largest town in the county, except half of Rocky Mount, which is in Nash. However, we do not have to trouble with Rocky Mount, since they have such a good looking health officer over there that Rocky Mount excuses us from having any trouble with Rocky Mount.

I believe that we have as strong support in our county board of health and county commissioners as any one need ask for. The county board of health has really been forward and progressive, passing last July a county ordinance forbidding the placing upon the soil of the county any human excrement. We are not yet attempting to enforce it, and I doubt the propriety of doing so yet. There is such a lack of intelligent disease prevention understanding among the great mass of rural people in that county that no drastic steps should be taken until we can do some more educational work in the county. However, we are not looking for any great trouble over the undertaking later on.

NORTHAMPTON COUNTY HEALTH DEPARTMENT

F. M. REGISTER, M.D., JACKSON

A health department was established in Northampton County August 1, 1917, and the mistakes we made equaled Heinz's 57 Varieties, but I am glad to say that we have been able to see these mistakes, and have found a remedy for quite a number of them. It is quite a change in one's program, after a quarter of a century of general practice trying to cure diseases, to take up the specialty of preventing diseases. However, upon the whole, creating a health department in a county, while it leaves much to be desired, opens up a most useful field of medicine, the possibilities of which cannot be measured, when conducted along active and progressive lines. In giving a tabulation of the things done in Northampton County, it is not given in a boastful way, but by request and as a matter of record, and forms a text for discussion, so that each health officer can see what is being done in each county, and can go home better prepared to do more effective work in the future:

AUGUST 1, 1917—APRIL 1, 1918

Number of public meetings held:	
Schools (attendance, 5,209)-----	63
Other (attendance, 3,866)-----	34
Number of letters sent out-----	2,321
Number of bulletins distributed-----	5,000
Number of newspaper articles-----	52
Number of sanitary toilets built-----	727
Number of specimens examined-----	1,940
Positive for hookworm-----	598
Number of treatments given for hookworm-----	605
Number of sanitary surveys made-----	3,351
Number of schools visited-----	105
Number of pupils examined-----	598
Number of pupils vaccinated against smallpox-----	726
Number of doses of typhoid vaccine given-----	15,004
Number of children having defects remedied-----	50
Number of examination cards of school children received-----	3,663
Number of school susceptibility reports received-----	64
Number of children examined for diphtheria-----	125
Number of carriers found-----	12
Number of visits to county home-----	25
Number of visits to jail-----	40
Number of times acted as coroner's physician-----	3
Number examined for insane asylum-----	5
Water installed in courthouse and jail.	

Placarded and quarantined:

Diphtheria-----	33
Typhoid fever-----	10
Scarlet fever-----	3
Measles-----	18

Inaugurated a prize essay contest, subject: Sanitation in Home and School, a full report of which cannot be given at this time, but so far has resulted in—

- 41 schools improving their sanitary condition.
- 900 specimens examined for hookworm.
- 100 householders improving their sanitary condition.
- 200 children wrote essays on this subject.
- 3,000 survey blanks filled out by children.

At this time plans are being worked out for an Infant Hygiene Unit to be conducted during June, July, and August.

It would be unfair in completing this report not to give credit to those who have helped this department to do what it has done. We are especially indebted to Dr. B. E. Washburn, Miss K. L. McLeod, Dr. Mary R. Wetmore, Mr. J. P. Long, Miss Ethel Kelly, W. M. Wall, C. E. Nelson, Mrs. F. M. Register, and Sarah Randolph (Colored Supervisor).

NEW HANOVER COUNTY HEALTH DEPARTMENT

CHARLES E. LOW, M.D., WILMINGTON

There is no detailed official report forthcoming from New Hanover County. Dr. Slocum has been acting health officer there since Dr. Nesbitt's resignation, and as he has furnished me with no data there is no formal report to make. I have not assumed my official duties there, but have been asked to come here from Spartanburg and get acquainted, which it has been a great pleasure to do.

All I can say in the nature of a report is that the city of Wilmington and New Hanover County give evidence from a casual examination of being a very excellently administered unit. Dr. Nesbitt has done a very remarkable work in that county, and as I confessed to the Board of Health, it is going to be no boy's job to follow up Dr. Nesbitt. Every schoolhouse in the county is said to be sanitized. Many of the rural dwellings have some sort of sanitary closet device. Surface closets are practically eliminated, I am told, and most of the premises in the city are sewer connected. I think there are not more than 800 in the city of Wilmington not connected. As to the school work, I am not closely

enough in touch with it to give any definite report. I do want to express my appreciation of what Dr. Nesbitt has done there and of the wonderful organization that he has built up. It is an ideal for other counties to follow. The fact that Wilmington and the county of New Hanover appropriated nearly \$25,000, which is nearly sixty-five cents per capita tax, for public health work, is a very remarkable showing. You will find few counties or states or cities that you may choose for comparison showing as high a per capita tax. The work is organized under a superintendent of health, a full-time assistant, or county health officer, six sanitary inspectors, four nurses, a full-time plumbing inspector, a full-time veterinarian, who is also meat, milk and food inspector, and a full-time laboratory man.

DR. L. B. McBRAYER: I am mighty glad to have had you with us; wish you could stay longer; want to extend an invitation to come back whenever you will. I have been convinced for a great many years that the health officer is the important thing in health work.

We are going to bring in a dozen men and let them stand along the wall there and Dr. McCain and Dr. Sherrill will explain the reaction and the time since the tuberculin was applied.

NIGHT SESSION

DR. D. C. ABSHER: The meeting will come to order and we will take up the program where we left off this afternoon.

I would like to call your attention to the fact that there are a number of reports, and it will be necessary to limit the reports from county health officers to five minutes. There are a number to report, after which there will be two or three papers. It will be necessary, therefore, for us to pay strict attention to the time limit.

DR. G. M. COOPER: I think the very fact that Dr. Fearing is here is a tribute to his loyalty to this Association. It is 255 miles to Elizabeth City. I would like to pay the same tribute to Dr. McCracken and Dr. Gibbs.

PASQUOTANK COUNTY HEALTH DEPARTMENT

ZENAS FEARING, M.D., ELIZABETH CITY

My duties are those of the County Physician and Quarantine Officer. The duties of the Quarantine Officer embrace Elizabeth City as well as Pasquotank County, a population of practically about 18,000. I have to perform the usual routine work, such as looking after the various county

institutions, namely, the county home, convict camp and county jail. Monthly reports are made to the board of county commissioners. Last summer the typhoid campaign was conducted in this county, and in my judgment was the most successful step towards prevention of typhoid fever ever had been undertaken in our county. There has been only one death from typhoid in this county since last July. We have had just fourteen cases of typhoid fever since last July. I have the hearty coöperation of all the physicians in my county, both white and colored; also the school teachers. As to the medical inspection of school children, I visited practically all the schools, about forty in number, in both city and county, making addresses at each, but owing to the extreme weather during the winter months, I have not been able to have them examined for any defects.

PERSON COUNTY HEALTH DEPARTMENT

W. A. BRADSHAW, M.D., ROXBORO

The general health of the county during the past year has been good, and little affected by epidemics.

We have had no campaign against any definite disease, though a very large per cent of our people have been induced to take antityphoid vaccine.

There has been splendid coöperation by the county physician, the County Quarantine Officer, the County Superintendent of Education and the teachers, both in making the quarantine law effective and disseminating information leading to better health conditions.

School inspection work was not done this year because we were neither financially nor otherwise prepared to do it effectively. We are planning, however, to get all inspection and immunity possible for our people at an early date.

PITT COUNTY HEALTH DEPARTMENT

B. E. WASHBURN, M.D., RALEIGH

Pitt County is one of the ten counties coöperating with the State Board of Health, through the Bureau of County Health Work. It may be of interest to tell something of the county health work now being done by the State Board of Health. The Legislature of 1917 made an appropriation of \$15,000 to aid in rural health work, the International

Board of Health also gave \$15,000, and with this amount the Bureau of County Health Work was organized, and carries on its work. Through the medium of this Bureau the State Board of Health is able to cooperate with ten counties in the establishment of local health departments. Nine of the counties have already organized county health departments and are doing successful work.

The work of each county health department is to present the health problems of the county, together with the best means of solution, to the people in a definite and comprehensive manner, and by a plan designed to reach and educate each home. In order to accomplish this the work is limited to definite units of health problems rather than an attempt to cover the entire field of county health activity. Each department is organized on a three-year basis and provides for a full-time health officer with traveling expenses, a clerical assistant, field assistants, adequate fixtures and supplies, a contingent fund, and funds for the following units of work: Soil Pollution, Quarantine, School Inspection, Life Extension, and Infant Hygiene. It is also planned to add units of work for Tuberculosis and Malaria. The counties at present cooperating under this department are Davidson, Forsyth, Lenoir, Nash, Northampton, Pitt, Robeson, Rowan, and Wilson.

The work in Pitt County began the first of January. We have had health officers from the International Board who began the work. Dr. C. P. Fryer, from Florida, has been appointed health officer and reached Pitt on the 10th of April.

The main work in Pitt thus far has been the school and the quarantine work. The schools in two townships have been visited, the teachers having filled out the cards before the schools were visited and the children examined. About fifty-five per cent of those found defective have been treated. Pitt is one of the counties which has had a whole-time health officer for a number of years, and the people were already educated, which probably accounts for the good cooperation in this unit.

ROBESON COUNTY HEALTH DEPARTMENT

WILBUR A. MCPHAUL, M.D., LUMBERTON

Robeson County was one of the last counties to be added to the list of counties that are going to do this special work that Dr. Washburn just explained to you. We organized a Health Department in Robeson County the first of December, therefore we have only been at this work four and a half months. The Life Extension Unit of health work was the first to be taken up in Robeson County, and it proved to be the means of killing what little opposition there was in the county against

the establishment of a Health Department. The good that a health officer does is never known to any one except those who are connected in some way in health work, or those who make a study of health problems, these being very few in rural communities. The great amount of work done by a health officer is unseen and unknown. That is why there is always opposition to health work, and the best way to overcome all this opposition is to begin with the Life Extension Unit. The people are getting something; they come for the examination; you examine them carefully—blood pressure test, urine test, and in fact a thorough physical examination. Perhaps they have never had a thorough examination before, for it is a fact that doctors in rural communities do not make thorough examinations until the patient is sick in bed.

You all know the kind of weather we had during December and January. The weather handicapped us somewhat, but we made a canvass of the county, giving lectures among the school children, sending out literature, and with newspaper publicity we were able to get about 500 applications for this free examination of adults between the ages of twenty and sixty-five years.

Number of public meetings held:	
Schools (attendance, 2,839) -----	38
Others (attendance, 400) -----	3
Number of letters sent out -----	1,023
Newspaper articles -----	70
Literature distributed -----	9,998
Diseases quarantined (including 26 cases of smallpox) -----	114
Number of examination cards of school children received -----	8,817
Number of children examined -----	161
Number of children treated -----	14
Number of applications received (Life Extension Unit) -----	895
Number of physical examinations made -----	561
Number vaccinated against smallpox -----	427
Number vaccinated against typhoid fever -----	30
Number visits made to county jail -----	25
Number visits made to county home -----	8
Number visits made to county convict camp -----	7
Number of examinations made for commitment to State Hospital for Insane -----	6
Several children examined under Child Labor Law.	
Number of paupers given free treatment -----	40

The County Board of Health has passed an ordinance requiring a sanitary privy to be built at each rural home under the supervision of the County Health Officer or his assistant before the first day of January, 1919, also an ordinance requiring every midwife in the county to register with the County Health Officer and receive instructions from him before they can practice midwifery.

ROWAN COUNTY HEALTH DEPARTMENT

A. J. WARREN, M.D., SALISBURY

Some time ago I received a letter from the Secretary of this Association requesting that I confine my report to 500 words. I have tried to do this. Therefore I have not included the regular routine work and the quarantine work in this report. I refer merely to the most important work that has been done.

The whole-time health work in Rowan County was begun the first of January, 1918. Up to this time no public health work had ever been undertaken in the county or the towns of the county, which number eleven, the largest being Salisbury, with a population of seventeen thousand. The population of the county is 40,150, with about 8,000 negroes. The county contains about 450 square miles, and is divided into fourteen townships. The rural communities are above the average and the tenant class is in the minority.

The first unit of work undertaken in the county was the medical inspection of school children. This work was inaugurated on the 12th of January by calling all the teachers of the county together, both city and rural, for the purpose of discussing the method of medical inspection of the children by the teacher. At this meeting a small boy was secured and a practical demonstration of the inspection by the teacher was gone through with. Cards and pencils were distributed to every teacher, and she was required to record the results of the inspection of the pupil after she had first seen it done. At this meeting the examination cards, eye charts and the bulletin of directions were distributed to about one-half of the schools of the county. To the other half the cards were sent by mail the following week.

On March 31st 5,317 cards had been returned, accepted and assorted. After they are assorted into the two classes, probably defective, and apparently normal, I find about fifty per cent in each class. On March 31st I had examined 1,048, 559 of whom were found to be defective. On March 31st 96 had been treated for defects exclusive of defective teeth, or seventeen per cent of the defectives have been remedied. All the defects remedied have been of the eyes, ears, nose and throat. The errors of refraction heads the list, with adenoids second. The majority of the defectives treated have been children from the rural communities.

I realize that this report is far short of what it should be and will be, but the response of the parents has been encouraging.

SAMPSON COUNTY HEALTH DEPARTMENT

E. T. HOLLINGSWORTH, M.D., CLINTON

During the year I inspected 40 schoolhouses prior to the opening of the school. I visited 51 schools while in session. I examined 823 school children, of which number 300 were found defective. Treatment has been administered to 150 of them that were found defective. I have written 37 public health letters to public school teachers. I have notified 16 schools of the appearance of contagious diseases in the school community; have supplied school teachers with 200 pamphlets to be distributed among patrons of the schools. During the year the following contagious diseases have been reported and quarantined by me; 1 case of cerebrospinal meningitis; 2 cases of infantile paralysis; 4 cases of smallpox; 4 cases of typhoid fever; 20 cases of diphtheria; 18 cases of scarlet fever; 15 cases of whooping-cough; 89 cases of measles.

I have written 200 public health letters to citizens of the county; 20 articles to the county papers; have made 64 visits to see those who were afflicted with contagious diseases; have made 92 visits to the county home; 56 visits to the convict camp; 62 visits to the jail; 48 visits to the outside poor; have conducted four better babies contests; have had under my care and treatment one case of smallpox and four cases of pellagra. The latter disease appears to be on the decline. I have only one new case at this time.

I gave 36 inoculations against colds; vaccinated 947 people against smallpox; vaccinated 5,125 against typhoid fever; fumigated 21 houses; examined 9 insane persons for commitment to the State Hospital; gave 74 hookworm treatments; made 48 microscopical examinations; made 75 public health talks to at least ten thousand people; made 4 visits to investigate public nuisances and secured the abatement of same; distributed 600 pamphlets of public health literature to citizens of the county; mailed 8 specimens of water for analysis and organized 24 health clubs in the rural schools.

I have traveled 8,500 miles over the country roads; served for six weeks as a member of the local exemption board, and have been the examining physician for the local exemption board, and have examined 1,100 men for the Army.

TRANSYLVANIA COUNTY HEALTH DEPARTMENT

DR. COOPER: I will say for Transylvania County that their commissioners have already made an appropriation for free dental work for school children. The dentist is at work. That is the first example in the State. I had a letter from Dr. Hunt, *in lieu* of a formal report, stating this fact. Dr. Hunt is an elderly man, but is a very progressive and capable health officer.

UNION COUNTY HEALTH DEPARTMENT

S. A. STEVENS, M.D., MONROE

I have visited at the county home, the convict camp, and have done the routine work of the ordinary county physician. I am not a whole-time health officer. In regard to the quarantine work, I have had very little trouble except in getting reports of diseases. I have had very little trouble in quarantining, and in my efforts to carry out the quarantine law I have tried to impress upon the people generally the fact that it is their duty and that the law requires them to report a disease, whether they have a doctor or not. I have stressed this fact more than perhaps anything else. More cases have been reported by householders than by doctors. I made one or two talks to the doctors' meetings and did all I could to enlist the coöperation of the teachers. I encouraged them to report the cases and in many cases they have done so. As far as the diseases requiring quarantine are concerned, we have had measles and whooping-cough. We have had cerebrospinal meningitis. I wish the State Board could get up some way to assist the Health Officer in making diagnosis and carrying out the treatment of these cases. I wish there was some way by which we could receive the proper help and at the proper time.

As regards the teachers, I have received susceptibility sheets from the majority of them, and as to the method of reaching teachers it seems to me in addition to the plan provided by the present quarantine law at the meeting in the fall it is a good idea to make a talk to the teachers instead of waiting until the disease occurs to distribute the laws and regulations with regard to the various diseases, to give them these regulations at the time you hand out the susceptibility sheets, so they may know what to do without waiting four or five days sometimes to consult the quarantine officer and know what to do. In this way they would have a chance to learn the law in time to stop the disease without waiting for the necessary literature to be mailed to them.

WAYNE COUNTY HEALTH DEPARTMENT

W. H. SMITH, M.D., GOLDSBORO

Aside from the routine work, all I have done in Wayne is to try to get the doctors and the school teachers to understand the new quarantine law and to report it. We have had a little difficulty to get the doctors to report. We have had to indict several. I did not indict any myself, but I got Dr. Crouch to indict them. I think now everything will run smoothly. We made an effort with Dr. Rankin's help to get Wayne County in those ten counties to work along the lines of the International Health Work, but the county commissioners did not see fit to put it on this year. The sentiment is lacking. I think in another year we will have the plan endorsed by the State Board of Health or we will have a full-time health officer.

WILSON COUNTY AND CITY HEALTH DEPARTMENT

L. J. SMITH, M.D., WILSON

The Personnel consists of—

1. Health Officer.
2. Office Nurse, whose duties are to keep office records, vaccinate against smallpox and typhoid fever, and assist in all laboratory work.
3. Visiting Nurse.—The visiting nurse is employed by this department through the Metropolitan Life Insurance Company, and the salary is supplemented by funds from the city. Her duties are to visit the sick and instruct the people she comes in contact with in the sanitation and hygiene of the home.
4. City Sanitary Inspector.—The city furnishes funds for the employment of a City Sanitary Inspector, whose duties are to inspect and have installed sewer connections and sanitary can-type closets. He also inspects hotels, cafes, markets and groceries.
5. Rural Sanitary Inspector.—One field worker or Rural Sanitary Inspector is employed, whose duties are to do the follow-up work after the intensive soil pollution campaign.
6. Offices and Office Equipment.—The offices are situated in the City Hall, and consist of the executive office, where all clerical work is done. In connection with this we have a large laboratory and the necessary equipment for chemical and microscopic examination of milk, urine, sputum, blood and feces. Our laboratory is not in full working order,

due to the delay in getting supplies and the apparatus installed. However, we have been doing fecal examination and milk analysis.

The intensive soil pollution campaign has already been conducted by Dr. B. E. Washburn and his assistants.

The results of this campaign are twofold: It has laid the foundation for further public health work of all kinds by creating a sentiment in favor of health work. It has materially reduced the incidence of hookworm disease as is evidenced by the low per cent of positive findings in school children recently examined.

7. Quarantine Unit.—The Quarantine Unit has been carried out with a comparative degree of success. The physicians and laity are obeying the quarantine laws in direct proportion to the amount of knowledge they receive of the nature and purpose of the laws. I find placards, newspaper articles and personal talks are doing much toward the enforcement of the law.

The following diseases have been reported and quarantined since January 1, 1918:

Typhoid fever	3
Whooping-cough	61
Smallpox	4
Measles	17
Diphtheria	6
Cerebrospinal meningitis	1

8. School Inspection Unit.—This unit is now in progress, and we hope to finish before the schools close. Following is a report of the work done:

Total number of white schools in county	51
Total number of white school cards in	51
Total number of colored schools in county	34
Total number of colored school cards in	20
Total number of colored school cards not in	14
Total number of cards sent in (white and colored)	5,842
Total number of children receiving special examination	740
Total number of children found defective (per cent)	80
Total number of children receiving treatment	10

We have made a record of those who we believe will get the treatment recommended, and have made an estimate that at least seventy-five per cent will be treated.

9. Vaccination.—Along with the school inspection we have been vaccinating against smallpox.

Total number vaccinated against smallpox	2,218
Total number vaccinated against typhoid fever	4,000

In certain sections of our county we find very strong sentiment against smallpox vaccination, but we are overcoming this in a measure, first, by persuasion, and then by law. We have been materially assisted in this work by our Superintendent of Schools, Mr. Charles L. Coon.

10. Life Extension Unit.—The Life Extension Unit has not been put on yet, but we expect to start this some time in the near future, and from present indications it will be a success.

YADKIN COUNTY HEALTH DEPARTMENT

V. F. COUCH, M.D., YADKINVILLE

With regard to work done as County Physician and Quarantine Officer, after hearing the reports from the counties having whole-time health officers, it makes us feel that we are not doing anything.

We have at the county home eighteen inmates, four males and fourteen females, and of these two are colored. I have visited this institution fifty-four times during the past year. The commissioners are contemplating a new building, changing its site. Have examined seven prisoners and made three commitments. Quarantine work is rather effective in Yadkin County, made so chiefly by the aid of the State, furnishing literature to teachers, householders, etc., which has aroused them to a spirit of help. It has consisted mostly of measles, 51 cases having been quarantined since July 31, 1917. Other cases of communicable diseases quarantined are: scarlet fever, 1; diphtheria, 3; cerebrospinal meningitis, 1; typhoid fever, 4. While there are probably a few cases of typhoid fever which have not been reported, the number of cases actually occurring in the county has been small owing to inoculation against this malady by the physicians. In the western portion of the county another physician and myself have inoculated more than fifty per cent of its population at a minimum fee of fifty cents per complete inoculation, this small fee being made possible by free vaccine furnished us by the State Laboratory of Hygiene.

YANCEY COUNTY HEALTH DEPARTMENT

J. B. GIBBS, M.D., BURNSVILLE

Believing that you would be tired of the reports by the time you got to Yancey, I have decided to confine my paper to tuberculosis.

The work done in this county has consisted mainly of a general effort to learn just how much tuberculosis we had, how best to impress the

people with a sense of its danger, and how best to aid in getting it reported, prevented and cured.

As to the amount we have, I will say that the examination of the registrants reveals the fact that about eight per cent are tuberculous. We have about fourteen thousand population. Then if the disease prevails alike in all ages, and in both sexes, we would have about eleven hundred cases. There are very few negroes in this county. The vital statistics reports, which are both incorrect and incomplete, show fourteen deaths from tuberculosis in 1917.

As to the results of our educational efforts, I will say that our county commissioners have decided to employ an all-time health officer, and I believe the people will approve of their decision, and cooperate in the movement. Our idea is to get all the cases reported from the remotest mountain cabins and negro huts, where most of it is, to the health officer, and by him to the Bureau of Tuberculosis.

This, it seems to me, is the only way to accomplish much in a mountain county, where there are only ten physicians, and some of these not capable of making an early diagnosis. Fifty per cent of our cases are never seen by a physician.

DR. G. M. COOPER: We will now call the city health officers. There are just a few of these present.

Dr. Stancill, City Physician of Raleigh, had about a dozen personal invitations from several of us, but he is not here. Dr. Hudson, Health Officer of Charlotte, told me about two weeks ago he would be here without fail, but I understand that, owing to a slight illness, it was impossible for him to come.

ROCKY MOUNT HEALTH DEPARTMENT

H. L. LARGE, M.D., ROCKY MOUNT

Rocky Mount has a population of about 15,000. It occupies a rather peculiar position, in that it is situated on the line between Nash and Edgecombe counties, about one-half of its inhabitants being in each county. The Health Department consists of the chief health officer, known as the Superintendent of Health; one sanitary inspector, who has full police authority; two district nurses; one school and tuberculosis nurse; an office assistant, and four laborers. The department maintains a very completely equipped laboratory; and our routine work is pretty much of the same character as that just outlined by the gentleman from Winston-Salem.

In addition to the regular routine, I want to mention particularly two classes of work which we have taken up this year, viz.: Anti-tuberculosis and baby welfare.

We have been very carefully investigating the tuberculosis situation as it exists in Rocky Mount, and the results of our investigation thus far have convinced us that the question of controlling it resolves itself into a very complex one, presenting both social and economic problems. Of our 15,000 population about one-third are negroes, and the tuberculosis rate is very much higher in this race than in the white. Furthermore, the average negro is very much less intelligent than the average white, so that educational measures are not worth as much with negroes as with whites. In both races tuberculosis occurs more frequently in the poorer families, and a combination of ignorance and poverty makes a very hard problem to deal with in any practical way. We have concluded, however, that the nearest solution—and I don't know just how much of a solution this is going to be—is to establish a dispensary for examination, treatment and instruction. Here we can render such treatment and instruction as is necessary to the patient, and keep an eye on his progress; but what is probably more important, we can, by offering the opportunity for examination to those living in tuberculous environments, detect cases of early infection, thus being able, if circumstances will permit, to get them treated before it is too late. We have been doing some work of this kind, but expect to have it better organized, and the dispensary under the care of two physicians in the near future. In addition to this, we have one nurse who devotes a large portion of her time to nursing and instructing tuberculous patients and their families in their homes.

Baby welfare is another phase of work which we believe to be very important, particularly at this time.

In the future we hope to be able to establish a dispensary in connection with this work. At present we are confining ourselves to having the babies visited in their homes by the district nurses; and just here I want to say that we are having everybody's baby visited, and not simply those of the lower classes. We believe that the municipality, the State and the Nation owe it to every individual baby to see that it has the best opportunities and the best conditions under which to live and develop.

Our plan is to have every baby visited at least every two weeks. The confidence and cooperation of the mother is gained, and the nurse keeps an accurate record of the baby's weight, his condition, how he is progressing; how he is being fed, that is, whether artificial or breast, and if artificial, what food is being used, and such additional notes made as are necessary. This record gives us a line on not only the progress the

individual baby is making, but we can compare his progress with the others. Furthermore, these records are always open for the information of the family physician. The mother, as the nurse gains her confidence, is given such instruction in the care of her baby as the nurse thinks is necessary. It is our intention to keep the baby under this supervision until it is at least two years of age.

Our school work for the year has progressed fairly satisfactorily. We have not, however, found the teacher's physical examination to be of very much practical value to us. We have one nurse who devotes about half of her time to school work, and we have further been very fortunate in securing the help of a competent eye, ear, nose and throat specialist in examining school children, so that we no longer rely on the teacher's examination.

DR. D. C. ABSHER: I am glad to see that a number of the State Medical Society men have come. I am glad to see Dr. Kibler, of the International Health Board, just home from South America. We hope all of you gentlemen, whether I have called the names or not, will feel free to take part in the discussions tonight.

We have two or three more papers, and it will probably not be best to discuss these reports inasmuch as we will be pushed for time. Nevertheless, if any one cares to discuss these reports we will give you just a minute to do so.

DR. K. E. MILLER: Before closing this session there is an idea which has occurred to me, and which I want to put before the Health Officers Association. If it amounts to anything, it will be a wonderful help to the county health officer.

I think we have all blindly accepted the theory that we must give three doses of typhoid vaccine at regular stated intervals, and in stated doses in order to make a success of it. I believe there is a little element of doubt about that. My reason for saying so has been suggested to me by some recent work of Dr. McCoy, of the Hygienic Laboratory in Washington, in the standardization of typhoid vaccine. He found that the degree of immunity depended very little upon the amount of vaccine. That is, a small dose produced about the same amount of immune bodies as a large dose. If this be true, it is very suggestive. If it should prove out that we can get satisfactory results by one dose instead of three, it will certainly simplify the work of a county health officer beyond measure. I do not know a thing about whether this is possible or not, but from the laboratory studies referred to above the problem is very inviting, and I would like to see somebody bold enough to try it out on a practical experimental basis some time. No doubt some of you are

more prepared to talk about it than I am, particularly Major Kinyoun, and I suggest he give us some light on that subject.

MAJ. J. J. KINYOUN, M. R. C., Raleigh: In answer to the question put by Dr. Miller concerning the administration of one dose of anti-typhoid vaccine, I would say that so far this has not been a success. It was tried out on a rather comprehensive scale in Japan just prior to the Japanese-Russian war. The Japanese authorities reported that this one injection did not protect in all cases. I am also informed that the same was tried in France with about the same results.

While it is true that the agglutins did appear after the one injection, it does not appear to have the same immunizing power as when three injections are given.

Col. Eugene Whitmore, of the Army Medical School, has been conducting a series of experiments with what is known as "lipo-vaccine." The experiments so far give great promise; that is to say, that one injection of the typhoid bacilli suspended in oil appears to give the same immunizing properties as when three doses of the anti-typhoid vaccine are given. The French Army Medical Service has been using this system for some time past with splendid results.

On account of the possibility of having para-typhoid infection complicating that of typhoid, it has been deemed necessary by the War Department to inoculate against para-typhoid as well as typhoid. The vaccine now used is known as the triple vaccine; that is to say, it contains the typhoid bacilli and two strains of the para-typhoid—A and B respectively.

We experience quite a difficulty in dealing with the rural populations, and particularly so with the mixed populations, when we attempt to immunize these against typhoid fever. Here the three injections are disadvantageous, because many of the people will take the first injection who, on account of the local reaction or other causes, will fail to take the complete course of treatment and, therefore, the community is not protected. If the experiments of Colonel Whitmore succeed, and it is possible to use the lipo-vaccine in one injection instead of the three which are now necessary, it will be one of the greatest steps in the right direction in eliminating typhoid and para-typhoid from rural communities.

DR. D. C. ABSHER: There were some matters brought out in the reports of the county health officers this afternoon that should have been answered by somebody. For fear it will take up too much time, I will not call on anybody to discuss anything further. We will proceed with the program. We would like to hear from Dr. George W. Shipp.

DR. G. M. COOPER: As stated this afternoon, Dr. Shipp is in the Johns Hopkins Hospital and he cannot come. This is the first meeting that Dr. Shipp has ever failed to attend since the Health Officers Association was organized eight years ago.

MAJ. JOSEPH HOWELL WAY: Dr. Cooper, with your permission, I would like to have about one minute to bring a matter before this Association. Several times during the day today kindly reference has been made to that most splendid gentleman and leader of sanitation, Dr. R. H. Lewis, of Raleigh. I learned this afternoon that his continued indifferent health will prevent his being with us at this session. I move that the President of this Association be and is instructed to advise Dr. Lewis of our regret at his being unable to be with us at this session, in the work of an organization that he has helped so much, and convey also our assurances of friendly regard and affection. I make that motion now in order that Dr. Lewis may see it in the morning's paper.

Motion seconded by Dr. Cheatham and Dr. Jordan.

DR. ARCH CHEATHAM, Durham: I also move that a similar motion be passed regarding Dr. Shipp.

DR. D. C. ABSHER: I do not think we should vote by ayes and noes. I think we should make it unanimous by rising.

Motion as amended by Dr. Cheatham unanimously carried.

CONSERVATION THROUGH CARE FOR DEFECTIVE SCHOOL CHILDREN

With Special Reference to Facts Learned Through Examination of 2,000
Men for Draft Army

Z. M. CAVINESS, M.D., RALEIGH

We are now in the throes of the mightiest conflict of carnage and bloodshed the world has ever seen. The cry has gone up in every land to its people to conserve not only their man-power, but all of their material resources. If this mighty conflict is won for democracy, it must be done by the economic conservation of our resources. When this mighty conflict shall have ended our economic life will undergo reconstruction. This will not only fall heavily upon this generation, but upon the rising generation as well. For this we need men and women

who are strong physically, intellectually and morally. And, therefore, I call to the people of North Carolina to give our school boys and girls every means and advantage that will tend to conserve their physical, intellectual and moral protection and growth.

1. This may be done by safeguarding our children against the invasion of the various contagious and infectious diseases that have swept our State, not only claiming many of our brightest children by death, but left hundreds and thousands maimed for life. This we can best do as citizens by observing the State Quarantine Law, which provides for the control and prevention of the contagious and infectious diseases. The effectiveness of this law does not depend upon the law itself, nor upon Dr. Crouch, as State Epidemiologist, but upon the ability of the county quarantine officer in enlisting, not only the doctors and the school teachers, but his entire constituents in the coöperation of promptly reporting any and all cases to the county quarantine officer that come under his or her observation or knowledge, and to see that such cases, when placarded obey the rule and regulations governing the same. When this is done we will have no more sweeping epidemics, cutting down the attendance of our schools, and thus causing the loss of thousands of dollars to the school fund in nonattendance, and last, but not least, the lives of many of our children by death, and many more crippled and maimed for life.

2. By providing for our children in the schools, as well as in the home, better means of sanitation by the construction, where running water is not accessible, of some type of sanitary closet. I believe that the lack of this convenience in our rural districts and rural homes, is due largely to the fact that our people have not been shown the great importance, as well as the bodily convenience and comfort. When this is done, it will be a means of controlling the various diseases of which the human body is now recognized to be carrier. And, again, we will have conserved our child life.

3. By the medical inspection of our school children. Here lies, it seems to me, our greatest field for conserving the physical and intellectual growth and development of our children. They should not only have every safeguard thrown around them as a means of protection against the inroads of any contagious or infectious disease, but should have removed or corrected any physical defect or abnormality that they may have acquired by heredity, or developed in their infancy or childhood up to the time they enter school because of the lack of proper care and attention. The physical defects which tend to retard the growth and development of the child and make of him or her a man or woman who is a dwarf, weakling or a cripple for life, greatly retards their intellectual development as well.

Governor Bickett has immortalized himself in the minds and hearts of the people of this great State, and will go down in history as the Governor who, upon the eve of his inauguration, spoke out boldly in behalf of the interest of the physical well being of the school boys and girls of today, who in a short space of time will have developed into manhood and womanhood and assume the burdens of leadership in our civic life. And as a result of this inaugural address, came forth the enactment of the law which provides for the medical inspection of all the school children of North Carolina.

With this law as a basis upon which to work and to build, and Dr. Cooper, as a leader and director, unfolding in that masterly way of his, and at the same time firing with enthusiasm and zeal the medical inspectors who have undertaken this work this year, have set in motion a mighty awakening and interest in the school boys and girls which has already swept our State from the coast to the western boundary. I am already convinced that it is only necessary to point out to the parents the physical defects and abnormalities that their children have either fallen heir to through heredity or acquired through improper care and attention in infancy and childhood, and show them the importance of having these corrected as far as possible in order that their children may not be retarded in their physical and intellectual growth and development. Many children in the past have repeated grades and been considered by the teachers and the parents as being indifferent and backward in their studies. In these upon examination we found some disability that was easily correctible that has produced this intellectual lethargy.

This work has awakened an interest in the children upon the part of the parents that never was, in many instances, even thought of. The child is the only priceless possession of its parents, and there is nothing that is within the bounds of reason that the parents will not provide if pointed out and shown the importance and the necessity of the same.

This is not only a work of mere physical examinations of the child's body, as well as his eyes, ears, nose and throat, but a mighty educational awakening. This, in its incipiency, is destined to grow in the near future to a point in interest on the part of the parent that it will not be necessary that this work be done by the medical inspectors of the schools, but before any child enters school its parents will see to it that that child has no physical defects nor abnormality correctible that would tend to retard its growth intellectually. Some may think that this is a fancy dream and a high ideal to attain, but when we as a people have caught the vision of the higher, nobler citizenship that would result from this, then will we be ready and willing to do sacrifice that will develop a race that is strong physically and intellectually. No community, state or

nation is mightier than its strong people. Our citizenship should be our first consideration, and this is being tried today as never before in the history of the world. The weak are being separated from the strong, the strong being sent forth to bear not only their burdens, but those who have been found to be physically deficient.

It has been my privilege to examine in the draft for the National Army since August 1, 1917, 2,000 men. Of this number 516 were disqualified because of physical disabilities that were directly traceable to preventable diseases or correctible physical defects or abnormalities in childhood. Without a single exception every man that was disqualified because of tuberculosis, organic heart disease, or had or complained of having had rheumatism, had either or both diseased tonsils or bad teeth.

This war has revealed to us in our economic life conditions that we never dreamed of. None have been revealed that have been more appalling and distressing than the weakness and frailty of our human race. The record of our various boards in the draft in the National Army throughout our country show that 25 to 50 per cent of their men were disqualified who were subject to draft between the ages of 21 and 31. This appalling condition should not exist. Every child born in this free land and country, has a right under the protection of his country, and God as well, to be given a fair chance for physical and intellectual growth and development, and may the day hasten when the citizenship is aroused to the point of interest that they will see to it that this chance be given.

DR. ABSHER: Dr. Jordan says he has a little paper that he can read in two or three minutes, and has promised not to add anything further to it.

DR. T. M. JORDAN: Nothing except to say it submits the reason why we do not progress faster with health work.

LOOKING BACKWARD AND FORWARD IN DISEASE PREVENTION WORK

T. M. JORDAN, M.D., NASHVILLE

The Health Officers Association should be a place to call attention to some of the obstacles confronting us in the work in which we are engaged, and a discussion of ways and means of surmounting said obstacles by the members of the association will not only afford entertainment for the occasion, but should be profitable to ourselves and the general public as

well. Therefore, I am submitting to this Association what appears to my mind to be the greatest barrier to success in the prevention of controllable diseases that we have to deal with.

Do you ask me to "name my man," the obstacle? I shall not say obstacle; I will name it a condition of unbelief in disease prevention. Do you ask me who does not believe in disease prevention? My answer will paraphrase an answer to a question asked more than two thousand years ago—there is none that do believe, if a man's belief is measured by his actions. Men are not believers in disease prevention until they keep the commandments that will prevent disease. If we believed, we would act accordingly.

It is not necessary perhaps for me to explain, that I am not laying charges of unbelief upon my faithful colaborers, nor would I minimize the great efforts being put into action in the cause by the North Carolina Health Department; but rather, at this annual gathering, I am advising that we take stock of the activities in the past, and with renewed faith in ourselves, survey new fields, as yet improperly cultivated, if it may be said that they are cultivated at all.

If it be a fact that a condition of unbelief in disease prevention among the greater part of the population is the Gordian knot that we must cut, let us for a moment apply our microscope and look for the cause of that condition, that a proper diagnosis may be given and a correct prescription offered for that malady.

Unbelief as to a condition is due, almost always, to a lack of information in regard to facts bearing upon that condition. Accepting that as a true statement of the proposition before us, the question naturally arises why this lack of information upon such an important subject? Before I ask you to accept my dictum as a true statement of the condition, let me invite your attention for a moment to the source of information of the general public, the pulpit, the press and the course of study in our general educational system. I certainly would not indict the pulpit or press of derelictions, for both are of inestimable value in proportion to the light given them, but neither have had any decided advantage over that given the general public, and they are, therefore and thereby, handicapped. I would not indict our educational system, the workers in which I have been so intimately associated with for more than two years, and who like ourselves are making greater sacrifices to labor for the good of mankind, than any other set of public servants, but as a means to a conclusion, I shall present for your consideration some facts derived from a survey of our educational forces in North Carolina in support of the statement, that the condition of unbelief as to disease prevention among the general public is due to the lack of information upon that subject.

I herewith submit the result of a questionnaire to the presidents of the colleges and principals of the high schools in the State answering the inquiry, "What is required to be known by the candidates for graduation as to disease prevention, in the school over which you preside?" Eighty-five per cent said nothing was required, and those who said anything else than nothing had as well said nothing, since what they did say was no evidence that anything bearing upon the subject was required.

Of the one hundred county superintendents of the public schools asked the question, "What knowledge of disease prevention do you require of teachers in your county for certificates to teach in the public schools of the State?" Over sixty per cent said nothing is required, and those saying anything else are entitled to fellowship with the college presidents and high school principals, inasmuch as what they did say meant nothing.

A study of the questions for examination of applicants prepared by the State Board of Examiners and Institute Conductors, that huge infant of uncertain parentage of the Legislature of 1917, reveals that there has been little if any improvement in the *status quo* as to disease prevention, in the mind of educators, since the introduction of the twentieth century plan of X-Raying the qualifications of teachers, for there stand side by side the same Siamese Twins, Hygiene and Sanitation, as of the years before, "And quoth the Raven, nothing more." Yet teachers are expected to be masters of and to teach these, when the only training they get on either, in the summer schools and teachers institutes, when they are attempted to be taught at all, is in the A B C Primers, so to speak, and by men and women who themselves have had no training at all in practical disease prevention. Certainly we need throw no stones toward these people. They are trying, but we are wondering why they don't alter their plan. Why should not the practical as well as the theoretical side be presented? How can we expect any belief-producing knowledge disseminated by simply teaching hygiene and sanitation? We might as well expect a perfectly symmetrical granite column from an untrained man, a mallet, a chisel and a rock quarry or handsome gaiters from a novice with awl, hammer, leather and lasts.

Will a belief that will beget action ever be the result of such a farce? If I may paraphrase and quote St. Paul to the Romans, I might ask, "How shall they obey laws they do not believe? And how shall they believe in them of which they have not heard? And how shall they hear without a teacher? And how shall the teachers teach unless they be taught? How shall they be taught unless some one be sent?"

I have disclaimed indictment of pulpit and press and of the two departments of government already mentioned, but I shall not promise

immunity to this Association if it shall not address itself to the task of correcting a lack of recognition of the science of practical disease prevention in our public educational system. To whom should those in charge of that department look, or expect help and correction from, except an association of men engaged in that kind of work? Nor do I believe I misjudge those in charge of the North Carolina State Health Department when I say that I think they would welcome suggestions as to the best means of disseminating the knowledge of disease prevention from those actively engaged in that work.

DR. D. C. ABSHER: Since Dr. Shipp was not here to read his paper, we will have time, perhaps, to discuss some of those reports from county health officers at the same time that we discuss Dr. Caviness's paper.

You will pardon me. I have made a few notes as the reports were made. There were several men who were perplexed by mumps, chicken-pox and scabies, about the placards, etc. As I understand it, the rules and regulations of the State Board of Health did not cover mumps, chickenpox and scabies, but if I am not mistaken the school board of every district has jurisdiction; they can exclude from the school any of those diseases. I merely mention that, and if I am wrong Dr. Rankin can correct me.

One health officer stated that he had vaccinated so many thousand people against typhoid fever. When he made that statement it led me to wonder just how many health officers really know exactly how many people they have vaccinated, how many health officers really keep records, put the name down of every man, woman and child who is vaccinated against smallpox or typhoid. "About" is a small word, yet if we do not keep records we can stretch our figures just as far as we desire; and we think we are telling the truth, and we may be far from it.

Another thing that struck me is that a number of health officers are still doing surgical work. I am not going to discuss that further than to say, or rather to wonder, just how much health work there is in surgery.

A number of men have mentioned German measles, a certain per cent of their measles were German measles. They did not know whether to quarantine at all. It strikes me German measles is a contagious disease, and that you very often have complications, pneumonia, and so forth, so that whether it is German measles, French measles, Italian or American measles, it should be quarantined. I do not see why any question should be raised. I am not attempting to correct anybody. I merely mentioned German measles because it struck me personally in that light.

Another health officer stated he had made a certain number of visits, or that he had made a number of visits to his county home, just how many he did not know. Well, I don't suppose he does. I would just like to suggest that if every health officer will keep a blotter, a little day book, and jot down every visit he makes to his county home, his jail, just how many men he vaccinated against typhoid, against smallpox during that day, he can sit down at the end of the year and tabulate exactly what he has done during the year. It is a very simple process, and each of you can do it if you just think of it.

If there is any further discussion of these reports we will be glad to have them. We also will be glad to have a discussion of Dr. Caviness's paper.

DR. G. M. COOPER: I don't want to appear smart, and I don't want to have too much to say. What I want to say right now does not apply to any health officer here. If it did he would not be here. Regarding President Absher's reference to surgery, I think the first surgical operation that should be done for some health officers would be to amputate them from their jobs—the so-called health officers, who take no interest in health work, draw the salary, and will not let men be elected who will do something. I could see how every man brightened when you mentioned quarantine work, but I want to get you off that just a minute and get you back to Dr. Caviness's paper. Dr. Rankin handed me a copy of the *New York Times* of yesterday, in which you see the following headlines: "War's Emphasis on Health Education. Seventy-five Per Cent of School Children Have Defects. Twenty-three Million Enrolled in the United States for 1917. National Program for the Solution of the Problem." We have a program in North Carolina for the solution of this problem. We have attempted to put it into effect in thirty-two counties this year. Here are some figures compiled by the *American Medical Journal* several weeks ago comparing the defects of country children with city children. (Chart exhibited.) We have in North Carolina about eighty per cent rural population, and naturally eighty per cent of the children, or more, are in rural communities. Here is a part of the program, a State provision for the general health of the children, which should include the following: (1) Health examination and dental inspection at least once a year. (2) Follow up health work by school and district nurses, with coöperation of home and all available agencies for the treatment of defects, dental, surgical, or otherwise. I wish to state that Dr. Caviness has been able to get 600 children treated in Wake County from outside the city of Raleigh. Dr. Warren, who began the work in Rowan the first of January, has followed him a close

second. A great many others are doing the same. (3) A provision for correction of all defects, and for free medical, surgical, dental, and health clinics. We hope to have free dental clinics in not less than eight counties in North Carolina this summer. We are going to start on a moderate scale, but start we will. As I said, children handicapped by health defects cannot make the best use of the education which pretends to help prepare the children for life. Here in North Carolina, with eighty per cent of our population rural, records for teeth defects show a high percentage. Dr. Jones can tell you of some records he has for Guilford County which show one hundred per cent of children in one school with decayed teeth. We have some records for not less than ten counties, which show after grading most conservatively that the average school in North Carolina has at least seventy-five per cent of the children with teeth defects. Of children over twelve years old, at least fifty per cent have permanent teeth decayed, when the full development of the permanent teeth is supposed to be complete. A hygienic school management should insure conditions to the highest degree favorable and helpful. Before we get anywhere in North Carolina we are bound to interest the school teachers. It is the finest possible piece of strategy—do everything you can in and through the school. I speak from my own experience and observation.

Just a few days ago Mr. Booker and I were invited to go out some distance from the State Capital. I went to help the County Demonstration Agent in the organization of a civic league in cooperation with the Woman's Club of that town. The meeting was to be held in the school building. We found a \$65,000 three-story building, in which they had 135, I think I was told, boarding and high school pupils, boarding in the town, and in the dormitories. Now, mind you, this handsome building, with all school equipments, had no sewerage. As we drove up to the front of the building we saw two houses just off to the side of the building, to the side of the front, houses looking terribly familiar in North Carolina. We found that these two buildings not only could be seen, but they could be smelled by the time the machine stopped and we got out. These were two open-back surface privies—one for the boys, and one for the girls—at what might be said the front of the school yard, with an old broken-down fence, about half-way between the two buildings. Neither had been cleaned out this year. We found in charge of that school a man who is a graduate of a reputable college in North Carolina. This man had promised, when the Woman's Club had invited us out there, to take his whole high school into this meeting. Mr. Booker went out with a lot of charts and valuable reports, prepared to make a good talk to these children. We waited a half hour until he got through

his classes, and then he stated to the school before dismissing, that any pupil who desired might attend the meeting. About a dozen little girls went up there because their mothers were there, were interested in the meeting, and made them do it. We started the meeting with about two dozen present. The head of the school came in about the time we got half through. He sat in one seat about two seconds, then another, raised two or three windows, let down two or three, and marched out. We haven't seen him since. Absolutely uninterested in the management, yet sitting there from day to day with toilet paper blowing all over his yard. As long as people put up with things like that the death rate in North Carolina from diseases like typhoid fever will continue disgracefully high.

I just want to say one thing in regard to the program that we have. Dr. Thomas D. Wood is planning a health program, which, in many respects, is exactly identical with our own. We have thirty-two counties in which we are beginning an inspection. We have records showing over 1,500 children have been treated in this State this year for physical defects, and I have hoped in the counties that we select this coming year that we could have a better record shown than we have this past year, and that is the announcement that I wish to make now, because the whole fundamental is based on work in the schoolroom, especially in the grades below the seventh grade, and if a paper like the *New York Times* can give a three column headline, we can go home and get the people in our State interested in this school problem. I want to leave that one thing with you, that the school work that is being undertaken is the most important part of it.

DR. ABSHER: I am glad to see that Dr. Ferrell, of the International Health Board, has just come in. He needs no introduction to the gentlemen of this Association. I am sure we would all be glad to hear from Dr. Ferrell just at this time.

DR. JOHN A. FERRELL, New York: I thank you for the privilege of being present at your conference. I desire to express my appreciation for the work that has been done by you Health Officers of this Association. It occasions me much regret that I have been unable to attend the previous sessions of this meeting. To be present again with the Health Officers of North Carolina, and to learn of your recent accomplishments in constructive health measures gives me immense satisfaction. I congratulate you most incereely on the work you are doing.

WHAT YOU CAN OBTAIN FROM YOUR STATE LABORATORY

C. A. SHORE, M.D., RALEIGH

I thought it would be worth while to speak about the new work at the laboratory as well as to remind you of the old. These reminders are necessary, for we frequently find that the doctors are unaware of work which has been going on for years. To make my talk as concise as possible I have had leaflets prepared which give an enumeration of the laboratory work:

Free Laboratory Help in Diagnosis in diphtheria, tuberculosis, typhoid fever, paratyphoid fever, syphilis—Wasserman test. Gonorrhea—(a) Fixation test; (b) Examination of pus smears; rabies, intestinal parasites, meningitis (spinal fluid), malaria.

Free Water Analysis—Municipal and Domestic.

Free Vaccines: Typhoid vaccine, paratyphoid vaccine, triple vaccine (typhoid, paratyphoid A, and paratyphoid B), smallpox vaccine, pertussis vaccine.

At Cost of Package (25 cents): Diphtheria antitoxin, normal serum.

Treatment, Pasteur Antirabic—Free to the indigent, a fee of \$20 to those able to pay.

Now in Preparation: Tetanus antitoxin, tuberculin.

The first division is the diagnostic work—bacteriological and serological. Such work is a necessity for the practitioner, and unless he has a private laboratory it must be done either in a municipal or State laboratory. Since the value of such work is in direct relationship to the quickness in which the report is given, we have always used our utmost efforts to get out reports promptly, but distances in our State are great and delays in mail, particularly of late, often occur. For this reason we believe that every city of 20,000 inhabitants should have its own diagnostic laboratory, which should be equipped also to do the milk work which cannot be advantageously handled by a central laboratory. There still would remain plenty of work from the small towns and the country districts for the State laboratory.

It is necessary constantly to emphasize the importance of a correct interpretation of reports. For instance, there are many doctors and most laymen who believe that a negative report on a sputum examination means that the patient from whom the sputum came is free from tuberculosis. Of course it does not, although a positive report means that he

certainly has the disease. On the other hand, the diphtheria bacilli may occasionally be found in a normal throat.

If such allowances must be made for bacterial reports, how much more are they necessary for Widal reports and Wassermann tests! Misinterpretations are not usually the fault of the laboratory man. He realizes that the correct attitude to his work is to consider it an aid to clinical diagnosis.

The Wassermann test and Gonorrheal Fixation test are the newest work in this division.

We probably make more water analyses than any other State laboratory in the country. Much has been accomplished in the improvement of municipal supplies and commercial bottled waters, but we think that most of our analyses of domestic supplies are of comparatively little value. The local health officer can make a better estimate of a private well by an inspection than a laboratory man can by a laborious bacterial analysis. The point to bear in mind is that the underground water, with few exceptions, is pure and that pollution occurs from the top; therefore if you have an open well into which surface water may run, or if the bucket and rope must be handled by every user of the well, you may be certain that the well contains bacteria of intestinal origin.

The first vaccine made by us was typhoid vaccine in 1913. We believed that if typhoid fever could be stamped out of the U. S. Army it could also be done in North Carolina if the same methods could be used. Of course we realized that inoculation could not be made compulsory, but we could at least help. The cost of the vaccine at that time was \$1.50, which alone was enough to limit its use. The demand for our vaccine was immediate and we estimate now that at least one-sixth of our population has been immunized, and the result is apparent, for there is certainly much less typhoid fever than there was five years ago. We do not think that the use of typhoid vaccine is alone responsible, but we are sure that it has helped. The vaccine that we made was identical with that used in the army, and we followed them last year in making a triple vaccine composed of typhoid, paratyphoid A, and paratyphoid B. So far as our evidence goes there is very little paratyphoid fever in North Carolina, and it is not a fatal disease, so we believe it best to immunize against it only in cases of known exposure or in epidemics.

We first made smallpox vaccine by following Noguchi's method of injections of virus into the testicles of rabbits. It made a beautiful vaccine, but unfortunately was easily killed by unfavorable conditions. As soon as we were convinced of this we discontinued its distribution and waited until we moved into our new laboratory where we could have the use of stables and make a vaccine in the classical way on calves. It

is a particular pleasure to know that we have been putting out a very potent vaccine which has given general satisfaction.

Pertussis vaccine has been made during the past winter and distributed free. We realize that its true value has not yet been established, but the reports that have been returned to us have all been favorable. It is perhaps possible that unfavorable reports have been withheld.

The manufacture of diphtheria antitoxin is a much greater undertaking than the making of vaccines, but we have a good plant and now have diphtheria antitoxin of most excellent quality tubed in syringes and ready for distribution at 25 cents per syringe. Doctor Gordon tells me there were about 530 deaths from diphtheria in North Carolina last year, and I believe we can cut that down. The ideal way is free distribution, but our appropriation is not quite large enough for that, so it is necessary to charge for the cost of the syringe and package. The price of 25 cents is for each syringe, whether it contains 1,000, 3,000, 5,000 or 10,000 units. By next autumn I want to make arrangements with each County Health Officer to have at least one distributing station for diphtheria antitoxin in each county.

We have had an opportunity to put up normal horse serum at a nominal expense. We have hesitated to emphasize this product, as a mere mention of the uses to which it has been put sounds like a patent medicine advertisement. Will only say that it can be obtained from us for 25 cents per syringe, but that we are unable at present to make any recommendations, for or against its use.

The Pasteur antirabic treatment should not be necessary in any civilized State; nevertheless we have a great deal of rabies and it is on the increase. We would like to be able to send out the treatment and save ourselves from a laborious duty and the patients much expense, and perhaps some time we may evolve a satisfactory method. Meanwhile we should each of us remind our Legislators that there is one disease which they have the opportunity of abolishing by legislative enactment. An act providing for the confinement of all unmuzzled dogs would stamp out the disease in a very few years. We charge a fee of \$20.00 for the treatment, but collect very little—averaging only \$1.91 per patient when I last figured it up.

It would perhaps be better not to mention products not ready for distribution, for their preparation often takes longer than is expected. However, will say that we are now working on tetanus antitoxin and tuberculin, though we can make no announcement about them at present.

If the laboratory can help you it is your duty to make use of its services. The maintenance of the health of the civil population was never more vital than now.

DR. DAN. E. SEVIER, Asheville: With the permission of this Society I would like to offer a resolution placing this Society on record as extending a vote of thanks to Dr. and Mrs. L. B. McBrayer, Dr. and Mrs. P. P. McCain, of Sanatorium, also to the management of the Carolina Hotel of Pinehurst for the elegant manner in which we have been entertained. I think this is one of the most beautiful health resorts, not only in North Carolina, but in the world. I believe that I have attended the Medical Society meetings for the last twenty years, and I have attended the Health Officers Association since it was first organized, and I believe as a whole the Health Officers have been more royally entertained and better pleased than at any other meeting that I have had the pleasure of attending.

Motion seconded by Dr. Arch Cheatham; motion carried.

REPORT OF AUDITING COMMITTEE

The Auditing Committee has examined the records of the Secretary and Treasurer, and finds them to be correct and in order in every respect.

E. F. LONG,
K. E. MILLER,
J. R. McCracken,
Committee:

Motion that report of Auditing Committee be accepted; seconded; carried.

DR. ABSHER: Election of officers is now in order. We will first take the office of President.

DR. DAN. E. SEVIER: I wish to place in nomination a man who needs no introduction to this Association. He has been with the Association since it was organized. He is active in his work, and has the backbone to carry out the work, and I believe if selected as the President of this Society he will carry it on to success. I present to you for your consideration the name of Dr. J. R. McCracken, of Waynesville.

DR. T. M. JORDAN: I believe every word Dr. Sevier says, and consequently I second the motion.

DR. B. E. WASHBURN: I move that it be made unanimous and the nominations closed.

Motion seconded; carried.

DR. ABSHER: We will now elect a Vice President.

DR. W. M. JONES, Greensboro: I would like to nominate for Vice President a man I do not have to say anything about—Dr. E. F. Long, of Davidson County.

Motion seconded by Dr. Bulla. Carried.

Maj. Joseph Howell Way and Dr. Dan. E. Sevier appointed to conduct the new President to the chair.

MAJ. JOSEPH HOWELL WAY: It is with a great deal of pleasure that I present to you your newly elected President for the ensuing term, Dr. J. R. McCracken. In addition to what has been said, I want to add a word of personal ecomium. He has been my friend and neighbor doctor ever since he came into the profession, and he is all right, both as man and physician. Could I say more?

DR. J. R. MCCRACKEN: There was a nomination for Vice President, I believe.

DR. W. M. JONES: Yes, it was made and seconded.

DR. D. C. ABSHER: I move that the nominations be closed.

Motion seconded and Dr. E. F. Long is declared unanimously elected Vice President.

DR. D. C. ABSHER: Dr. Cooper was elected last year Secretary for life, I am sure.

DR. J. R. MCCRACKEN: The chair declares Dr. Cooper's term of office unexpired.

DR. G. M. COOPER: I appreciate that honor, of course, and I am willing to work in the harness as long as I can, and I expect to attend the Health Officers Association of North Carolina as long as I live—as long as I am able to get here, but honestly I think it is well to go out on a high tide. At this, our eighth meeting, the North Carolina Health Officers Association, thanks to Dr. Hays and some others, is now an established organization. I am deaf, and, therefore, make a very poor secretary. I think it would be well to pick another man. There are men who have never missed a meeting, who can give as good service as I can. I think it would be better to nominate one of these men.

I wish to personally and officially thank every man who has appeared on the program today, many at great expense to himself, and who have helped to make the meeting a success.

DR. J. R. MCCRACKEN: I think the life of any association depends more upon the secretary than anybody else. In Dr. Cooper we have a live wire, and we think his remarks are out of order.

I would not like to adjourn without expressing my pleasure at the honor conferred tonight. It is indeed a surprise. I think that with one exception I have attended every session of the North Carolina Health Officers Association. I consider it the honor of my life to be elected its presiding officer.

DR. E. F. LONG: This election to office was unexpected to me. I was just trying to secure recognition to nominate Dr. Jones when he nominated me. I feel that I am almost an intruder, having been a member of the North Carolina Health Officers Association for only three years. I assure you that the honor is sincerely appreciated, and I wish to thank you.