1922

NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

TWELFTH ANNUAL SESSION

WINSTON-SALEM, MONDAY, APRIL 24, 10:00 A. M.

PROGRAM

9:45 A. M.—1:00 P. M.

1. Call to Order by the President.
2. Prayer—Dr. H. E. Rondthaler, Winston-Salem.
3. President's Annual Address—"A New Vision and an Ideal."
4. Report of Secretary—F. M. Register, M. D., Raleigh.
5. Report of Special Committees.
6. Appointment of
   (a) Committee on President's Address.
   (b) Committee on Visitors and New Members.
   (c) Auditing Committee.
   (d) Committee on Resolutions.
   (e) Other Committees.
7. Venereal Disease Clinic in a Near Rural County—J. A. Morris, M. D., Oxford. Discussion by R. S. McGeachy, M. D., Kinston.
8. How Can We Reach the People with the Vaccines?—L. L. Williams, M. D., Mt. Airy. Discussion by A. C. Bulla, M. D., Raleigh.
9. The Protection of City and Rural Water Supplies—J. H. Hamilton, M. D., Wilmington. Discussion by W. A. McPhaul, M. D., Charlotte.
10. North Carolina Answers "Present!"—Miss Katherine Myers, R. N., Raleigh.
11. A Description of Public Health Work in the Schools of Robeson County—E. R. Hardin, M. D., Lumberton. Discussion by C. N. Sisk, M. D., Winston-Salem.
12. Health Work in the Schools—R. L. Carlton, M. D., Winston-Salem. Discussion by W. M. Jones, M. D., Greensboro.

2:45 P. M.—5:00 P. M.

1. The Model Handling of the Tuberculosis Problem—P. P. McCain, M. D., Sanatorium. Discussion by T. G. Quickel, M. D., Gastonia.
2. Relationship of the Public Schools to the Health Department—Supt. S. B. Underwood, Raleigh.

3. Public Health and Public Welfare Correlated in County Work—Mr. S. E. Leonard, Wilson.
4. Milk Inspection from a Practical Viewpoint—Mr. J. H. Heald, Winston-Salem. Discussion by Mr. J. H. Epperson, Durham.
5. The Co-operation of the State and County Officials—B. A. Olds, M. D., Henderson. Discussion by P. J. Chester, M. D., Greenville.
6. The Relationship of the State Department to the County Departments—E. F. Long, M. D., Raleigh. Discussion by S. E. Buchanan, M. D., Concord.

7:45 P. M.—10.00 P. M.

1. Health Play—"The Health Champions," by a Group of Modern Health Crusaders.
2. Value Received for Money Spent in Public Health Work as Seen by a County Commissioner—W. W. Dawson, M. D., Grifton.
3. The General Practitioner and Public Health—W. F. Hargrove, M. D., Kinston.
4. Adoption of Resolutions.
5. Election of Officers.
6. Adjournment.

TRANSACTIONS

OF THE

NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

TWELFTH ANNUAL SESSION

MONDAY, APRIL 24, 10 A. M.

The meeting was called to order by the President, Dr. L. J. Smith, of Wilson.

Invocation by Dr. H. E. Rondthaler, Winston-Salem.

ANNUAL ADDRESS OF THE PRESIDENT

A NEED, A VISION, AN IDEAL

L. JACK SMITH, M. D., WILSON

The recognition of a need, a clear vision of the need and the formation of a consistent ideal are the fundamental principles of all worth-while achievements.

God created man and man soon felt a need of a help-meet. God had a vision of man's need and from His wonderful mind sprang an ideal to fulfill this need, which resulted in the creation of woman, the most beautiful of all God's creation.

God created the world and placed man in it to have dominion over the earth. For many thousands of years, we know not how long, man struggled through an uncertain existence, getting deeper and deeper into sin until the human race was lost in sin. The need for saving a lost world was realized. God had a vision of this need and again His omnipotent mind worked out a plan of salvation which resulted in the coming of the Christ to save a lost world.

Coincident with the progress of man, wealth began to accumulate in form of money which represented value. Man then began to feel the need of a safe repository for his money. Some frugal mind caught a clear vision of this need, which resulted in an ideal—the bank—that great institution which is not only a safe repository for our money, but furnishes a means of exchange indispensible in the financial world today.

For many years our educators endeavored to educate the people of the world by means of private tutors and private schools. This sys-

tem educated the few and neglected the masses and this neglect caused a realization of a need for a more universal system of education. Some far-sighted man caught a vision of this condition, and as this vision became clearer in his mind's eye, the public free school sprang up before him as an ideal and a possibility for the education of all the people.

During the progress of the recent world war and immediately after its cessation, the people of the whole world felt a great need of peace. It was Woodrow Wilson, that great "man of wisdom and an understanding heart," who first caught a true vision of the world's needs. From his heart and brain came the ideal of a closer brotherhood among people and nations. Although his ideals have seemingly failed, because of political prejudice, yet they still live in the hearts of the people, and if world peace is ever attained, which we hope and believe is not far distant, then his ideals will have been fulfilled.

In the year 1513, Ceron, a Spaniard, one of Balboa's party, undertook the discovery of a strait leading from the Pacific to the Atlantic, separating North and South America, and of course failed, but he did discover the need of such a passage and proposed a canal across the Isthmus of Panama. Over one hundred years later Hernando Cortez made a similar discovery and proposed to his king the construction of a canal, but owing to the death of Cortez this project failed. Again in 1873 Lieutenant Wyse organized a company for the construction of this canal, but before beginning work, a French corporation bought out the rights of the Wyse company, and this French company began work under the leadership of De Lesseps, who engineered the construction of the Suez Canal. After the loss of about 50,000 lives and nearly bankrupting France they failed because of bad management, sickness and a faulty vision of the task in hand. About this time the State of Panama seceded from Columbia. The United States then purchased from Panama what is known as the Canal Zone, a strip of land five miles wide on each side of the Canal, and also granted to this country the right to maintain order and enforce sanitary regulations in the cities of Colon and Panama. Characteristic of America and our president, Theodore Roosevelt, we rushed into the job, and in the words of Mr. Roosevelt, to "make the dirt fly," without a proper vision of the task before us—malaria and yellow fever still took their toll via death.

About this time our own beloved son of the South, Gen. William C. Gorgas, had about completed that seemingly impossible task of ridding Cuba of yellow fever. He was then appointed by the United States government to take charge of the sanitation of the Canal Zone, to make it habitable for the white man. It was he who caught a true vision of conditions as they existed in this most insanitary country on earth; it was he who through his clear vision set an ideal to be accomplished, this ideal being fulfilled in just sixteen months from the time he took charge of this work. In 1914, just 401 years from the time Ceron discovered the need of a short water course from the Pacific to Atlantic, the Panama canal was formally opened to world traffic, all of which was made possible by the vision of one man,

General Gorgas. Nor would we forget to give due credit to the scientific researches of such men as Dr. Carlos Finlay, Dr. Ross, Dr. Carter and Major Walter Reed and others who established beyond doubt the mosquito theory of the transmission of yellow fever and malaria. Is it any wonder that the great universities of the world vied with each other in conferring degrees on this great humanitarian; and is it any wonder that the governments of all the greatest nations bestowed upon him the highest official and social honors?

What could be a more fitting monument to the memory of so great a man than the proposed six million dollar "Gorgas Memorial Institute," to be erected in Panama to stand at the cross roads of the world as a beacon light of safety and health, throwing its rays to all lands burdened with disease?

While the history and progress of public health in North Carolina is not so spectacular, yet it deserves the highest commendation for its steady and unparallelled growth. To some present here today, the recitation of the events of Public Health in North Carolina, may be too fresh in their minds to be called history, but rather a record of current events.

The State of North Carolina owes a debt of gratitude to the late Dr. Thomas F. Wood, who caught the first vision of the possibilities of public health work in North Carolina and who kept alive his ideals until his death. It was through his influence and because of his vision that the North Carolina Medical Society in 1877, by act of the General Assembly, was made the First State Board of Health, acting through a committee elected by the society. The General Assembly's appropriation was the great sum of $100.00. It is not the purpose of this paper to recite in detail the events of public health development in North Carolina, but rather to mention the most outstanding events along with the names of the men who had vision and strength of character enough to bring about beneficial results.

For a period of twelve years, Dr. Wood was Secretary of the State Board of Health, and during that time valuable policies were inaugurated, laying the foundation for a more comprehensive health program. His efforts were principally confined to educational methods through publications and the enactment of public health laws. He succeeded in getting the State appropriation raised to $2000.00 per year.

In 1892 Dr. Wood died and Dr. Richard H. Lewis succeeded him as Secretary. Dr. Lewis, who had been actively interested in the health work of the State, continued the policies and widened the scope of activities of his predecessor. During his administration the State Laboratory of Hygiene and the State Tuberculosis Sanatorium were founded. The Annual State appropriation at the end of Dr. Lewis' administration in 1909, had reached the magnificent sum of $10,500.00. This period closed thirty-two years of public health work in North Carolina.

On July 1st, 1909, the present Secretary, Dr. W. S. Rankin, took charge and in thirteen years has placed North Carolina on the map

in all matters of public health. In addition to being a man of true vision and ideals, he has those qualifications known as will power, determination, gray matter and untiring effort.

In paying this tribute to Dr. Rankin, we would not for one moment disparage the efforts and accomplishments of his predecessors who laid the foundation for health work in North Carolina. Public Health work is primarily educational and any educational process is slow at best. Nor would we forget the generosity of the appropriating bodies who have made it financially possible to carry on this great work; nor the Health Officers and Nurses who have largely accomplished the end results, intimately touching the lives of the masses, taking to their homes the great message of health. Nor would we forget the directors of the different Bureaus and their personnel who have contributed largely to the end results. What are the end results? If time permitted we should be delighted to recount them, but it is sufficient to say, with justifiable pride, that public health methods in the Old North State are pointed out as a model for other States to follow.

After several years of spasmodic and unorganized efforts by the Health Officers of the State, we recognized the need of closer co-operation, interchange of thought and experience. In 1910, in a meeting at Charlotte, the North Carolina Health Officers Association had its beginning and through the vision and untiring efforts of such men as Dr. George M. Cooper, this association has outgrown its name until today we are meeting under a new and more comprehensive name—"The North Carolina Public Health Association." The reason for this change is made clear by observing the names appearing on our program today, not only health officers but men of other vocations who have become interested in our work.

Many cities in many States have highly organized an efficient health work, but only one other State, Wisconsin, claims to be superior or equal to our own State in rural health work. Are we satisfied to stop where we are and revel in the sweet plaudits of our friends? I think not, if I am any judge of the signs of the times. In reality we have not reached the first quarter in the mile race set before us. There are still recognized needs, and there are still men who are catching a true vision of these needs and setting ideals to make North Carolina a better and safer place in which to live.

We, who are concerned principally in the execution of the details of preventive medicine, often lose sight of the whole and become lost in details. If we would occasionally pause for a moment in our mad rush in the pursuit of details and get a clear vision of the real task before us, I am sure our work would be more effective and directed to the point of greatest need in our respective communities.

What are some Public Health needs in North Carolina today?

It is an old truism that "you cannot teach an old dog new tricks." Herein lies a fundamental principle, which must be applied in our methods of teaching hygiene and sanitation. Therefore, in the schools of North Carolina we must direct our greatest efforts. In order to make this a physical possibility on the part of our limited personnel, North Carolina must consolidate her schools, thereby making it possible for the health officer and his nurses to make more frequent visits to the schools. Under present conditions in many counties, it is necessary for the health officer to visit any where from fifty to one hundred "little red school houses" in order to carry a message of health to the children of his county and this can be done only once a year if the health officer is unusually energetic. Under the proposed system of consolidation, it would be possible for the health officer to visit each consolidated school once a month. I am glad to say that my own county (Wilson) is making rapid strides toward consolidated schools, only one township out of ten failing to vote for the necessary bond issue. I pause here to say that a man of vision is back of this movement.

It is a well known fact that the possibilities of preventive medicine are far greater than curative medicine.

A prominent physician and Rotarian on one occasion introduced the health officer of his county to the Rotary Club in the following manner: "This is our Health Officer who is trying to keep our 37,000 citizens in good health, while about thirty of us are trying to patch those who get sick. I opposed the organization of the Health Department in this county on the grounds that no one man could do effective health work, and personally I think the order should be reversed—one to patch and thirty to prevent sickness." These remarks give us food for serious thought. To my mind it means this, that we must have more and better trained help in our Health Departments, or else every general practitioner must practice preventive medicine more extensively if we expect to spread the gospel of good health and its benefits to all the people.

Science and experience have taught us some very definite facts in the matter of diseases and their prevention, but what percentage of our people are taking advantage of these facts, and whose fault is it that more do not protect themselves against diseases? The answer to this question leads us back to that fundamental statement previously made, that public health work is fundamentally educational. We will find the answer in a better system of public health education. Just how this will be worked out depends on the acuteness of vision of public health officials of State and county. We must study the needs and environment of our individual communities in order to make a correct diagnosis and apply the proper remedy.

We not only need to do the constructive things in public health, such as vaccination, sanitation and teaching hygiene, but we need to put down the destructive forces which are leading our people into the wrong road. I refer especially to quack nostrums and to quacks who call themselves doctors. Why is it so many of our people are trying to follow the teachings of so many new isms? Is it because the medical profession is not meeting the needs of the people? Evidently the people must feel a need of something more than we are giving them. The pitiful part of the whole situation is that so many who try to follow the new isms and ologies in medicine and religion, fall by the

wayside and become disbelievers in any and all things. This very thing is responsible in a large measure for the spirit of unrest which is permeating and destroying our social, economic and religious life. This Association, collectively and individually, holds a peculiar strategic position between the laity and the medical profession. Therefore, it is our duty, as well as a privilege, to do all in our power to put down these destructive forces which are undermining the very thing we are trying to build—good health for every one. Let us hope that we are only passing through a period of extremes usually incident to the passing of the old order of things to more permanent and rational new conditions.

Human progress is based on a knowledge of the past, a realization of the present and a true vision of the future. From these facts, ideals are born, ever stimulating us to go forward. In the light of the past and present development of public health in North Carolina, may we not set as our ideals for the future that every baby born in North Carolina shall have its rightful heritage of sound mind and body; that every school child shall be taught the fundamental principles of health, and have corrected every defect interfering with his progress; that every college student shall be taught the fundamental principles of community health; that every adult will learn the value and necessity of a thorough periodic medical examination. May we not expect that every home, school and place of industry will be made safe and sanitary, and that every person shall be protected against smallpox, typhoid fever and diphtheria by vaccination.

Now that we are beginning to grasp the truth concerning venereal diseases, may we not expect the eradication of these so-called social diseases, syphilis and gonorrhea.

The great white plague, tuberculosis, does not yield its strong hold upon the human family as readily as some of the more acute diseases, and yet progress in fighting this disease has been, and is still gratifying, and more than worth while. Why then, should we not at least expect the limitation of its spread, if not its cure?

As General Gorgas made it possible for America to construct the Panama Canal, so we as guardians of the health of our people, can and should make it possible for North Carolina to go forward, making a happier and more prosperous people. But if we would do this, we must recognize the needs of our State, get a true vision of those needs and set consistent ideals to be achieved.

The Secretary's report was adopted.

Dr. A. C. Bulla, Vice-President, appointed as a Committee on the President's Address Dr. C. W. Armstrong, Dr. W. A. McPhaul, and Dr. R. L. Carlton.

Committee on Visitors and New Members: Dr. R. L. Carlton, Dr. A. C. Bulla, and Dr. J. H. Hamilton.

Committee on Resolutions: Dr. K. E. Miller, Dr. N. B. Adams, Dr. P. P. McCain.

VENEREAL DISEASE CLINIC IN A NEAR RURAL COUNTY

J. A. MORRIS, M. D., OXFORD
Health Officer, Granville County

No attempt will be made to present to you the scientific aspect of clinics in Granville County. The whole population is less than the population of a number of the cities of the State: but consider again with me some facts already found and known, and also other facts based on those previously known, together with real needs arising out of this knowledge applied to conditions believed not to be peculiar to Granville County, but to be common in North Carolina.

The county in question has in round numbers 27,000 inhabitants, 86% of these live out in the open country. It has been assumed that a rural population is freer from venereal diseases than town and city populations. This was true when rural contacts were few.

The world war increased money circulation. With money came leisure; and with money and leisure came a great increase of contacts. These contacts have become more promiscuous. The country-man has ventured to enter the elysian fields of venery, thought to be peculiar to the city. He has returned to the country infected and sophisticated. He is citified and begins to convert the country. In short, he is a man with a man's appetite, in no point different from the city fellow, except in former times he had been minus that one's opportunities. He now makes his own opportunities. The automobile helps him much. It makes his contacts almost as promiscuous and innumerable as the city man's. Indeed, the automobile has become the very vestibule of the temple of Venus. The red light district, pushed by the police, has transferred to the automobile. Thus Granville County is unfortunately too nearly keeping step with other equal areas more densely populated. Increments of venereal diseases are added fast. The startling figures revealed by the scrutiny of war into the man power of the country will not seem so imaginary after one has turned on the light of close investigation of conditions that before time seemed not to be.

Syphilis and gonorrhea are both with us; but for lack of an office sufficiently private I have been unable to treat gonorrhea. I have been importuned by many to treat them for gonorrhea because of insufficient former treatment. I am ready to believe that its incidence is greater in Granville County than syphilis. Rosenau assigns it an importance equal to, if not greater than syphilis. Ricord is quoted as saying, "Syphilis has slain its thousands, but gonorrhea its ten thousands." Dr. Mitchener of the Bureau of Venereal Diseases says, "Gonorrhea fills the back yards with trash, but syphilis fills the grave yards." The writer has seen wretched miserable suffering of both men and women having gonorrhea, but does not remember a single death from it. On the other hand he has failed to see relatively as painful suffering on the part of syphilitics as of those suffering from

gonorrhea; but he has seen deaths from syphilis. It is the arch structural and functional degrader of tissues.

It is assumed that other rural areas are infected as badly as Granville County. Since syphilis spreads both by contact and by so-called heredity it deserves special notice by quarantine officers and health officers. It is to the social structure as hateful as is the wild onion to the farmer. The onion multiplies by seeding in the tops, and by division in the roots or bulbs. Syphilis multiplies both in made life and in life in the making.

The work of surveying venereal disease conditions is more difficult than that of other communicable diseases. There is syphilis where none shows by symptoms. Surgeons are now heard to say they deem it more necessary to apply a Wasserman test than one for albumen, casts, and other signs of nephritis. Hospitals are testing most or all of those admitted, and reveal syphilis clinically symptomless. It might be argued that such syphilis as is symptomless must be less serious than it is usually rated. On the other hand it may be as in other communicable diseases that its clinical severity is not a measure of its communicability; and that from a public health point of view its very sneakiness constitutes this class a snake in the grass, unrecognized, and so the more dangerous to the public. If the physicians of Granville County recognize syphilis, they report very little of it. In 1921 there were only 60 cases reported from the county. From May of 1921 up to about December 31st there were treated in the Health Department's clinics 51 cases.

In an effort to ascertain the sentiment of the physicians of the county relative to the Health Department treating syphilis, it developed that only two of the fourteen physicians of the county desired to treat syphilis. The others preferred not to treat any venereal disease. This attitude on the part of the profession toward these despised diseases insures its more or less unhindered spread. The argument then is that the serious public looks to quarantine officers and health officers to take up the survey and do the work of fighting these evils while infectious as other communicable diseases. The close scrutiny of man-power by war needs has opened the eyes of the public to some extent, and the partial knowledge has created fear. The U. S. P. H. Service sent a moving picture film into the county, and started a discussion of the matter among the infected and non-infected that made it easier to find that these diseases were stalking in the open before our eyes, but sufficiently hidden by clothing to escape notice. When the clinics began to uncover some of these, it came to the notice of the commissioners of the county that the unusual coming to the office on a given day of the week was an effort against syphilis. They expressed great satisfaction that the work was being done, and this, doubtless, was the chief persuasive force exerted upon them to provide again out of the county's depleted treasury the part of the budget they had hitherto helped to make up. They, doubtless, had talked to their constituents, and became exponents of public sentiment when they made provision for the continuance of the work.

The clinics are furnished out of the working people of the county. Among the prisoners of the county a large percentage have been found infected with venereal diseases. These cases call me to the camps in 70% of my visits to these places. While it may not be legitimate to compare this class of persons with those out of prison, and draw direct conclusions on analogy not proved, yet from personal knowledge of many of the prisoners it is known that while they had their liberty they were to the public, and, even to the physicians, symptomless. This very fact marks the effect these diseases have on productive labor of all kinds. A man with even a mild case of venereal disease is no more a man until he is cured of it. He is, as it were, a boy. Put him under the strain and the strain plus his disease show the symptoms. They often drop out and reduce the output of the industry.

Then industry joins its voice of demand with the social insistence that everywhere somebody be held responsible for checking the spread of these cripplers of industry.

The inability to work enough to earn a living on the part of a young white man who applied to the County Welfare Officer for help to obtain the very necessities of life, was the occasion of the beginning of the clinics in the county. He had been given in another county the standard mixed treatment for syphilis, costing him $150.00, but it did not avail. Neoarsphenamine, then intra muscular mercury, and finally potassium iodide have made that poor fellow laugh again and exclaim, "I never felt so good before in all my life!" Recently a rural mother of three sons sent the writer a confidential message that she had heard that a certain other rural woman had syphilis, and that she was reputed to have given it to six young men; that she wished I would go and find out the truth and protect her sons, if that woman did have the disease. I went. I found clinical evidence which might have eluded notice of one not on special hunt for it. The laboratory findings were four plus (4+). Now this was away back in the sticks, indicating that it needs only a search to find these evils coextensive with the passions of persons.

A working knowledge of syphilis plus an acquaintance with the technique of intra-venous medication is all necessary to treatment of syphilis. Granville County's whole outfit, not considering small things to be found in any health office consists of a glass pharmacist's graduate, with glass rod for stirring the neoarsphenamine in about 40 c.c. of freshly distilled water, a graduate container tube with collar for hanging at an elevation sufficient for gravity to force the fluid through a rubber tube attached to the lower end of the graduate tube and provided with a cut-off near lower end of the rubber tube and having a metal tip for a slip-on Luer needle, a copper still of about ½ gallon capacity, two kerosene or alcohol stoves to run the still and sterilize towels and instruments.

About 3 ounces of distilled water are provided for each patient expected. The size of needle used is about 18 to 20 gauge. The elevation of the container to be governed somewhat by the gauge of the

needle. I have had no reaction worth mentioning except in two susceptibles who experienced slight nausea while administering the solution.

Every quarantine officer in counties not having clinics might, by an understanding with physicians, establish a venereal disease clinic which might pay him as well as any work he would likely have according to the present piece work plan of values assigned the work in it. The work in Granville has been helped in this cooperative plan but just begun.

Since in almost any county the venereal disease cases equal if not exceed the cases of all other communicable diseases and since gonorrhœa produces so much misery, entailing thereby expense of treatment at the hands of physicians, surgeons, nurses and hospitals, and since it reduces production in any industry where it is engaged, thereby increasing the cost of products consumed by the public, why should not there be in even every rural county some one responsible for seeing that it is reduced to a minimum as are other communicable diseases?

Syphilis in country districts stalks unsuspected before the eyes of physicians because it rarely gives pain outweighing the wish for secrecy in the heart of the patient, and yet with all its sneaking silence it brings social and national degeneracy. Unrecognized syphilis marrying unrecognized syphilis may be a new application of the idea of consanguinity in marriage with its train of evils. The adding of degeneracy to degeneracy in this way would make a good working hypothesis in the study of eugenics. The State eugenic statute would be more than seconded by every quarantine officer and health officer faithfully doing his bit for the future state. The significance of this statement is illustrated by this incident: A certain young negro in the county, popular with young negro women was accused by one of these having a plain case of syphilis of being the man to infect her. At the same time this luetic witness testified that this popular young fellow was giving his attention to another young girl. Both the man and the girl were found infected and were compelled to take treatment. They had each taken but two doses of neoarsphenamine when they slipped off to a neighboring county seat, got a certificate of freedom from syphilis with license and married. The examining physician did not know, and they passed all right, defeating the ends of the statute.

Shall quarantine officers and health officers anywhere be too much occupied with other interests to save our civilization from this insiduous rot that can make our nation hobble with tabes dorsalis as truly as an individual? Let us charge ourselves with the apparent responsibility.

DISCUSSION

Dr. R. S. McGeachy, Kinston: Three months ago we established in Kinston a venereal clinic. We went to work, and at first moved along very smoothly. We got along very well indeed.

I want to show first a few of the needs of a venereal clinic. This past week we gave 83 doses of neo-salvarsan, made 12 Wassermanns, and missed two cases in which we could not find veins to give the arsphenamin. That will make a total of 97 whom we treated, and I could guarantee that not ten of them would have taken a single dose of medicine otherwise. Up to today we have taken around 350 specimens for Wassermanns, and we found positives in about 130. Out of the 130, I will guarantee that not twenty per cent, had any idea that they had anything the matter with them. They had no idea they were infected. One week we took 27 Wassermanns and got 19 positive reactions. That was a high per cent. One week we took twenty Wassermanns and got nine positive reactions. Out of the nine there were eight young colored women employed as cooks and nurses in the families of our town with four plus positive Wassermann reaction. Last week we had a beautiful little white girl, nine years old, brought to the clinic, and the mother said that she wanted a blood test. I do not know whether she knew what she was after, or what she had in mind, but we made the blood test, and there was a four plus Wassermann reaction in this little nine year old white girl. A few weeks ago one of the physicians in Kinston sent a boy eleven years old, a clean, neat, well dressed little white boy, and he had a four plus reaction. I will guarantee that out of our county population of about 29,500, between twenty and twenty-five per cent have syphilis. That is our status just on the subject of syphilis. We have not, as Dr. Morris says, touched gonorrhea. We are planning for it, and will start it within a few days. Up to date we have had several applicants for treatment, but have had to turn them down.

The greatest trouble we have experienced is in holding the people down. They come in and take a blood test and find it negative. They come back and say, "So and so has it, and I think I would better take the treatment." A man came in recently, about eighteen miles, begging me to treat him. The week before I had found that reactions in both himself and his wife were negative. I believe today that man is a little disappointed because we would not treat him.

Dr. L. B. McBrayer, Sanatorium: There is one point in that paper which was brought out so clearly that it does not need discussion, but I think it ought to be emphasized. The first point which the essayist made was that in his county the folks were not being treated for venereal diseases. The next question that came into my mind was this: are the people entitled to be treated for venereal diseases, or should the medical profession in North Carolina allow them to go on increasing the infection until it becomes universal? That is a question which the medical profession of North Carolina owe to themselves and to the people to decide. In Granville County the medical profession decided that the patients should be treated. Second, they decided that the men who are practicing medicine do not want to treat them. Third, they decided that they wanted the Health Officer to establish a clinic and treat them. I want to say that that is doing business, and if the medical profession will assume that attitude we shall, first, perform our duty to the people of our State; second, we shall raise ourselves in the estimation of the people of the

State and have their confidence; and, third, we shall lead them in public health matters, as we ought to do. If we do not lead, some one else will.

DR. A. J. ELLINGTON, Goldsboro: I am the Health Officer of Wayne County. We have had a clinic since January sixth, and have taken about 487 Wassermanns. Taking the one, two, three and four pluses together, we have had 135 positives, or about 29%. The three and four pluses run about 23 per cent. I add that because we know that one and two plus reactions are considered doubtful. During the campaign we have had on, it has been my duty to examine food handlers, of whom there were about 75. Out of that number, about twelve had positive reactions. Quite a number in the clinic were servants working in the homes of the prominent families, kissing the children of some of the best people in town. Some had four plus reactions. That there is real need for this work, at least in some communities of the State, cannot be doubted.

My last point is one that will worry every health officer who takes on this work, and that is how to get them to continue treatment. The first plan we followed was to make the thing self-supporting, to get the Bureau of Epidemiology to furnish free neo-salvarsan and we provide means to give it by getting every patient to pay $2.00 for every dose. That has failed, because I have about 75 or 100 who were supposed to come in for treatment the last two weeks, and I have had only about 25. Then we arranged to have the county pay $1.00 on each dose and to have the salvarsan given to the patient for $1.00. I do not know how far that will go toward solving the problem, but a few more have come in. The third method I have in mind is the financing of the whole thing by the Health Department, letting the Health Officer give the medicine, or else provide funds out of his budget to pay the doctor enough to justify him in taking his time to give it.

After all, this delinquency problem may be more of an educational than of a financial problem. The solution may lie in the gradual enlightenment of the people to the ultimate results of untreated syphilis, until we have a law which will enforce treatment.

DR. W. A. MCPHAUL, Charlotte: It seems to me that this question of venereal disease is one of the most important and serious problems that confront the medical profession today, not excepting tuberculosis. Dr. McGeachy gave 83 Wassermanns in a week over in Kinston, and Dr. McGeachy gave as many as 92 in one day in Charlotte. In 1921 we have given over 15,000 treatments for venereal disease in Charlotte in the Health Department, and of course you all know that there are men there, at least a dozen, who do nothing else but treat venereal disease. Dr. Morris says that the problem in the rural sections is largely brought about by the automobiles. What are we going to do about it? It seems to me that we have to wage an educational campaign, especially among the colored people. There are three classes of colored people that have venereal diseases: those who have it, those who

have had it, and those who are going to have it. Last year, in the city of Charlotte, we examined over 400 handlers of food, cooks and waiters in the different hotels and cafes, and we found a four plus Wassermann in 29 per cent of the 400 examined. I tell you, gentlemen, it is a serious problem. It is a problem that the people do not know about—I mean the laity at large. In Charlotte we have been waging a campaign, trying to get people to send their servants down to have them examined. But when they do send them down for examination, the servants lose the jobs, so consequently they will not send them. What are we to do about it? I say that it is a question of education, and that we have to start in the schools. The right way I do not know, but we must start in the schools, explaining venereal diseases and their evil consequences.

Dr. Morris said that he had never seen a death from gonorrhea. I do not know that I ever have, but, I tell you, the end results are appalling, and many a grave in North Carolina is filled today from the end effects of gonorrhea.

It is a serious problem that faces North Carolina today, and I was glad to hear that paper.

DR. J. S. MITCHENER, Chief, Bureau of Epidemiology, State Board of Health: I want to say just a word about the work we have done, which began last November. It has been taken into about fifteen counties, and in all of these, possibly with the exception of two counties in which we asked the county health officers to represent us in taking it up with the physicians, a representative from Raleigh has gone in to discuss it with the doctors. We have yet the first county to refuse. I was encouraged by the reports coming in from Dr. Hollingsworth and Dr. Morris. It looked to me as though we could do what they could do. So I decided to try.

We have made examinations on nearly 2,000 people, and have found, as a whole, between 20 and 25 per cent positive. That shows, first, that there is a need for the work. Inasmuch as so many treatments have been given, we have proved that we can do it, so it is up to us to go to work. I have heard some men say that syphilis is not a public health problem after it is rendered non-infectious. Well, here is a thought for us: In North Carolina we have almost reached the lower limit of the death rate. Formerly we asked, what is the death rate in a county; now we ask, what is the length of life in a county. Knowing that syphilis does affect length of life, the old line life insurance companies are no longer giving life insurance to men with a history of syphilis, except in short term endowment policies. It seems to me that, inasmuch as these people who have had syphilis are handing down congenital syphilis, and will go down with neuro-syphilis, it is up to us to continue treating those people who can not pay the fees for private treatment. If it can be handled as it has been in Lenoir, all right. If not, it is a good thing for the health officers to do it themselves, and, as Dr. Morris said, it will often mean the continuance of the appropriation.

PROTECTION OF INDIVIDUAL AND MUNICIPAL WATER SUPPLIES

J. H. Hamilton, M. D., Wilmington

In the not distant history of medical philosophy nearly every conclusion was based upon a tripod of facts or symptoms. If we may for a moment adopt this system of reasoning, we may say that public health is based upon the tripod of water supply, milk supply, and excrement disposal.

While the problem of water supplies is primarily in the field of sanitary engineering, there are many communities where the health officer must of necessity act as sanitary engineer. In every community the health officer is consulted on nearly every health problem.

Private water supplies are generally taken from wells, springs, or cisterns. Wells may be roughly divided into two classes depending upon whether they pass through an impenetrable stratum. For the sake of convenience, we will consider that a well which does not pass through an impenetrable stratum to be a shallow well, and one which does pass through, a deep well.

Shallow wells may furnish unsafe water because the ground water above the impenetrable stratum is polluted. This may be due to the location of a privy, the cess pool, the barn yard, or pig pen. Or it may be the condition prevailing in the community. Shallow wells should always be placed under suspicion until repeated bacteria examinations have justified a faith in the natural purity of the water. Given this, we may safeguard the water by locating the privy or other sources of pollution at least a hundred feet away from the well and with a slope of the ground such that the surface water will flow away from the well, and by having a proper curb which will prevent polluting material being deposited on the surface of the ground immediately around the well, and by having a water-tight platform which will prevent contaminating material from being dropped directly into the well.

In deep wells, we generally have a water freer from pollution than in shallow wells. It is only in limestone regions that we need ordinarily to be suspicious of deep well water. Provided, of course, that our so-called impenetrable stratum is actually impervious. In deep wells we must be certain that our casing is tight, that we have proper curb, and a tight platform.

Springs are essentially shallow wells.

Cisterns must be free from leaks. The roofs from which the water drains must be washed clean before the water is diverted into the cistern. The reason why so many people have the impression that water from melting snow will grow worms is that the roof on which the snow rests is dirty and cannot be washed clean by melting snow. Clean rain water needs no filter. Most filters for cisterns are nuisances because they encourage people to divert dirty water into the filter.

These filters soon become foul. Cisterns should have platforms sufficiently tight to prevent the entrance of contaminating material, and the accessibility of the water to mosquitoes.

The only way the health officer can pass on the sanitary quality of an individual water supply is by making or causing to be made a careful sanitary survey of the source of supply and by bacterial examination of the water. In making the sanitary survey, particular attention should be made to the type of the supply, the condition of the platform and the curb, the slope of the ground, the distance of the privy, cess pool, barnyard, hog pen, or other source of pollution. In taking samples for bacterial examination, it is well to remember that only those bottles should be used which have been cleaned, sterilized, and distributed by the laboratory which is to make the examination. The report from the laboratory and its interpretation should be reconciled with the facts of the sanitary survey before pronouncing the source of supply as safe or unsafe. Unsafe supplies which cannot be made safe by correcting the defects revealed by the sanitary survey should be condemned. A good way to warn the public of the unsafeness of an individual supply is to paint a circle around the well or cistern, using red paint, and to post a notice stating that the supply is condemned as unsafe for human consumption. Those who cannot read the notice will observe the red paint and inquire about it.

Municipal supplies may be taken from wells in which case the health problem is essentially the same as in individual supplies. However, most municipal supplies are taken from rivers, lakes, or impounding reservoirs. These supplies may be divided into two general classes. Those which do or do not need a purification plant to improve the appearance or physical condition of the water. As a rule, all flowing streams need a purification plant. For these, the location of the intake is of great importance. One of the first concerns of any person interested in a municipal supply is the abundancy of the water supply.

The health worker, be he sanitary engineer or health officer, is interested in the sanitary quality of the water and the nature of the supply from the æsthetic point of view. The municipal supply should be, and generally is, the safest supply in the city. It is nearly always the only supply which can be closely supervised. Frequently it is the community's best safeguard against an epidemic of typhoid, dysentery, or cholera. What does it profit a city if its water supply is absolutely safe if it comes from a source which so offends the æsthetic sense of the people that they will not use it?

Practically everything concerning the type of the purification plant, its design, etc., belongs entirely to the field of the sanitary or hydraulic engineer.

The Health Officer is vitally interested in the efficient and scientific operation of the plant. It is not only his right, but his duty to demand that the plant be in charge of some one who can operate it intelligently and who can make the examinations necessary in order to know that the water which leaves the plant is safe and if not safe why not. These examinations should be made at least once each day and as often each day as is necessary.

Every municipal plant either with or without a purification plant should have an emergency chlorinating machine which can disinfect the water whenever it is desirable to do so.

Cities which are so located that it is unnecessary to have a purification plant generally depend upon wells, lakes, or impounding reservoirs. Where lakes or impounding reservoirs are used it is necessary to devote much time and money in painstaking inspection of the watershed. They must have the personnel and the laws or regulations with which to protect the watershed from pollution. Publicity alone cannot guarantee a safe water.

Too many of us have a false sense of security if the water which leaves the plant is safe. We overlook the possibility that polluted water may enter the city mains through their cross connections with reserved supplies which many industries have for fire protection. A considerable number of epidemics of typhoid fever have been caused in this way. Fire insurance companies like for the industries to be protected by an unlimited reserve. This generally means an untreated water from the nearest stream, a water nearly always highly polluted. The fire insurance companies also like to have this reserve supply connected with the city supply and separated from the safe water only by check valves. These check valves are mechanical devices and like all mechanical devices cannot be depended upon absolutely. The only safe attitude for the health officer is that there be no physical connection between the city supply and the reserve supply.

In conclusion let us state again that the technical details of water supply belong to the field of sanitary engineering. In this State we have in the State Board of Health a Bureau of Engineering upon which we can depend for free advice and counsel in all matters relating to our water supply. Cities should have water supplies which are not only safe but against which there is no æsthetic objection. Given a satisfactory supply, it is the duty of the health officer to urge the people to use the city supply in preference to individual supplies. The city's supply can have careful supervision. The individual supplies cannot. A safe water supply depends almost entirely upon alert and intelligent supervision.

DISCUSSION

Dr. Smith, President: This paper, it seems to me, deserves thoughtful consideration. Personally, I think the rural water supply of North Carolina needs a great deal of attention. Those of us who send samples to the State Laboratory of Hygiene know that open wells are one hundred per cent polluted.

Dr. W. A. McPhaul, Charlotte: I enjoyed Dr. Hamilton's paper very much, and, as stated by the President, I think that this problem has been neglected in North Carolina. I have never seen a sample taken from an open well that was not contaminated. We must do some work in the rural sections of the State. The people want to know how to improve their water supplies. We have numbers of

samples brought into our office, and, as stated, I have never seen one from an open well that was not contaminated. This applies not only to the open well, but also to the pump. Some time ago a man brought in a sample from a well 600 feet deep, that supplied a cotton mill. We found colon bacillus in 1 cc. He wanted to know what to do. I did not know what to tell him to do, except to chlorinate the well. We drilled a hole in the pipe and put in the chlorine until the water became sterile, but as soon as there was another heavy rain the well was polluted again.

It seems to me that the only thing to do is to carry on an educational campaign in the rural sections of the State, sending literature to the householders, or making personal visits. We shall have to show them where to locate the well, how to make the curbing around the pump, how to use the chloride of lime after each heavy rain—because in every instance that has come under my observation after a heavy rain the open wells and usually pumps become contaminated.

Dr. Wm. M. Jones, Greensboro: I agree thoroughly with Dr. McPhaul about the open wells.

So far as my experience goes, I have found the deep well all right. I have had any number of samples tested, and I find deep wells, with pumps, all right. With us the average open well is only about 22 feet, and they are all polluted—that is, all that I have examined. I quit long ago sending samples to Raleigh for examination, and just condemn them offhand. If not in all, at least eight out of ten you will find colon bacilli in 1 cc. In the majority I think the bacillus goes down from the top in the handling of the bucket and chain by the individuals making use of the well, and by the lack of curbing, allowing chickens, dogs, etc., to come about the well and the refuse to drain right back into it. I believe that there should be a pump or some other apparatus which will draw water out of the well without the handling of anything going back into the well, and then have good curbing.

Dr. K. E. Miller, Chief, Bureau of County Health Work, State Board of Health: There is no question that the water supply, private and public, has been very seriously neglected by our system of public health work. You will recall that in the schedule of values developed by health officers last year an item for the improvement of water supplies was not even included. That defect was, of course, realized when the schedule was revised, so that now there is an item in it for the improvement of private water supplies. Even at that, there has been deplorably little done in that direction. As I recall it, the reports for the last quarter (beginning January first) showed, I think, 48 private water supplies protected against surface pollution, of which number about 45 were in one county. So there has been practically nothing done throughout the State, so far as the co-operating counties are concerned, towards the improvement of the individual water supplies. At least very little has been reported, though no doubt more has been done than was reported. So this very important sanitary feature has been neglected.

In regard to the examination of water supplies, it has already been brought out that the open surface well is condemned already, so that it is a waste of time to send in samples from an open surface well. It is worse than that, because occasionally you will get samples that show nothing in the way of pollution, and whenever you get a result of that kind the owner gets the idea that his well is all right, because it shows nothing. The point is that it shows nothing at that particular moment, but that result does not indicate anything whatever as to the safety of the well, because it is a potential danger at all times, whether it is a specific danger or not.

With regard to municipal water supplies, I think also that the health officers of North Carolina have been very backward in familiarizing themselves with that problem. It is a problem primarily, as stated by Dr. Hamilton, of the hydraulic engineer, and it is that very thing that has made us shy off from it. The county health officer is likely to say: "That is something I do not understand, and I shall not bother with it." Now, we should understand these things, at least the fundamental principles, and if we do not understand them we should make it our business to find out the working principles of our local water plant, what kind of filters are used, what kind of treatment, how efficiently it is working. We should not only know the result of the bacterial examination, which is done once a month and which, of course, is hopelessly inadequate on that account, but we should know something about the general working plan of water purification. It is essential that we learn something about these principles, and if we do not understand them, we have, as Dr. Hamilton pointed out in his paper, a Bureau of Engineering at the State Board of Health, with specialists in that line of work who will be only too glad to come and go over the situation with you and explain in detail the general principles of water purification.

DR. W. S. RANKIN, Secretary, State Board of Health: I did not intend to get in on this discussion, but I can not resist the temptation to call attention to the fact that the pollution of water supplies and the ubiquitous distribution of the colon bacillus are not one and the same thing. It is all right to see that the well is properly located with respect to pigpen and privies, that it has proper curbing, etc. With all that I agree. But I want to remind you, Mr. President, as you are sitting here today presiding over the Public Health Association of North Carolina, with the principal representatives of that profession here, that you and every one of you here, including the nurses, have colon bacilli on your hands at this time. In dealing with water supplies we want to make a distinction between pure water supplies and pure wells and between the ubiquitous distribution of colon bacillus.

MR. H. E. MILLER, Chief, Bureau of Engineering, State Board of Health: Dr. Hamilton mentioned sterilization at such periods as the water supply may be unsafe. That may be practicable when the water supply has the kind of control the Wilmington water supply has, that is, daily analyses, but as a general thing with water supplies, and particularly deep wells, when a deep well, mechanically operated, shows the presence of B. Coli once or several times, in sufficient quantities, that well is certainly unsafe. It should be sterilized as a temporary measure, until the source of infection can be located and remedied, or else the well should be abandoned.

Sterilization of a city water supply should unquestionably be practiced at all times, because the character of the water is no better than the efficiency of the operation of the plant. We are not assured that the plant will operate one hundred per cent efficiently at all times, and we can not very well anticipate the times when it will not operate one hundred per cent efficiently, so therefore it should be sterilized at all times. Sterilization should not be looked upon as a treatment process, for it is essentially a secondary process of treatment. The sterilization of water is a precautionary measure, and when applied after filtration, becomes a valuable item of public health insurance.

I think that the point perhaps most vital in water supply protection has been emphasized, and that is the sanitary survey. We have been inclined to rely too much upon the bacteriological analysis once a month. The two factors, sanitary survey and analysis of samples, should be taken into consideration, always, to furnish a really true index to the character of the water. The water supply that shows the absence of B. Coli may not be a safe water supply, because there may be conditions existing which will make it unsafe at some other unknown or unsuspected time. We may have happened to get a good sample today, but the water may have been bad yesterday or may be bad tomorrow. The sanitary survey will reveal such conditions, but the laboratory analysis of the sample alone will not.

NORTH CAROLINA ANSWERS "PRESENT."

KATHARINE MYERS, R. N., RALEIGH

In this marvelous age of ours, especially in these post war years, a tidal wave of interest and endeavor in *child-saving* is sweeping the world. It is a far cry from Czecho-Slovakia to Old Mexico, but even from these two countries with all their unsettled problems have come recent reports of child welfare activities so astonishing they read like romances.

There is no need, however, to look to distant lands for the inspiration of great accomplishments. If we but review some of North Carolina's own achievements for the protection of motherhood and childhood we may be surprised to see how far we have come.

It is not possible nor desirable in a paper of this kind to compile a complete record of all the work done by the various departments of the State Board of Health, which may relate, either directly or indirectly, to this subject, but simply to note some of the milestones along the way will indicate that we are at least keeping step with our contemporaries. Nor can we at this time present anything more

than a word of appreciation for the many individuals and agencies, official and unofficial, who, in various ways, are contributing immeasurably to the cause of child welfare.

The well-being of the child and that of the general public is so inter-woven that whatever affects the one reacts upon the other, so the first step in any crusade as big as this, must necessarily be the broadcasting of general health information. For 36 years an important means to this end has been the Health Bulletin which has now reached a circulation of 52,000 and is sent on request to the people of the State. In addition to this there is a continually increasing demand for other literature of health subjects and the distribution of pamphlets and leaflets yearly approximates a million and a half pieces.

A study of the early history of our health work reveals many interesting items of educational and legislative effort, the latter, for instance, including as early as 1881, a law requiring the registration of vital statistics at the annual tax-listing, and others relating to contagious diseases, protection of children from epidemics, eradication of hookworm, etc. Through all the thrilling story of public health development in the State goes the record of the unfailing leadership of the medical profession who have "carried on" with amazing courage and vision.

About 1911 a better system of county health work began to evolve and gradually developed until now we have twenty-four co-operating, full-time county health units and several others working independently, all of these devoting their entire time to intensive public health measures largely affecting or directly concerned with infant and maternal welfare.

One step after another and we come to a red-letter year, 1916, the year North Carolina was admitted to the registration area of the U. S. for deaths and the following year for births as our registration was found to be 96% complete, thanks again to the physicians and others for furnishing the needful information. So now we have at our command the powerful spy-glass of facts, like the "Look-out on the Mountain" searching out county by county, and by age, race, and disease the unguarded places and pointing the way for action.

1916 saw also two other noteworthy events, first, a home post-graduate course in medicine, including pediatrics, reaching 169 doctors, and, second, an eight months study of infant and maternal hygiene in two counties of the State.

During this period one of the outstanding achievements of preventive medicine in this State or in the United States was developed and later successfully established. There are thousands of school children in Carolina today who owe improved health and a fairer chance in life and it may be life itself to the vision, courage, and singleness of purpose which has culminated in the economic correction of certain common defects of childhood, so detrimental to health and so insidious in their effects on the normal growth of both mind and body.

In the same year, 1917, the General Assembly stepped right out in the limelight and passed several important health acts, the one most apropos to this discussion being "An act to prevent blindness in infancy." Perhaps you are thinking subconsciously, "Just another law to clog the statute books," but fair evidences of its observance is found in the fact that in 1921 alone 51,883 ampules of silver nitrate solution were sent on request to physicians and midwives who are really meeting this obligation to a remarkable degree. Should they falter the modern mother is ready with a question.

During the next few years splendid progress was made with communicable disease work. For the treatment of venereal disease eleven clinics were established in as many of the larger towns, and an extensive piece of educational work carried on. Valuable assistance, financial and otherwise, has been given by the Federal Government, the American Social Hygiene Association, the American Red Cross, and the International Health Board. We are barely touching the fringe of this frightful scourge so devastating in its effects on maternity and infancy, but one of the most hopeful things at present is the new venture in co-operative clinics for economic treatment by private physicians.

Prophylactic vaccines of a high grade and low cost are widely distributed, reaching every section of the State and carrying to thousands of fortunate children protection from typhoid, rabies, tetanus, small-pox, whooping-cough, diphtheria. Better still, in 1921, immunizing doses of toxin-antitoxin were given to 10,607 children between six months and six years of age by co-operating physicians of the State, in addition to what was given by official county health agencies.

Then there is the famous, or infamous—as some of our leading citizens *used* to term it—sanitary privy law which is being enforced, and which means in time the practical elimination of one source of the dangerous, fly-borne, fecal diseases, especially the diarrhœas and dysenteries which attack our "second summer" babies.

Childhood has no more relentless, destructive foe than tuberculosis which has raged unchecked throughout the ages, but modern science has found some effective weapons and is waging a vigorous and continuous fight from every known angle. The National Tuberculosis Association, through the State Association and many local branches, assists in raising funds through the annual Christmas Seal Sale, and aids the State in promoting a number of highly valuable educational projects one of which is the rural diagnostic clinic by means of which thousands of incipient cases of tuberculosis have been discovered and placed under the care of physicians and the public has been widely informed as to the facts regarding the cause, prevention, and cure of this disease. If this great volunteer organization had done nothing more than launch the Modern Health Crusade—a system of teaching health to children through habit formation by the daily performance of certain chores—it would have justified its existence. Tens of thousands of school children in North Carolina have been enlisted in this movement which also furnishes a ready avenue for the correction of nutritional errors.

Late in 1918, a system of sending advisory letters to expectant mothers was begun, also the distribution of literature dealing with the care of babies, mainly the publications of the Federal Children Bureau. Later this type of work was expanded, the prenatal letters in revised form reached 10,465 women in the next two years and a leaflet on summer diarrhœa was sent to the mother of every baby born in 1919 and 1920.

The midwives were personally instructed by a representative of the State in a series of conferences covering 88 counties with an attendance of 1168, and by public health nurses with an attendance of 1150, resulting in a marked increase in birth reports from certain sections, in requests for silver nitrate, and in a difference in the reporting of prenatal cases by midwives of 48 in the year previous to the conferences to 834 since then.

The value of volunteer lay agencies in supplementing the work of official health agencies has long been recognized by the State Health Officer and so when in 1919 the assistance of the American Red Cross with its tremendous influence and world-wide prestige was secured to aid in the promotion of public health nursing another notable advance was made. The object of this alliance was not primarily to develop public health nursing, but to increase interest in and knowledge of infant and maternal hygiene and tuberculosis. However, as a by-product, the number of specially trained public health nurses in the State has increased since 1919 from 3 to 45, the work of every one touching at some point the problems of mothers and children.

These items from reports of public health nurses received from December, 1919, to April, 1922, are significant as showing the trend of this work:

Prenatal cases reported for literature	5,998
Instructive infant welfare visits	15,633
Young children weighed, measured, and mothers advised regarding diet	7,034
Instrumental in getting sanitary privies installed	1,066
No. of classes in home nursing	113
With attendance of	8,625

The class teaching was the standard Red Cross course of fifteen lessons in Home Hygiene and Care of the Sick with emphasis on infant hygiene and tuberculosis.

And last, and perhaps most fundamental of all, the Little Mothers' Leagues, a course in baby care, given to 1,010 girls under sixteen, the instruction given by city, county, and industrial nurses according to a uniform plan and syllabus.

Every girl is a potential mother, and this is the time to teach—between ten and sixteen—and when we become sufficiently impressed with the everlasting truth of this idea we will demand that a place be made in the grammar school curriculum for the study of infant hygiene. Victor Hugo said "There is one thing that is greater than armies and that is an idea when its time has come." May not this be the idea and this the time? And may not this organization whose avowed purpose is to raise the standard of public health to a higher level find the key to this door of knowledge and open it wide? That day is coming, and when it does we shall advance in *child-saving* far beyond our dreaming, and then, indeed, will North Carolina not only answer "Present," but march up with honors to the head of the class!

DISCUSSION

Dr. Smith, President: I feel much indebted to Miss Myers for bringing out the details of public health history in North Carolina. I would not say that her paper is supplementary to mine, but it certainly fits in.

Dr. J. H. Hamilton, Wilmington: I think Miss Myers's paper is very admirable. There are at least three points I would like to emphasize. One is the prenatal letters which Miss Ehrenfeld's Bureau is getting out, nine or ten letters. In our county we have gone into the matter very carefully, and have given copies of the letters to all physicians practicing obstetrics. An opportunity has been given them to criticise the letters, but no criticism has been offered. On the other hand, a considerable amount of praise has been given. In our county we hope to get these letters to every mother whom the physicians wish to receive them. We intend to require our midwives to give the name and address of the patients whom they expect to deliver, and we expect to run an advertisement in the newspapers informing the expectant mother that she can get these letters. We do not want to make the reporting of pregnancy compulsory, but we do want to give the mothers a chance to get these letters.

The Little Mothers' League has done a great deal of good, not only by helping to save the lives of little brothers and sisters, but by educating the mothers and by preparing girls to be intelligent mothers.

Another point I want to emphasize is the education of the children. That is of vital importance, for through it we often educate the parents.

PUBLIC HEALTH WORK IN THE SCHOOLS OF ROBESON COUNTY

E. R. Hardin, M. D., Lumberton
Health Officer, Robeson County

My subject today is one of considerable latitude, comprising as it does practically every phase of public health work, as it relates to the school child, and the public school.

I have tried to confine myself as far as possible to a practical discussion of work performed and methods used in accomplishing same.

In Robeson County schools, public health work is largely a rural problem. The county of Robeson has an area of 990 square miles, 163 public schools, and 19,000 school children. It has been my responsibility since September, 1919, to render public health service according to my time and ability to this great body of school children. Unfortunately I have not had the assistance of a nurse in this work.

When I accepted the position of health officer in Robeson County, September, 1919, I determined to devote a great part of my time to school work. Records on the physical examination cards of the State Board of Health for many of the schools were in the office, but cards had not been made for a great many more. A great many of these cards were of little value as the teachers had not understood how to make the examination; especially was this true of the colored schools. Many of the teachers consider this work a nuisance, and take little interest in it. I think the indifferent attitude of the school authorities is largely responsible for this. Teachers should be required to familiarize themselves with this work, and do it properly, or else they should be relieved of this responsibility.

When I visit a school the first time for the purpose of examining the children for physical defects, I have the principal assemble the whole school, and explain to the children the purpose and scope of the examination. This I find stimulates co-operation and relieves fear. Pamphlets on adenoids, defective vision, etc., are given out to each family represented in the school. Wherever possible a separate room with good light is used for examination work, and if one is not available it is obtained by having one of the smaller grades dismissed and using its classroom. The routine examination of the eyes, ears, and throat is simple, but often tedious and difficult with the smaller children. I have found that a great many of the first grade children do not know their letters, and for these the object charts have to be used in the vision test. If the teachers' part of the examination has not been made properly, I make a complete examination of each child, and have the teachers' part of the card as well as the medical inspector's examination filled in. In many schools where no cards have been made the teachers were given blank cards, and instructed to do their part of the examination as required by law. It is but fair to the teachers to say that most of them complied with this request.

Since I began work in Robeson County about two years ago, the children of all white schools, and the larger Indian and colored schools have been examined for physical defects. Out of the three thousand school children examined, approximately 35% were in need of operation for enlarged tonsils and adenoids, 10% had defective vision, and 1.3% defective hearing. Nine per cent of those with enlarged tonsils and adenoids were found to be in urgent need of operation. Unless the defects of vision and hearing was greater than eight over ten I rarely recommended examination by specialist. On my return visits to a school I find that a great many of these children previously examined have had their tonsils and adenoids removed, or their vision corrected by glasses. I had 57 of these tonsil and adenoid cases operated on in a State Tonsil Clinic. More than half of all children examined were found to be in need of dental treatment. During the last four years we have had 2,000 of these children treated by dentist from the State Board of Health; many others have been treated by the local dentist. On account of the frequent moving of tenant families, the change of teachers, and the custom of many children staying out of school to do farm work, it has been impossible to get accurate data as to the number of school children having defects remedied.

In many of the schools one or more children were found that were mental defectives, either from inheritance or other cause. An effort is made to place as many of these as possible in the State School for the Feeble Minded, where they will have a chance, and to take them out of the already overcrowded schools where they have been a drag often for years. I have found a number of school children with orthopædic defects, most of them following infantile paralysis. I am endeavoring to have all these children that can be benefited, treated at the State Orthopædic Hospital, Gastonia. Our efficient Welfare Officer, Miss Elizabeth Frye is taking an active interest in this work, and usually accompanies the children to the different institutions.

Realizing the great prevalence of hookworm infection among the children of the county, and the roll that the rural school with insanitary privies or no privies at all, play in the spread of the disease, I have made a special effort to get two sanitary privies at every rural school. This was done by taking up the matter with the school committeemen and teachers, and explaining to them the importance and necessity of sanitary school privies. A great many school privies were built; in fact too many to suit the Superintendent of Schools, as he complained that the committeemen were having them built, and then bringing him the bills for same, when he didn't have the funds to pay them.

Inspection work in the white schools showed such large numbers of clinical cases of hookworm disease that I decided to make microscopical examinations from schools in all parts of the county, to ascertain the per cent of infection, and at the same time to treat those found infected. Specimens of stool from 1,040 children in 28 different schools were examined with the microscope, and 427 or 40% were found to be positive. All of these were given three treatments each oil of chenopodium. Specimens from 98 of these children were reexamined, after they had taken three treatments each oil of chenopodium, and 31 were found to be positive for hookworm. A good many of these children, however, did not take the treatments given them. In the above examinations the specimens were not centrifuged, direct smears were used, and one large slide made as a rule for each specimen.

Contagious diseases have made their inroads on the schools of Robeson County, as in other parts of the State. In 1919 and 1920 it was mainly diphtheria, measles, and scarlet fever; in 1920 and 1921 diphtheria, whooping cough, and measles; 1921 and 1922, chickenpox, whooping cough and diphtheria.

When a contagious disease breaks out in the school district the teacher is promptly notified of same, and instructed to exclude all children in families where the disease is present. When possible, I visit the school, and discuss the disease with the teacher and children, and try to enlist their co-operation, and urge them to report any other cases in the community, promptly to my office. Literature on the particular disease is given out to the children to take home. I find that teachers often allow children to come to school with a contagious disease when they have suspected the trouble. The indifferent attitude of many parents is largely responsible for this. I have found that a few careless or intimidated teachers, and a number of hard-headed, ignorant or misguided parents are responsible for most of the spread of contagious diseases in the schools and community.

I have observed that diphtheria reports each year from certain communities are always high. This is probably due to the presence of "carriers" in such communities. We have several such communities in our county. I decided to try out the Schick Test in the schools of these communities, and 1,110 children were tested, approximately 30% of these showed positive. Three hundred and twenty-six children found positive were given the complete toxin-antitoxin preventive treatment. The work was not satisfactory, because the parents of a large number of the younger children refused to have them tested, although a long letter of explanation had been sent them. The toxin for the Schick Test was obtained from the New York Laboratory. My experience with the Schick Test, though limited would lead me to believe that it is impractical for routine use in the schools, but that it might be used to advantage in the communities where the incidence of diphtheria is always unusually high. In such instances all children should be required to take the test, and if found to be positive, should be required to take the toxin-antitoxin preventive treatment. When we consider the fact that many counties have a law requiring all children to be vaccinated for smallpox, when smallpox is spreading in the school community, this does not seem unreasonable.

An effort has been made to vaccinate as many school children as possible against smallpox, for future protection to the public as well as the school. This work has been confined largely to the colored schools, as nearly all our smallpox has occurred among the negroes. Smallpox has not been reported in the city school at any time, and only two cases have been reported in the county this year. Thirteen cases were reported in the county last year.

After several unsatisfactory experiences I have concluded that compulsory vaccination should be restricted to school communities in which smallpox is present. We have a law in our county that requires all school children in the district to be vaccinated when smallpox is present in the district, and this law has been enforced thus far. My best results however have been obtained by the voluntary method, the work being confined largely to the colored schools. Since January, 1920, 3,162 school children have been vaccinated for smallpox. When I visit a school to vaccinate for smallpox, I have the principal assemble the whole school and try to give them a good word picture of smallpox, and smallpox vaccination, and the necessity of being vaccinated. I then pass out to the children the State Bulletin on smallpox and let them get the actual picture of people with smallpox, and people with vaccinations. After this they are told to roll up their sleeves and get in line if they want to be vaccinated. They fall in. Call it mass, psychology or what not I have vaccinated 80% to 100% of all children present in the schools that I have visited for this purpose. I use the State Board of Health vaccine, and have gotten 90% takes in all instances where the vaccine used was reasonably fresh. I use the army method in vaccinating, namely making two parallel scratch marks well spaced on the upper left arm. The arm is cleansed with alcohol and no dressing is applied after vaccination. Iodine is left with the teacher, and she is instructed to paint the vaccination wounds daily from the sixth or seventh day for a week or more. In this way out-side infection is avoided when the scab is scratched off. I have had no bad arms where this method was used.

The work has been for the most part pleasant, and I feel that a great amount of good has been accomplished; but when I think of the thousands of school children suffering for the need of a simple operation, I am forced to conclude that the medical profession is neglecting a great opportunity to strengthen its position with the public, in this day of quackery and new cults.

The problem of removing the physical handicaps of the public school child, is a big one, and will require the active co-operation of all agencies concerned, the health authorities, the medical profession, and the public. The medical inspection work in the schools has prepared the ground for the ultimate solution of this problem. The public will place the responsibility for its solution on the medical profession where it rightly belongs. If we are to merit this confidence, on the part of the public, then we must adopt the policy of service first. If we recognize the medical profession as a creature of society, then it is our duty to seek the good of the social whole, knowing that our ultimate good is wrapped up with it.

As Dr. McAtee has so well said, in his admirable paper, "We may need to stand together for justice in the days that are to come; we may need to witness strongly for truth; but we shall not have to fight for existence, so long as we follow the path of service; for whoso thinketh to save his life shall lose it; but whoso loseth his life for my sake shall find it."

HEALTH WORK IN THE SCHOOLS

R. L. Carlton, M. D.
City Health Officer, Winston-Salem

Among the resolutions adopted at the Cannes Conference in 1919 occurs the following:

"That the training of school children in all grades by thoroughly qualified teachers in the subjects of personal hygiene and the inculcation of proper health habits during school life are perhaps the most

important undeveloped measures for permanently improving the health and contributing to the welfare of the people." Dr. L. Emmett Holt endorsed the resolution not long ago and continued by saying: "No matter what particular phase of the health field we are considering, in the last analysis we come to the fundamental fact that progress depends upon the personal hygiene of the individual, his food, his health habits, etc."

It is not my intention to attempt a discussion of the entire program of health work in the schools, but simply and briefly to mention the various activities of health work in the schools of Winston-Salem during the past few years, and to call attention a little more in detail to one or two features which to us have been very interesting, and, we think, worth while.

We have 10,000 enrolled school children. Five or six years ago the first systematic health work in the schools was begun. At that time, the health officer and two nurses, one white and one colored constituted the staff of school health workers. The work has grown here, as everywhere, and the staff has gradually been increased until consisting now of school physician, devoting practically all of his time to school duties, health officer, who does some school work, and ten nurses and supervisor. Of the nurses seven are school nurses proper, two are nutrition workers and one is the directress or executive leader of the Modern Health Crusade.

Health work in the schools of Winston-Salem is definitely under the supervision of the department of health. No part of the expense of this activity is borne by the board of education, which board however is thoroughly in sympathy with health work and co-operates fully.

Examinations, as schools begin, find some diseased conditions, for which temporary exclusions are made, and many physical defects. No written notices are sent to the parents concerning the child's defects but the nurse makes a personal call and follows this with another visit and another and another if necessary—until finally the very persistence of the nurse, if nothing else, gets the attention of the father or mother to such an extent that the defect in question is corrected.

Nearly 100 children had diseased tonsils and adenoids removed last year as a result of this activity, more than fifty of this number having the necessary operation without cost to the parents. Other defects were corrected in like proportion—more than 1,200 children had free dental work done during three months last fall—the point is, a large proportion of these children would not have had this corrective treatment done but for this work in the schools but would have gone along, handicapped through school and possibly all through life.

The prevention of sickness then, by the prompt recognition and exclusion of ailing children and securing the correction of physical defects make up an important part of the school health program.

The program to be most effective must go further than this however, and must so train and instruct the child that he is given a correct set of health habits and an understanding of the hygienic conduct of life. The program, therefore, should be made up of health protection, correction of physical defects and health promotion. It is in relation to health promotion that I wish to say something of the Modern Health Crusade and special nutrition class work.

MODERN HEALTH CRUSADE

We have had the Crusade in Winston-Salem schools for some three or four years but because of scarcity of nurses and lack of interest of teachers, which lack of interest was largely because of lack of time for this particular work, the movement did not attain the success it deserved. At the beginning of the 1921 school year the Crusade was placed on a more substantial basis than it had been before. The time of one nurse is given entirely to this—she is called our Modern Health Crusade Executive and is made responsible for the maintenance of groups of Crusaders in every school. Forty classes of nearly 1,500 boys and girls are enthusiastic Crusaders in our schools now, and that these youngsters have derived benefit from this organization there is no doubt.

The Modern Health Crusade seeks to put into practice health education in the schools. It has made instruction in hygiene practical for it has put the child to doing the personal health duties that have previously been defined in hygiene classes but have not been done.

The Health Crusade, is, as you all know, really a game made up in a most interesting way of health rules or chores which the children are to observe regularly and for a certain number of weeks and for doing which they are given rank of page, squire, knight, knight banneret, etc., and are awarded certain buttons, badges and certificates to denote their rank and standing among their fellows. When these things are put up to the children in a story-telling way by teacher and nurse and Crusade Leader and in addition the spirit of competition between the different groups of children is instilled, and their interest is kept up by songs, health plays, etc., all through the year, they become very enthusiastic and the changes wrought in some of them are little short of marvelous. One father told me he was astonished that his little daughter who would not drink milk and could not by any parental devices be persuaded to do so, immediately decided she must take not less than two or three pints of milk daily when she was informed by the nurse that she was underweight and the Crusade Leader told her she was not keeping up with others in the "health game" and that she was violating some of the "rules of the game."

A mother was pleased but somewhat piqued when she discussed the Crusade with the leader. "It's positively discouraging," she said, "to learn that a perfect stranger can convince Tommy in a half hour, that he should brush his teeth, when after years of trying, I haven't impressed him at all. He came home one afternoon and announced that he must brush his teeth twice a day as though he had never heard of it before, and now he actually does it and seems to like it."

The secret of the success of the Crusade is not far to seek. It makes the practice of health a game. The pupils learn by doing.

Health habits are encouraged and established by group action. Washing the hands before meals, cleaning the teeth, sleeping long hours and with the windows open, exercising in the open air, eating slowly, wholesome food and taking deep breaths and frequent baths, come to be accepted as matters of course.

Altogether it is believed that the Modern Health Crusade with its health rules or chores, its prizes and awards of rank, its recognition from time to time of little health plays enacted by the children themselves, keeps them interested, goes a long way toward making these things become lasting, fixed habits and really points the way to a sucsucessful method of teaching personal hygiene in the schools. It has been gratifying to note with what interest and persistence the hundreds of our children did their chores, received their rank, etc.; it has been pleasing to note from time to time the requests of teachers and pupils of grades in which there were no crusade classes that they be given this work also; and it has been very interesting to note with what zeal the colored children go about this phase of health work, the Crusade Leader reporting that a smaller percentage of colored children drop out for various reasons before completing the period than is the case with white children.

We are glad to learn that the National Tuberculosis Association is now working on the material for graded courses of Crusade work and that this material will be ready before the opening of schools in the autumn of this year. This grading will undoubtedly add much to the interest of the Crusade in different school grades and will enable it to be carried on for longer periods of time. We plan to extend the Crusade here to many classes next year which did not have it before. We hope you all will be present tonight when a group of Crusaders from one of our schools will present a little health play entitled "The Health Champions."

NUTRITION CLASSES

The systematic weighing and measuring of the school children had shown that there are a large number who do not weigh as much as they should at a given age and certain height. A careful going over of these children showed that a majority of them are undernourished, or are suffering from malnutrition. Children of this class were not confined to any particular section of the city or to any special school but some were found in almost every room of every school, and, while a majority of these undernourished children were from homes of the poor there were quite a number from well-to-do families or even from homes of wealth. The matter of nourishment then, or rather, lack of proper nourishment was seen to be one of not knowing just what foods the child should have more frequently than was supposed to be the case. Children who are underweight, are generally puny, anemic, flabby muscles and have a terribly difficult time keeping pace with their more robust mates, either lagging behind in their classes or holding back with them the entire group. They are easily fatigued and find it next to impossible to take the active physical exercises they should be taking and enjoying. They are the children who are most frequently sick and who are most susceptible to the communicable diseases—especially is this true of tuberculosis. It is common knowledge that anemic, undernourished children are easy prey to tuberculosis if exposed to it.

To properly care for these children and have them attain such physical condition that they would no longer be listed among the "underweight" and "mal-nourished," it was recommended that special classes be formed and that experts in matters of nutrition be placed in charge of them.

The American Red Cross made this possible by giving us last year two workers, one white and one colored woman, who know how to teach little folks the things pertaining to diet and nutrition in such a way as to make it attractive and desirable that they gain weight and reach "normal."

Several hundred children were grouped into "nutrition classes." No child was enrolled who was not 10% or more below normal weight. The school physician and nurses assist in locating in the children any diseased conditions or physical defects which might prevent their being "free to gain." Teachers, nurses and directors of these classes unite in trying to determine what the home conditions of the child are, whether there is good home control, whether he is worked too hard outside of school hours, whether there is lack of proper food on account of economic conditions and whether the health habits of the child are good, etc.

In the classes instruction is given in matters pertaining to nutrition in terms of cereal, milk and vegetables, rather than of protein, fat and calories—the children are told just what to eat and how they should eat in order to become strong and robust and enable them to develop into real men and women. They are encouraged to make use of the lunches provided at the lunch rooms of most of our schools. If the child brings a cold lunch with him from home he is encouraged to buy something hot to eat with it. It is especially pointed out to them that milk is one of the most important articles of diet and that many of them underweight simply because they are not drinking enough milk. They are encouraged and urged to drink milk which is supplied to them at all schools at reduced rates, and in many instances is given to them—at least a pint a day without any cost.

Each child has his name placed on a large chart on the wall of the room and lines are drawn showing what the child should weigh and does weigh; at the weekly meetings he is weighed and the weight line on his chart is extended accordingly. The child becomes interested at once in noting whether his weight goes up or down and it is not difficult for a worker who knows the game to cause the child to become willing and anxious to do as nearly as possible everything he should do to gain weight.

This work in the schools is supplemented by periodic visits by nurse, teacher or both to the child's home, to secure the assistance of the

parents in having the child follow a definite regime in respect to exercise, hours of sleep, periods of rest, the eating of proper food and ventilation of the bedroom, etc.

As often as possible the mothers of the children in these classes are asked to meet with them in their regular weekly session. Good results are secured in this way.

Again, the nurse and nutrition worker have from time to time held meetings at the school house for mothers only, when they have explained to them in detail just what is being done for their children and how the help of the mothers is needed. Such meetings have been well attended.

These classes afford interesting study. Not all the children have gone "over the top" of course, but a goodly percentage of them have and almost all of them have shown gains where it is possible to do so.

Nutrition class work has been done in our schools less than a year. The worker in the white schools only a few weeks ago awarded 60 children certificates of graduation as having reached normal weight for their age and height and has dismissed them from the nutrition classes. She tells me there are at least 75 other children who are now within five pounds of normal weight and will in all probability be graduated and receive a diploma before the schools close. The children call this "eating for a diploma" and show much interest in their charts and diploma but almost invariably object to being dismissed from these classes.

It is not claimed that nutrition work in the schools is any more than one part of a good health program, but it is an essential part and has proven its value by definite results.

We have all seen many undernourished children and considered it nothing unusual, but when one looks into the pale faces of 75 or 100 undernourished children one is impressed with the fact that there is something wrong somewhere. If all the severely undernourished children in Winston-Salem, or any other city, could be brought together, it no doubt would convince the most skeptical that more attention must be given to malnutrition.

We repeat, in our opinion, the well rounded program of health work in schools should be made up of health protection, correction of physical defects and health promotion, and that important places in health promotion are occupied by the Modern Health Crusade and Nutrition classes. Such a program is practical, can be applied to the rural schools of 100 pupils or the city's group of schools of several thousand students and is no less than our boys and girls should have if we hope to develop our future citizens as they should be developed.

DISCUSSION

Dr. C. N. Sisk, Winston-Salem: I agree thoroughly with Dr. Hardin in every respect except compulsory vaccination. I really want Forsyth County to have compulsory smallpox vaccination. While I have, in my work, succeeded in vaccinating practically fifty per cent of the school population, at the same time I believe that compulsory vaccination is as essential in the rural districts as in the cities.

I agree with Dr. Hardin that the assistance rendered by the average school teacher is very poor. From the great majority of the cards you do not even get the date of birth, and the contagious disease record is frequently entirely absent. My idea in the rural work, where the schools are distributed over the county, is to cover the schools personally every second year and give a thorough physical examination to each child, which is equivalent to examinations in the first, third, fifth and seventh grades. After the children go into the high school grades I do not examine further except to try to get corrections made in those found defective by previous examination.

The matter of corrections is, of course, very difficult. I have serious doubts as to whether the State Board of Health idea of free tonsil clinics is best in Forsyth County with four capable specialists. When it is advertised in a county that possibly within twelve or eighteen months they can get this done free, it is much more difficult to get it done by local physicians.

In Forsyth County Dr. Carlton and I have a combined free clinic for dental work, and my hardest work is to get the children to come in for treatment. I have very much difficulty in getting any response at all from the smaller schools. In regard to dental defects, I believe as good a plan as any is to refer every child under thirteen years of age to the dentist without examination, and repeat every year. I feel that to get value received for the money spent for the dental clinic in Forsyth County, we should have the dentist go to the schools. I know that he objects to it and that it is not the ideal, but it is the only way to reach what we may call the backwoods child.

Dr. J. A. Morris, Oxford: Dr. Sisk is right in wanting to make compulsory vaccination universal. While you are waiting for smallpox to appear in the community it might appear in the school, as it did in my county, in a two-teacher school of 102 pupils. The invasion was in the school itself, showing the necessity of preventing its entry into the school.

Dr. Wm. M. Jones, Greensboro: I am certainly opposed to any compulsory vaccination. We have too many laws now. If people are going to have smallpox, let them have it. I remember one little town where I could not get any results until I went there in my car with a negro who had a bad case, and in less than twenty minutes every vaccine point in the town was used up.

Dr. E. W. Larkin, Fayetteville: In Cumberland County we passed a compulsory vaccination law last April, 1921, just a year ago. Last winter we had only one case of smallpox, and that was brought in from South Carolina. The winter before that we had about 150 cases. The law worked well, and we did not have any opposition in the schools or anywhere else. It was compulsory only in the schools, but a great many families were vaccinated, too.

DR. R. S. MCGEACHY, Kinston: In one school in my county we found defects in two of the children of a leading physician, and the statement of the defects that we sent made that father sit up and take notice. One child was getting so that he could not read a newspaper, and the father had his eyes examined by every physician in the neighborhood and later in New York. The child's tonsils and adenoids were removed, and now he can read without glasses. A leading lawyer in my town had a child whose tonsils were removed and he asked me to write a statement for him to sign. He said that he would sign without reading any statement that I might write, in appreciation of the value of this work. In one school twenty-five of the older pupils had tonsils removed, and one child said that she would not have her tonsils back in her throat for a thousand dollars. One only said that she saw no difference. We had a tonsil and adenoid clinic put on in our county, and in ten days 85 children had tonsils removed. We hope to have another next year.

Dr. McNairy is here, and I would like to hear from him on this subject.

DR. C. BANKS MCNAIRY, Supt. Caswell Training School, Kinston: So many things might be said in this connection, but there is so little we know. Some of the statements made here this morning have been startling, to my way of thinking.

I would like to corroborate Dr. Carlton in regard to nutrition. I was called some time since to examine children for admission to our institution. (This is something that we do not generally do, but I went because the gentleman in charge of the health work there is a special friend of mine.) In one day he brought in about 65 children. I do not think a child in the bunch was up to normal in nutrition. I do not think they had ever had the proper amount of food, not a balanced ration. I am a mountaineer, you know, but I have been living in the east for a long time. The east is always throwing off on the mountaineers, but I tell you, gentlemen, that in the eastern part of North Carolina the average white child has a poor chance. He lives on white meat, a little molasses, a few collards, and occasionally a boiled potato. There is no milk in eastern North Carolina. I do not beileve that one farmer out of twenty-five has a cow. I think Dr. McGeachy, our Health Officer, will bear me out in this statement. Something must be done about it. I do not know how we are going to educate the children.. The advancement must come through the schools, but how can we educate them when they have faces like dough and are formed like wasps? Half of our teachers do not eat enough, and the other half do not sleep enough.

DR. W. M. JONES, Greensboro: Education is the foundation of all we do. It is the bed rock of public health work. This other work is simply secondary and for the moment. The corrective work, when done, in the majority of cases is done for the individual, and for the individual, *per se*. It begins and ends with the individual. That is all right, and I am not decrying corrective work, but I do not think

that the end is anywhere near in sight. It is like the description given by an old negro preacher of eternity, when he said: "If a sparrow were to take one drop of water in his beak, from the Atlantic Ocean, and fly across to the Pacific Ocean and drop it in there, then fly back to the Atlantic and repeat this until he had emptied all the water of the Atlantic Ocean into the Pacific, by the time he had completed it the first day of eternity would just be dawning." That is the way with corrective work.

Education is the only way to bring results, and I do not believe that anything will be of more value than the Health Crusade work. That is the work of not one genius, but many, in my opinion. The Health Crusade work is based upon the fact that if you can direct or interest a child, or get him to do a certain thing willingly for a certain length of time, say sixteen weeks, this will become a habit. It is somewhat like old Solomon's dictum, "Train a child in the way he should go, and when he becomes a man he will not depart therefrom." They get these rules well fixed, they form habits, and they see the benefits. I do not believe that there has been another thing in my county that has been of as great value as the Health Crusade work. Next to that are the nutritional classes and the nutritional work. There is a great per cent of these children, as Dr. Carlton says, whose weight can be brought up to normal. There is a small per cent that have certain physical defects, and those you can find in the children that do not drink milk. I speak particuarly of milk. We are a little more fortunate in this section of the State than those in the eastern part, for the farmers have cows and it does not seem to be very much trouble to get the milk.

I want to call attention to one school, a little one-teacher school in a poor section. In this school there were a number of children under weight. The teacher was an exceptional one, and we took up the question of nutrition with her. It seemed to dawn upon her all at once, and she carried it on far beyond what we anticipated. There was a big stove in the schoolroom, and each child was told to bring a vegetable or some chocolate, and each day during the winter they all had hot soup or hot chocolate. It was surprising to see how they came up to normal. So I think that the Health Crusade and the educational work will do more good than all the rest put together.

DR. J. S. MITCHENER: I think we all agree with Dr. Jones that we must educate, but when we educate we must provide means to carry out what we have taught. We can teach children about nutrition, but if the child can not get milk what good does it do? We can educate a man that he has syphilis and that he will die earlier, or will hand down congenital syphilis, but if we do not provide treatment, what good does it do? We have to educate, but we also have to go further.

RELATIONSHIP OF THE PUBLIC SCHOOLS TO THE HEALTH DEPARTMENT

S. B. Underwood
Supt. Raleigh Public Schools

I am glad of this opportunity to express publicly in some measure the appreciation which I am sure all the school men of the State feel for the work of the health agencies that are doing so much to put North Carolina forward. From State Health Officer down, we feel that we are greatly indebted to you and are proud to work alongside you. In analyzing the remarkable progress made in public education in North Carolina in recent years, I am sure that your work is responsible for a great deal of the improvement that has come about in the school room.

When you have set a community forward along health lines, you have made it at once an easier place in which to develop wholesome educational sentiment; conversely, when educational sentiment runs high it is easier to do effective health work. I am sure that you will find the largest percentage of typhoid vaccination and the smallest proportion of all preventable diseases in the communities that have the best schools and have had them for the longest time. In my own experience, I have invariably found that my own work was easiest in those communities where the health department was flourishing most effectively.

It has been my good fortune for the past eight years, the first seven as a County Superintendent and the last in city work, to work in close conjunction and co-operation with a well-organized and efficient department of public health. In each case, the department has been my strongest ally, its directing head a close personal and professional friend—a sort of companion in arms. I am convinced beyond the possibility of doubt that it has made my work incalculably easier; I should like to think that I had made some contribution to the success of his task.

A county or city superintendent of schools, a teacher or principal, or anyone connected with the school system, who is unwilling to go out of his way if necessary to render assistance to the Health Department is very much in his own light. We are working toward a common end. Why not join hands and work together for its attainment?

The school forces have, or certainly should have, the confidence of the community. They should use this confidence to pave the way for the general and special work of the health department. The health officer or any member of his staff should have access to any school at any time when there is a piece of health work to be done. And the school board should not hesitate to use its influence to create favorable sentiment for the health department. In fact the department should be regarded as a part of the educational organization.

The county or city superintendent should make it a point to have the health officer appear before the teachers and school committeemen to outline his policies and enlist their support. The children should be taught the workings of the department as a vital part of the county government and be made familiar with its plans and its methods. The health officer should be invited to the schools and be given an opportunity to get acquainted with children and parents. Literature of the department should be distributed in the homes and studied in the schools. In this way sentiment can be created for the work of the department.

Not only should this educational work be done, but the department's authority in health matters should be clearly and definitely set forth and fully acknowledged. I have on more than one occasion referred matters to the health department that I could easily have handled myself, because I wanted teachers or public to get in the habit of consulting this officer.

It goes without saying, I hope, that the department's regulations should be carried out to the letter and every requirement scrupulously complied with—and complied with promptly and with the utmost cheerfulness. Not only should the school teachers and superintendent do what is required, but they should look for and search out opportunities for the health department to function.

There should be no suspicions, no jealousies, no bickering, no strife—but a full and free working together for the common good. We are all anxious to have a stronger, healthier, happier citizenship. Why not pool our resources? Let every school be an outpost of the health department, ready and anxious to aid in the conservation and enrichment of human life.

DISCUSSION

Dr. S. E. Buchanan, Concord: Personally, I am in a county where the Superintendent of Public Instruction does not do anything, and it makes it awfully hard. Every time I try to do anything in the schools he comes along and tells the teachers that it does not amount to anything. If there is to be a teachers' meeting and I ask for an opportunity to talk to them, he never thinks of it until the day after the meeting, when he will tell me that he forgot it. I would like to have the pleasure of working in a county where the superintendent and teachers will help. If they do not care you have an uphill job, and it makes the work very hard. I would like to know if there are any other men in the room who have had the same experience. It is a case where education does not count. Sometimes we have to educate education.

Dr. J. Howell Way, Waynesville: Right there, is one place where there is yet, I might say, almost pioneer work to be done. Take the first grade of the schools of the State. There are a lot of little tiny human animals, averaging say forty pounds. They go to school until they average more than one hundred pounds. Now, the school system

seems to assume sometimes (I think you ought to exclude the first grade) that it is purely an educational, purely a mental development proposition. Not so, for that animal has to add two hundred per cent to his physical status from the time he enters school until he leaves it. Then there must be many, many points where it is most vital indeed to successful development of that little human animal to have him in contact with the medical man. The function of the school physician, the work of the school doctor, is yet an undeveloped and unexplored and, to the majority of us, almost an unrecognized field in North Carolina. Now, some one said this morning that to educate the children we have to go back and educate the parents. That emphatically is true. I regard the meeting of the county superintendent of health with every teacher in a conference at least monthly or better weekly, as a very necessary and very vital part of public health work. How are the tonsil clinics, the nutrition problems, to be worked out? We often hear it said that if the doctors at large do not arise to the importance of the situation, this work will be influenced wholly by the laity. Now, the average doctor is doing about the best he can. The ethics of the profession, the time-honored precedents, we have still great respect for—precedents especially along the line of modesty and diligence, not over-self assertion, etc.! Now, the average doctor has a very limited opportunity to really develop hygiene and preventive medicine in his clientele. People like change. There are perhaps not nearly as large a per cent of the people in a community who grew up under a family doctor as in the generation past. We live in an age of hurry and bustle, and there is a very large per cent of people who try the last doctor who comes to town, who put off the old doctor like last year's overcoat, and try anything new. Now, a doctor comes in and does what he is sent for to do. He is probably not there in the function of looking at the children's eyes and throats and to see about their nutrition. But the school doctor has a certain authority. He can call that little child on the third row and tell him to come to the office. He has a certain authority in that matter that the average doctor may not exercise. The matter of the school physician is a most important one, because of the number of people who grow up in neglect. As a government physician, in the handling of ex-soldiers, I find, in the average 300 soldiers I am caring for, the necessity of sending many of those young men to the hospitals for treatment, I find that I have to send from five to ten in for tonsillectomy each month, beside operations for hernia, varicocele, submucous resections, etc. Those are the things that should have been looked after years and years ago. With reference to the sub-standard condition of a great many of our people, the army examination showed that less than forty per cent possessed the mentality of a normal, well-developed twelve year old child.

Idealism is a fine thing, but no one can expect to get perfection in everything. I look upon this body just now. I heard that paper on water supplies this morning. I mentally wandered back to thirty years ago, when Dr. Wood and Dr. Lewis were pioneers in this work in North Carolina. I heard so much about what we did not have, what we wanted it to be, and what we should do, and I thought that if the older Wood could be here this morning and see as large a gathering of men specializing in public health work as at that time attended the meetings of the State Medical Society, he would congratulate us upon our work.

Adjourned.

MONDAY, APRIL 24, 2:45 P. M.

AN ADEQUATE COUNTY TUBERCULOSIS PROGRAM

P. P. McCain, M. D., Sanatorium

Notwithstanding the fact that practically all the details necessary for the cure and prevention of tuberculosis have been known for decades, this disease continues its frightful ravages with but little abatement. In our own State last year it caused 2,600 deaths, nearly all of its victims being in the prime of life. Since there are nine active cases for every death, there are 23,400 people in our State now suffering with tuberculosis.

Even though we disregard the subject from the standpoint of our duty as humanitarians and as Christians, and consider it alone as a business investment, it will pay us to do whatever is necessary to bring this disease under control. Counting the value of the lives lost through tuberculosis, of the loss in labor and the expense of caring for the sick, a low estimate of the annual economic cost to our State is $13,000,000.

North Carolina is doing more than any other southern State to check its ravages, but our people as a whole have not attacked the problem with any degree of earnestness. What is the trouble? We cannot say it is a lack of money when our legislature last year appropriated $50,000,000 for the building of good roads, their action being applauded by the majority of the people in our State. We do not believe either that it is altogether because they do not realize that good health is vastly more important than good roads. Our people do not believe in halfway measures. And we believe they will cheerfully finance any plan for the control of tuberculosis, which will give promise of solving the problem.

In our State, which is largely rural, the county must be made the unit in the organization both for the prevention and treatment of tuberculosis. The following, we believe, comprise the essentials for the unit:

1. A country sanatorium.
2. Clinics, which are largely for diagnosis.
3. Visiting tuberculosis nursing service.
4. A live county tuberculosis association.
5. An efficient county health department.

It is universally recognized by those who have studied the tuberculosis problem that the sanatorium is a necessity. It is the bulwark around which all other factors in the fight must center. The State sanatoria, most of them, are splendid institutions and they do now and will always serve a most useful purpose in the control of tuberculosis; but it is impossible for State institutions alone to meet the needs. The advanced cases should not be taken a long distance from home where they cannot get to see their loved ones; and many others who could not be persuaded to go to a sanatorium at a distance would be willing to go to one in their own county.

To be successful the sanatorium must be a first-class institution from every standpoint—good enough for ourselves or for our loved ones. It must be equipped with an X-ray, a laboratory and all other facilities for the diagnosis and treatment of tuberculosis, and it must have a capacity sufficient for the needs of both the whites and the negroes.

All the larger counties, probably those of 30,000 or more population, should have such a sanatorium. Two or three of the smaller counties can erect one together, or each of the small counties can erect a building for its patients at the State Sanatorium. The former is a much more satisfactory plan, but either would go far toward solving the problem for the county which is too small to have its own institution.

The funds for the building and equipment of these sanatoria should be raised by the sale of county bonds and for their maintenance by a special tax, which should also be sufficient to take care of the interest on the bonds. The cost, just as is the case of the public schools, will be paid by all and will not be a burden on anyone. In this way it will be freed from the odium that is usually attached to a pauper or a charity institution. There is no more reason why one should hesitate to go or to send a loved one to such a sanatorium than he does to send his child to the public school or to accept the payment on a health insurance policy when he is sick. Those who are able should pay the full cost of maintenance and probably all should be required to pay something. Needless to say they should all be treated exactly alike regardless of the amount paid.

But no matter how fine the sanatorium buildings may be, its success will depend largely upon the man at its head. He must be an expert in the diagnosis and treatment of tuberculosis; he must be a man of at least fair business ability; and he must be a man who knows how to get along with folks and who loves his fellow man. Such a man will command respect of all and will secure the co-operation of the physicians throughout the county. If he is capable of teaching, there is no reason why, with such a wealth of clinical material at their doors, every physician in the county should not become proficient in the handling of tuberculosis. The more fully this can be accomplished, the simpler the problem becomes.

The success of the sanatorium will also depend very largely on its board of directors. This board should be representative of the medical, the governmental and the lay forces in the county. It probably should be comprised of the county health officer, at least one other physician selected by the county medical society, the chairman of the board of county commissioners, a member selected by the county tuberculosis association, one from the women's clubs, and a live business man, probably a man selected by the chamber of commerce. Such a board will link up with the sanatorium the people and the organizations of influence and ability throughout the county.

Since an early diagnosis is the most important step in the cure of tuberculosis and also in the prevention of its spread to others, clinics for diagnosis constitute one of the most important factors in the handling of the tuberculosis problem. These clinics should be held if possible by the superintendent of the sanatorium and certainly under his supervision.

The physicians of the county need to be made to understand that the functioning of such a plan will not destroy their tuberculosis practice, but that it will on the contrary increase it by giving them the opportunity of becoming more proficient in the diagnosis and treatment of the disease. There will be such an awakening of interest in the prevention and in the early discovery of tuberculosis among the whole population that the number seeking examinations will be increased many times. In fact there will be a large number who will as a matter of precaution adopt the sensible plan of having periodic physical examinations.

These clinics will accomplish the most good if the physicians will look upon them as an opportunity for free expert consultation and will either bring or send to them their doubtful cases. A clinic should be held each week either at the sanatorium or at the county seat for both white and colored patients. Of course it should be understood that all who are not able to employ a private physician should be encouraged to come to these clinics. One of the most important features of these clinics also should be the examining of the other members of the family wherever an active case is found. In this way many cases will be found in the early stage which would otherwise become advanced before being discovered.

If these clinics are supplemented with a live educational campaign emphasizing the symptoms of tuberculosis and the importance of all persons with these symptoms being examined, there is no reason why practically every case of tuberculosis in the county should not be discovered in time to be cured.

To supplement the work of the sanatorium and clinics it is necessary to have an adequate visiting nursing service. Every case of tuberculosis should be reported to the superintendent of the sanatorium, who should send a nurse especially trained in the handling of tuberculosis to each case reported. If she is tactful, patient, sympathetic and efficient, there is practically no end to the good she can do. She can impress one with the seriousness of the trouble and at the same time inspire hope for recovery. She can emphasize the importance of rest and sanatorium treatment and teach the dangers of patent medicines and fake cures. She should furnish the necessary

sanitary supplies and literature on the cure and prevention of tuberculosis and teach the patient all the details of carrying out these measures. She should immediately make arrangements for the other members of the family to be examined by their private physicians or at the clinics. After gaining the confidence of the family, she can often by inquiry also find other suspicious or definite cases in the community.

A live county anti-tuberculosis association should be an important feature of the county program. It should function in close co-operation with the State and national anti-tuberculosis associations; some of its more important duties should be: the conducting of an educational and publicity campaign; the securing the interest of the influential people and the useful organizations, such as the churches, the Rotary, Kiwanis and women's clubs and the fraternal orders; managing the sale of the Tuberculosis Christmas Seals; looking after the needy families of the mothers or fathers who are sick; securing proper work for arrested tuberculosis patients; and the securing of the passage and the enforcement of adequate legislation for the prevention of the spread of tuberculosis.

Since the prevention of tuberculosis is even more important than its cure, and since prevention consists not simply in minimizing the distribution of tubercle bacilli, but also in maintaining the highest possible bodily resistance in order that the thousands already infected may not develop the disease, the problem of the control of tuberculosis is closely interwoven with the whole problem of public health. Without a live county health department, therefore, any tuberculosis program could at best be only partially successful. But close co-operation between the superintendent of the tuberculosis work and the county health officer and the various divisions of their departments will cut the death rate both from tuberculosis and other causes to the irreducible minimum.

Since children are especially susceptible to tuberculous infection, it is necessary in our tuberculosis program to lay great emphasis on those phases of the public health activities which have to do with the general health of the child. An effort should be made to wipe out diphtheria by means of toxin-antitoxin and to prevent the other childhood diseases during the age period when their danger is so great. Among the exciting causes of tuberculosis undernourishment has been found to be one of the most common. Special emphasis, therefore, should be laid on the nutrition clinics, in which an effort is made to discover and remove the cause of undernourishment. The importance of the medical inspection of schools and the removal of the defects found cannot be overemphasized. The Modern Health Crusade should be given all possible encouragement and assistance, for no agency has ever been so successful in teaching both the children and their parents the essentials of healthy living and in getting them to practice the rules of the game. This organization had an enrollment of 70,000 in North Carolina this year, and we hope it will rapidly increase until it shall soon enroll every child in our schools.

Such a program is not simply idealistic but is altogether practicable. Guilford and Gaston Counties have already voted bonds and a special tax for the erection and the maintenance of a county sanatorium, and we understand they are contemplating the adoption of some such plan for the handling of their whole tuberculosis problem. As soon as the other counties in the State see this program in action in these pioneer counties, we believe they will rapidly follow their example. The State Tuberculosis Association and the Tuberculosis Bureau of the State Board of Health are heartily in favor of this program and they will lend the force of their energies toward making it a success.

DISCUSSION

Dr. T. C. Quickel, Gastonia: It has given me the deepest satisfaction to hear Dr. McCain outline so well the way along which, I feel sure, we must go forward if we are to reduce the number of deaths from tuberculosis to the irreducible minimum. I am in full agreement with him as he has expressed his convictions in this paper. I have observed with interest and approval the work of the Bureau of Tuberculosis of our State Board of Health in its campaign of informing and educating our people as to the dangers, the cause, prevention and cure of tuberculosis. But they know, and all of you must realize, that their work has been largely preliminary, paving the way for more practical and energetic measures if we are to save the greatest number of lives. I feel that now we have arrived at that period of education at which we must move forward along the lines outlined by Dr. McCain. Tuberculosis is a disease that demands a stay for some time at a well regulated sanatorium if we are to give these unfortunate victims a chance to be restored to health and usefulness. Proper rest, food, ventilation, freedom from the work and cares and worry of home, can rarely be secured outside of a well regulated institution. With this assistance, experience has proven to us that many will recover. I feel that it is the duty of the people of North Carolina to provide adequate hospital facilities for these unfortunate people. Dr. McCain has named five agencies through which this work is to be carried on, and he has placed the county tuberculosis sanatorium first, for without it the one most needed agency is not available. I thoroughly agree with him in his suggestion that the county should be made the unit of our activities. With a county tuberculosis sanatorium, in charge of a capable, well trained man, to lead the other forces in this work, I feel that we should rapidly reduce to the minimum the deaths from this preventable disease. To you gentlemen who are in charge of the health work in this State I say that your duty is not done when you have vaccinated the children and looked them over physically, but we leave it to you to lead the people on until they will vote the necessary funds to build a county tuberculosis sanatorium. Do not forget that it is to you that the command comes, "Inasmuch as ye did it not unto these, thy brethren, ye did it not to Me." And, if you get faint-hearted, sing the old song, "Throw Out the Life Line."

HOW CAN WE REACH THE PEOPLE WITH THE VACCINES?

L. L. WILLIAMS, M. D., MOUNT AIRY
Health Officer, Surry County

We realize that we all are perfectly capable of administering the vaccine to the people and we know that the vaccines that we advocate have been tested and the results proven to be very gratifying in the way of prevention, but we cannot vaccinate the people unless they are willing to take it. So then it drifts back to the basic principle of public health work—*Education.*

I feel at times that we neglect to a certain degree the educational program, in fact we are of the opinion or rather take it for granted, too much, that the people know all about the vaccines, their value in prevention, etc., and wonder why they do not come out and be vaccinated.

So in the title of this paper, "How Can We Reach the People with the Vaccines," it is my aim to try to bring before you the problem of health workers in carrying information about vaccinations to the public and persuading them to accept it. There is not a health department in North Carolina that could not vaccinate the entire population of their county if the people would accept it. So then it seems that we as health workers are falling down as salesmen. I use the term salesmen here because I feel that there is a need for a Health Officer to learn salesmanship. Public Health work is sold by the government, State and county officials, so in turn it seems that it is up to us to sell it to the people. One striking example that I recall, of the sale of the vaccine, was that put over by Doctor L. J. Smith in Wilson County wherein he sold to the business men of the county in this way. He went to the business men who carried an advertisement in the county paper and got them to insert in his advertisement an axiom about vaccinations, and banks agreed to ask every man who came to their banks to borrow money whether or not they had had their family protected against typhoid fever by being vaccinated.

For an introduction to the discussion or study of methods I have divided into two parts:

I.—EDUCATIONAL

In order to get a larger percentage of the people vaccinated we should at all times keep the people impressed with the importance and value of being vaccinated every two to three years and we cannot hope to accomplish this by just merely relying on our vaccination campaigns during the summer months, but we should push the educational program during the entire year, which can easily be done without loss of time or interfering with our regular itinerary. During our school work we come in contact with almost every family in the

county through the children, which affords a great opportunity to increase your percentage of vaccinations by getting the children interested. Educate the teachers so in turn they may be able to educate the children. At our public gatherings where we are making talks we should always make mention of the vaccines, what is being accomplished and give them the statistical data, also, this can be done through our county newspapers, when we give out an article on typhoid fever for publication the value of vaccine can be shown by giving the statistical data. In the communities where the people do not come out and take the advantage of the vaccines, and all counties have them, I have found that by getting the local physician and minister to help you work up an interest among the people and go and give a lecture along with your stereopticon pictures with your physician and minister to corroborate your statements, will bring about wonderful results. Another very important educational feature is to demonstrate to the people during the county fairs by arranging for some of the school children to be on hand and vaccinate for typhoid, diphtheria and smallpox, this has a very desired effect on those people whose fear of pain and their ignorance as to the type of operation employed in the procedure of vaccinating has held them back.

So your educational features of your vaccination program may be summed up under these headings:

a. Schools.
b. Public gatherings.
c. County newspapers.
d. Stereopticon pictures.
e. Demonstrations at the county fairs.
f. Teachers.

II.—PUBLICITY

Do not take it for granted that all the people will hear about your vaccination campaign and remember that it is up to you to get every person the word, notifying them of the different dispensary points in the county with the date of the month, the day of week and hour that you or some member of your staff will be at each point. It has always been a difficult task for me to advertise or give publicity to my vaccination campaigns so that every individual gets the word. A number of people always come to me after or during the campaign lamenting over the fact that they did not hear about the date for the vaccinations in time. It has been my policy in the past in giving publicity to the campaigns to write personal letters with conferences with some of the influential citizens of each township in the county, seeking their co-operation, distributing posters, size 9x12, giving the different dispensary points, with date of month, day of week and hour that we would be at each point, this also is carried in the newspapers of the county for two or three issues. Another valuable method of giving publicity to the campaign is to get the support of the ministers and Sunday School superintendents of the county, having them to make announcements as to the campaign.

I want to leave this thought with you, place all the responsibility possible upon the people. For instance, go into a community, get some of the influential and interested citizens to get a number of people, twenty-five to fifty, to be vaccinated, telling them that you will come and vaccinate free. You will find that your number of requests to come and vaccinate will increase rapidly.

DISCUSSION

DR. J. S. MITCHENER: The best salesman, to whom Dr. Williams referred, is the family doctor. I believe that if the health officers could get the physicians, each in his own community, to give the vaccines, they would give a great deal more. The results last year in the counties with part time health officers showed that the physicians gave lots more vaccines than if we sent in a man. Dr. Nance, of Union County, told me that, with incomplete returns, they had 9,000 complete typhoid vaccinations in Union, and about 1,000 toxin-antitoxin. We shall have to go far to beat that. If we can carry out the idea of having the family doctors give the vaccines, we shall do a great deal.

DR. C. V. REYNOLDS, Asheville: This question of vaccination, to my mind, is a serious one, and it deserves serious thought. Educational propaganda is too long drawn out. When we think of 23,000 to 25,000 deaths from diphtheria, which means a morbidity of 250,000, and about the same from typhoid fever, it is a serious proposition. It is too serious to go along and have a spasmodic vaccination. I believe that the science of medicine has advanced too fast for the laity to keep pace. We are not going to get it from the laity, notwithstanding the fact that they are today willing to receive it, for I do not believe they know how. I do not believe we shall get it from the general practitioner, for he is asleep at the switch. They do not go out and advise their clientele to do what they should do. They wait for the people to come and ask for it, and then they administer it willingly. Get the children when they enter school. As they come in, inoculate them against these three things: diphtheria, smallpox, and typhoid and paratyphoid—do that as a routine. I have tried the first step, and we have eradicated smallpox from our midst. You can not find, in the 7,000 students attending our schools, a single individual who is not vaccinated against smallpox. The people are aroused and enthusiastic, and are applying the same law to the vaccination of school children against diphtheria and typhoid fever, making it necessary before entering school. If you can get the people aroused to the point where they are willing to have that done, and are anxious for it, you will really accomplish something.

DR. G. B. NANCE, Monroe: I think that the first great point is to get the people to have confidence in you and make them believe you are in earnest about the matter, and that you have faith yourself in what you say.

We had a campaign about three years ago and vaccinated about 3,000 during the summer, and since then we have been doing it also, so I suppose about 5,000 have been vaccinated. Since our campaign three years ago I have called the attention of the people of the county to the fact that since then we have had very little typhoid. I also said through the paper that we would give the vaccination ourselves, that they would not have some strange physician whom they had never seen before, but each could go to the family physician and have the vaccine given. I succeeded in getting the hearty co-operation of all the physicians of the county, and during the month of March I authorized all of the physicians of the county to give the vaccine at any time when any one came, and then I made appointments for various places in the county and had a man meet the appointments. I have not all the returns yet, but I have seven thousand complete returns with three physicians to hear from yet, which will give at least 8,000. In the diphtheria toxin-antitoxin treatment I have about 800 complete returns already, with three physicians yet to be heard from. The people knew nothing about the toxin-antitoxin until last year, and in order to educate them I put on a small campaign on my own responsibility, and vaccinated about 184 children. In all, we have given it to somewhat over 1,000.

DR. J. A. MORRIS, Oxford: It is the tradition of the doctor to be sought, and not to go out seeking patients. That is his thought habit, and until we can educate the physicians out of that attitude I do not believe that we can blame them very much for not co-operating with us more. They simply do not realize that it is their duty to go seeking people. I believe that explains their apparent apathy. It is not apathy, but it is a thought habit, a custom.

PUBLIC HEALTH AND PUBLIC WELFARE CORRELATED IN COUNTY WORK

SAMUEL E. LEONARD
Supt. of Public Welfare, Wilson County

Speaking for the welfare department in general I wish to thank you, the Public Health Association, for your courtesy in your recognition of Public Welfare and for this place on your program. Public Welfare in North Carolina is less than three years old while Public Health is many years its senior. Social legislation of the present day, though far behind the needs of the time, is the outgrowth of other movements on social work such as yours. It was quite natural for Public Health to come first because life and death, sickness and accident, are more impressive on the minds of the majority of our people than the raising of social standards. Public Welfare is not a spectacular thing, does not cater to the big head-lines and hence is harder to put across. But the health officers have been our champions and have done much to make the work a success.

I wish just here to lay down this fundamental in social work: Public Welfare deals with the abnormal, not the normal. Let me name the duties of the welfare officer as outlined in the statute which is but a suggestion of the manifold duties he is called on to perform:

(a) To have, under the control of the county commissioners the care and supervision of the poor, and to administer the poor funds.

(b) Under the direction of the State board, to look after and keep up with the condition of persons discharged from hospitals for the insane and from other State institutions.

(c) To have oversight of prisoners in the county on parole from penitentiaries, reformatories, and all parole prisoners in the county.

(d) To have oversight of delinquent and dependent children, and especially those on parole or probation.

(e) To have oversight of all prisoners in the county on probation.

(f) To promote wholesome recreation in the county and to enforce such laws as regulate commercial amusement.

(g) Under the direction of the State board, to have oversight over dependent children placed in the county by the State board.

(h) To assist the State board in finding employment for the unemployed.

(i) To investigate into the cause of distress, under the direction of the State board, and to make such other investigations in the interest of social welfare as the State board may direct.

Can you think of normal persons applying to the county for $2.00 a month or for shelter in the county home? Are people discharged from an insane hospital normal, if so why should they be kept up with? Are paroled prisoners and delinquent and dependent children normal? No, we are dealing with abnormal folk and abnormal situations. These abnormalities are both mental and physical. To diagnose the case we need a double-barreled man, one who can see with two sets of eyes. We have such men, one in this State, the psychiatrist, but they are far too few. But the psychiatrist is first of all an M. D. He must be this, for the physical and the mental are so closely connected. Now the welfare officer is not a trained psychologist every time, but with his experience in handling situations, and his study, with the opportunity of calling in the State expert on special cases, he should be able to diagnose the mental situation. Now with the proper co-ordination, the welfare officer and the health officer should make the necessary combination to put over a successful social program in a county.

I was interested in looking over the programs of the nineteen public health institutes being conducted in as many cities of the country by the United States Health Service co-operating with the State Boards of Health, one of which is this week being held in Spokane, Washington. 281 lectures, or more that one third of all the lectures given in these institutes are closely linked up with Public Welfare. There are such general subjects as child hygiene, mental hygiene, medical social work, protective social work, and the delinquent. All these subjects under more specific headings are being discussed by the leading men in the medical profession. This means that men higher up have seen the vision and that Public Health men who like welfare men are public servants, and who, by virtue of their position must necessarily deal with social problems, are being instructed along social lines. The welfare officer is absolutely dependent on the health officer, for he within himself cannot handle both phases of the social problem. The health officer with the social training is a good combination within himself. He is in position to handle a few individual cases but the field is so large and the work so complex that the workers, both social and medical, must be materially increased if the work is to be adequately done.

In order to see how entirely dependent the welfare officer is on the health officer and how the work overlaps let us see some of the general problems which must come up in every county where there is both a health officer and a welfare officer.

A child is to be sent to an orphanage or the Children's Home Society. The health officer gives the examination.

A prostitute woman is placed in the court by the welfare officer. The health officer takes a Wasserman, makes recommendations and possibly treats the woman in prison.

Compulsory school attendance is in the hands of the welfare superintendent. Vaccinations, medical examinations and all health work are in the hands of the health officer.

A bed ridden man is placed in the county home by the welfare officer. He is a patient of the health officer as long as he lives.

The welfare officer has the oversight of prisoners in the county yet when sickness and accident come along the health officer is called in.

An insane person is confined awaiting transfer to the State institution. The health officer must examine the patient both physically and mentally.

A girl is committed to Samarcand or a boy to the Jackson Training School. The health officer must first pass upon the case.

This list could be continued because as I have said all social problems are concerned with the physical and mental make-up of the case.

To show some specific health problems that have been handled by welfare officers I cite the following: All these counties except one have no whole time health officer.

In Pasquotank County, the welfare superintendent, a capable woman, is taking a great deal of interest in the health of school children. She has been instrumental in getting a milk kitchen established for the undernourished children and more than a hundred children of the poor class are given a pint of milk a day, the result being a two to five pound gain in each child during the first month.

Rutherford County Superintendent of Welfare has put on a typhoid vaccination campaign in co-operation with the State department of Health and 5,500 people were vaccinated. A tonsil and adenoid clinic has been held and 75 children have been operated on,

a dental clinic and 900 children had teeth filled, while 1,100 children were examined by the State Health Nurse.

Way down in Dare County, the county of islands, the Superintendent of Public Instruction who is also welfare officer, a woman by the way, has interested the State Board of Health and nurses have been sent to examine the school children. A clinic is planned for the early summer.

In Haywood, a small mountain county, the welfare officer has taken advantage of nature herself and has put in a sanitary system of piping water from the mountain sides to the school houses where sanitary drinking fountains have been installed. Dr. Cooper has operated on 125 of his school children and 1,000 have been treated with dental work. The welfare officer has had a five day tuberculosis clinic and of the 81 examined the doctor found 13 positive cases. There is no whole time health officer or nurse in the county so the welfare officer has been instrumental in getting much done.

Over in Rowan County we have a woman who has done a big work for crippled children. She has interested outside agencies to the extent of hundreds of dollars and has placed many "Tiny Tims" on their feet.

I mention these few cases, varied in character, to show the interest the welfare officer has in the health of the county. The same thing could be said about the social work the health officers are doing.

I have been interested in a comparative way in the Public Health plan of having a standard of charge for service rendered, representing the cost, by means of which a financial record may be kept. I understand it was hard to work out. If the dollars and cents method in Public Health work has been hard to work out it is next to impossible in social work. You men were originally trained for a certain job, that of diagnosing physical ills and applying remedies therefor. Most of you have done some practical work before going into this most altruistic work of keeping communities well. You fixed a price for a specific job. Now you apply the price. But Public Health is more than that. It is so much more that you, every one of you, find yourselves working about half your time on kinds of work that you cannot put on your "charge sheet." Public welfare officers are working all the time on such work. Then too, there has never been any price fixed on social work. But whether the community knows it or not it is paying heavily every time it neglects its social needs.

The war has taught us many lessons and I suppose we will be drawing on the experience for years to come. We have heard a great deal about the physical unfitness of the men. But we have heard less about the mental and nervous diseases which after all are the barometer of the mental stability of a nation. This is a national problem of momentous importance and it receives only scant consideration. There are only a very few medical schools in the country which make a pretense of adequate instruction in neurology and psychiatry. We build State and National institutions and lock up in them in excess of capacity those who cannot live in society with safety to themselves or others, but we do not study the causes, nor do we strive to control and prevent what is susceptible of substantial control and prevention.

But the psychiatrists and neurologists, although few in number, did a big work with the army men in classification. Of the 69,394 men who were fully classified up to May 1, 1919, 63% were clearly sociological problems while the remaining 37% were classified as medical, such as psychoses, epilepsy, organic nervous diseases, and glandular disorders. But the 63%, consisting of neurotics, drug and alcohol addicts, psycopaths, and feeble-minded, while being medical problems, are more. They are social problems that cause concern in every community. What to do with them is a question in the mind of every social worker, every health officer, every judge, and all officers whether State or Federal. It is a problem of health, yes, but it is more. The morale of the country is lowered by their presence. Doctors must carry their part of the load and social workers on the other hand have their part to bear. Both must work together to remedy the situation and crystallize public sentiment to bring about the necessary legislation.

The institutions of the State are full with long waiting lists while county prisons house men and women awaiting berths in the State institutions. Some of these until very recently were chained to the floor and had been for years. And even in our State institutions the inmates are not and cannot be properly classified. The insane department of our State penitentiary has recently been publicly spoken of as a terrible disgrace to our proud State. The superintendent himself is much more disturbed about it than we are. There are children in our schools who ought to be in Dr. McNairy's school and there are people in his school who ought to be elsewhere. These children are holding back the normal boys and girls who ought to be pushing ahead. These boys and girls are our juvenile delinquents, later our adult offenders. Large families come of this stock and thus feeble-mindedness is propagated.

In 1918 a special committee was appointed by the New York Commission of Prisons to investigate the matter of mental disease and delinquency. The following facts were found:

In State prisons	25 %	feeble-minded
In reformatories	26.5%	" "
In penitentiaries and workhouses	33.5%	" "

A survey is now being made of the county homes of our State and it looks as though 75% will be found mentally defective.

But we are coming into a new day in this form of social work. Those of you who have read "The Winning Fight Against Mental Disease," by Burdette G. Lewis in the April *Review of Reviews* are familiar with what is being done in New Jersey. Experiments on a smaller scale have been made in other sections of the country and the results are so significant that I verily believe that we are standing on the threshold of a new system in the dealing with mental disorders.

We shudder at the guillotine, the dungeons, and the instruments of torture of the old France and wonder how a population could be content and tolerate such brutality. Might it not be possible that the years will come when the people will look with horror on our present treatment of our mentally sick? We send to the insane hospital, yea asylum, for they are rightly called that, a man or woman out of our community and in a few years we forget that the person ever lived. There the person is confined year in and year out. What would happen to a normal person under those circumstances? If the entire population of voters could take one look into our jails, "poor-houses," road camps, and our State institutions for prisoners and the mentally sick there would a cry go out the like of which has never been heard in this Old North State. But the heads of the institutions are not to be censured for this condition and this indictment is not being brought against them. They deserve commendation for the work they have done under the circumstances. They have been miserably handicapped for lack of funds. They have been crowded beyond capacity and with a population unclassified, among which were many persons not intended for the particular institution. But the social service and the health association, together with the many allied agencies are gradually eliminating these disgraces, slowly but surely. Working with insufficient funds and with scant personnel and fighting the ever-present cry of high taxes, the Old North State is being recognized over the country as doing some pioneer work.

Let us see what the possibilities are as taken from the New Jersey experiment.

"As a result of the treatment provided during the last three years, 1,000 patients classified in the so-called 'incurable' group have been discharged. In the last year 25 of this number have been re-admitted, but eight of these have been discharged after the previous inadequate treatment was completed. The discharged rate for the functional group has averaged 65% to 70% of the admissions for three years as against a ten year average of only 37%."

If the tax-payers could only realize that $10,000 is a conservative estimate of the per capita cost of an inmate shut up in an institution for life to say nothing about the suffering of the patient and the loss to the community of a citizen when 70% of these same persons could be returned to their communities they would feel different toward the spending of money on such institutions. It would mean a tremendous saving instead of an extravagant expenditure. Think of an institution for the so-called insane with no strong rooms, no straight jackets, no mannacles of any kind, but instead, wards flooded with sunlight, with white beds, with nurses in white just like the regular hospitals we are familiar with. And why not? These people are sick, mentally sick, and they need the kindliest of kind treatment while the re-adjustments are going on. Hear this paragraph from Dr. Cotton's book, "The Defective Delinquent and Insane."

"Even today at least 80% of all hospitals for the insane throughout the country continue, to their own shame and to the detriment of the patients, to employ mechanical restraint. There is no necessity for it as the writer can testify from personal experience. When he took charge of the State Hospital at Trenton in 1907 he found over 90 women in straight jackets, and all other forms of restraint were in daily use. In less than two months over 700 pieces of restraint apparatus were removed from the wards and since that time no patient has been put in restraint of any kind."

Of what does the treatment consist? Possibly the extraction of an infected molar as is cited in one case. 80% of the patients have bad tonsils and they are removed. Many times stomach and intestinal disorders must be made right by the surgeon's knife. The operation may be very simple or dangerously complex. Sometimes one operation will stay the mental delusions temporarily then later another operation will be necessary. Whether the theory of Dr. Cotton and Dr. Anderson that all mental troubles come from physical ills is correct or not, they have reduced the average stay of curables at the hospital from nine to three months.

I cite this wonderful piece of work to show the possibility of handling this menace of problems in a scientific way and thereby in a successful way. It will cost money, yes lots of money, but it pays because it is economical in the long run. It is not only economical but it is beneficial to the patient, to the patient's family, to the community and to society in general. A big part of our social problems would be solved if we could put this plan on in North Carolina. Public Health officials and social service workers must because of their position lead in the work. Those closely connected with the institutions will join us and the public will soon follow if the program is definite.

We need a clearing house first of all where every man or woman convicted in any court must first go for classification. Experts would be there to give thorough physical and mental examinations after which the sentence to the proper institution could be made. There could be different classifications in the same institution but the prisoner would be placed where he could develop best physically and mentally. And why not? We do not want a wreck of a man unfit for his family or society turned loose upon the public. He would then be a subject for another institution. A man's mental and physical health should be conserved and not abused while he is a prisoner.

Possibly this same clearing house, or the same experts, could be used for our mental defectives, and our present State institutions be used under a different system of classification controlled by the clearing house. Under this plan instead of having long waiting lists because of lack of room there would be more room because of the large number of discharges.

I believe these things are possible, not next year but within our generation. Our governor has shown great interest in our institutions and progress is already being made. We must help do the job.

I thank you.

DISCUSSION

DR. L. B. MCBRAYER: I am not exactly familiar with the new constitution and by-laws of this Association, but if it is in order I

move that all of the county welfare officers and the State welfare officer be invited to become members. I like the exhibit we have had.

DR. C. B. MCNAIRY, Kinston: The welfare workers are my best friends and co-laborers in North Carolina. I could talk all afternoon on the mentally sick and irresponsible, their care and treatment, though I can't say that it would be interesting or instructive.

It gives me pleasure to say that we are now prepared to co-operate with the welfare and health officers in trying to establish the degree of mentality and the degree of responsibility of the mentally affected in North Carolina. I am pleased to announce that I have now, as my assistant, a gentleman who has had quite a good deal of experience and intensive training, and who will I am sure, do a great work in North Carolina. We shall have a clinic, and we will gladly give a day, or part of a day, each week, when we will receive at our institution, by appointment only, children whose mentality is in doubt. We will study and pass upon them, and give you a report of our findings, if desired.

MILK INSPECTION FROM A PRACTICAL VIEWPOINT

J. H. HEALD, WINSTON-SALEM

In endeavoring to present to you my ideas on the subject of "Milk Inspection from a Practical Viewpoint," I realize that I may depart somewhat from several points which many men consider essential to the production of a good grade of milk. I confess that fifteen years ago, my ideas were not what they are now. In those days, I was inclined to think that all milk of a lesser grade than "Certified," produced under the ideal conditions which surround the productions of "Certified Milk," was in a class with bichloride or cyanide. Yet, today, we have in Winston-Salem no "Certified Milk," but we do have what I consider to be a very high grade, low count, reasonably safe milk supply. Our baby death rate from colitis and other intestinal diarrheas is constantly growing less—due partly at least to our improved milk supply.

It is my opinion that we health people have, in many instances by arbitrary insistance upon non-essential requirements, discouraged the production of perfectly good milk, antagonized the farmers, and made many unnecessary enemies.

We are trying in our work here, to boil down our requirements to those that we consider have an actual influence on the quality of our milk. As a result we have more than doubled our producers, yet we believe each is equipped with the essential factors for producing clean milk. In addition we feel we have that very valuable factor—the goodwill and co-operation of our men.

What are our minimum requirements?

(1) A lean-to or a portion of the stable partitioned off and equipped with a cement floor and gutter to which the cows may be brought for milking.

(2) A milk house separate and apart from the kitchen to which milk may be brought for cooling, bottling and storing. This milk house must also have a well-drained cement floor, and is generally built in two rooms—one for the dirty work, the other for handling the milk itself. It is, of course, well screened during the fly season and every effort is made to exclude flies.

(3) Small top milk pails are required.

(4) A Champion or other satisfactory type of cooler and ærator.

(5) A tank of 25 to 40 gallons capacity under which a fire may be built for providing hot water for washing and scalding.

(6) A refrigerator box of sufficient size to hold an ample supply of ice.

Roughly speaking, these are our equipment requirements. Of course, some of the men fix up much more elaborately than others, and we always assure them that any extra flourishes do not hurt our feelings in the slightest. I much prefer to have them spend this extra money on their own initiative rather than under compulsion; and it is surprising how many men will spend more than is absolutely necessary if they feel they are doing so of their own free will. Then there are others who, when they begin to get good results, take such a pride in their product that they want their outfit to be in keeping with this product.

Next comes *METHODS*, and under this head we require roughly as follows:

(1) Brushing the cow and washing of the bag and teats just before milking.

(2) Clean, dry hands.

(3) Early removal of milk from the stable to the milk house.

(4) Prompt cooling and æration.

(5) Immediate bottling.

(6) Adequate refrigeration.

(7) Thorough cleaning and scalding of all pails, cans, strainers, bottles, etc.

In addition to equipment and methods as described above, we require the annual tuberculin testing of all cows supplying milk, cream or buttermilk to the city. At present the county is doing this work free of charge—a method which we heartily approve of.

I have long been of the opinion that the eradication of tuberculosis in cattle should be considered an economic dairy problem rather than

a health department problem. It has undoubtedly been on account of the indifference of the cattle industry toward cleaning up its herds that health departments have been forced to take action. This method touches only those cows that supply a particular city and leaves untested by far the large majority of the cows in that county. For example, until the Forsyth County Commissioners took up this work, we tested only 2,500 out of the probable 10,000 cows in the county.

In connection with pasteurized milk which constitutes over half of our total supply, we require the usual standards of heating to 142 degrees to 145 degrees for 30 minutes, immediately cooling to below 50 degrees and storage below 50 degrees until delivery. No exception is made as to T.B. testing.

Samples are taken at least twice monthly, examined for fat, solids, specific gravity, and bacteria per c.c. At the end of each month, an average of all samples for each man is determined, listed, and a copy of all results mailed to each man. This stimulates interest and competition. We do not publish results in the paper, but any man's rating is freely given to any inquirer. An average grade is figured on a six months basis, and a new man must have at least three months of laboratory analysis before we will give him a grade. It takes me at least that long to be satisfied as to what a man can and will do.

Because of the small number of dairies engaged in retailing milk (27 in all) I do not find it necessary to depend very strongly on the score card of the Dairy Division. The score card is undoubtedly of great help to a field inspector who must supervise and be able to recall the details of a large number of dairies, but for the number of dairies supplying a community of this size, I find it of little assistance. Then, again, as our knowledge of those factors which actually influence the quality of milk increases, we find many apparent inconsistencies between laboratory results and dairy conditions as shown up by the score card which are sometimes embarrassing to explain. I refer to such items as number square feet of lighting surface, number cubic feet of air space per cow, number of feet between manure pile and cow barn, and several other points.

Another point which I wish to emphasize as essential to successful inspection is the securing of goodwill and trust of the dairymen. I make it a strong point to convince my men that the laboratory and its findings are of as much benefit to them as to the consumer. I always try to find the explanation of an abnormal fat test or a high bacteria count, by asking questions and encouraging frank answers, even though they may convict that person of some easily avoidable carelessness. When a man has enough confidence in my fairness to furnish his own answer to his own question of "Why did I have that high count last week," I feel that he has a right conception of the relationship that should exist between himself and the inspector. An explained mistake generally will not occur twice. Occasionally I have one who declares that nothing out of the ordinary occurred to cause the trouble, but I am glad to say such answers are getting rarer.

Another way to obtain the confidence of your men is to require exactly the same minimum standards from one as from another.

Don't allow any special privileges or concessions to anybody. It's a little hard at first to say "No," but soon they will not expect a "Yes," and will be prepared to meet your requirements. Special privileges are the hardest things in the world to explain to the other fellow.

In closing let me say that while I recognize that perfection should be our ideal, yet the fact remains that by far the larger majority of our farmers are not, and probably never will be, in a position to realize this ideal. It is the practical milk inspector's problem *today* to get good, pure, safe milk from the dairies of today, and with the minimum amount of equipment and expense. He must help the farmers to preserve what little profit he is making, yet at the same time protect the health of the consumer.

That we can procure a high quality of milk that compares very favorably with the output of our most elaborate dairies, is being proven to my complete satisfaction. How do we accomplish this? By installing the minimum amount of essential equipment, and bearing down hard on methods.

As a result of our system in Winston-Salem the following figures are of interest:

From January to July, 1920, there were 0 producers who averaged under 10,000 per c.c.

From July to January, 1920, there was 1 producer who averaged under 10,000 per c.c.

From January to July, 1921, there were 4 producers who averaged under 10,000 per c.c.

From July to January, 1921, there were 8 producers who averaged under 10,000 per c.c.

Our average yearly bacteria counts of all milk were as follows:

Year	Count
1917	254,000
1918	112,000
1919	99,600
1920	45,600
1921	29,300

By laying special stress this year upon icing both at the dairy and on the delivery trucks we hope to excel our 1921 record.

It is my suggestion to those of you who are, or may later become, interested in milk inspection work to see that your inspectors get down to brass tacks, that they ask only what is necessary, that they eliminate everything that unnecessarily irritates dairymen, that they gain the dairyman's confidence and work with him using the police court only as a last resort.

DISCUSSION

DR. J. H. HAMILTON, Wilmington: I think that we need to emphasize the importance of clean milk as a health problem, and I fear that some of our health officers have been a little negligent in the super-

vision of the milk supply. It is one of the fundamentals, and I do not believe that we should wander too far into the fanciful fields of State medicine without caring for the fundamentals. In our city we have Grade A, Grade B, and Grade C. The grade depends upon the equipment, the methods, and the bacterial count. We expected to get one or two in Grade A, but we got eight. The moment the plan was announced they began coming around to the office to learn what they should do to improve the grade. They are getting new equipment, new sterilizers, and improving their methods in every way. I think that it is entirely possible to get the co-operation of the dairymen.

DR. L. B. MCBRAYER: I do not think that we ought to let this occasion go by without expressing our appreciation of the wonderful results obtained by the Health Department of the city of Winston-Salem in the great reduction obtained in the bacterial count. It used to be that I did not drink any milk outside of Asheville, but I am convinced, from the report made, that it is perfectly safe to drink milk in Winston-Salem.

The matter of clean milk is a matter of very great importance, especially for children. When we first began to talk about clean milk Dr. W. A. Evans, then health officer of Chicago, who led the way in this particular thing, figured up how many carloads of cow manure the people of Chicago were drinking every year, and he had the goods there to prove it. We do not think of those things so often, but we do think of them oftener than we used to, and when we get a good live health officer like Dr. Carlton, and he gets a good live milk inspector like the essayist, we have good results. I want to congratulate the essayist and the Health Department, and I also want to congratulate the people of the city of Winston-Salem upon having the judgment to support a good live health department.

DR. J. HOWELL WAY: I want to thoroughly indorse the words of commendation upon the improvement made in this particular city of Winston-Salem, and not only in this particular city but also in other cities and in the rural districts of the State. But while we are doing that, I want to remind you that there is not enough milk consumed in North Carolina. Reference was made this morning to the fact that many farmers do not have milk the year around on their tables. Now, farmers are not peculiar in that. The average family of North Carolina does not have enough milk. Only a day or two since I heard a doctor say, 'I can not take milk; it is perfect poison to me." I said to him, "Now, Doctor, don't let anybody hear you say that. Or, if you do let anybody hear you say it, tell them that you have 'gone back on your raising' and have an abnormal and diseased stomach." Milk is the ideal food certainly for the first year of life, and our profession have not been doing our full duty—not by the dairymen, but by our profession and by our constituents. Our wise governor has recently concerned himself in regard to food, and particularly in regard to vegetable food. While I am standing here, I want to state that it is the duty of the average doctor of North Carolina to stress the value of greater variety of food, greater variety of vegetable matter, and also a greater quantity of milk. This thing in North Carolina, in the average family in the rural districts, of the little children learning to drink coffee instead of continuing to drink milk, is radically and fundamentally wrong, and if every doctor would raise his voice against the drinking of coffee, tea, and narcotics, by little children especially, now that we are having good milk made more plentiful, we would be advancing the cause of health and would raise the physical standards among the children of North Carolina. It is the duty of every one, but especially of the doctors, because they come closer to saying what they shall eat and what they shall be than any other class.

SECURING THE CO-OPERATION OF STATE AND COUNTY OFFICIALS AND OTHER ORGANIZATIONS

B. A. OLDS, M. D., HENDERSON
Health Officer, Vance County

The very natural answer of how to secure co-operation of State and county officials and other organizations is to *offer co-operation*.

The very first essential is to get on a *fact basis*. My experience so far, leads me to believe that most county officials and other organizations concerned are far from being on a fact basis as regards this great movement of which we are the sponsors, or anything that has to do with it. Numerous times have I had the question asked me, what do you do, what is the nature of your work, tell me about it! The very first thing that a Health Officer should do is to show the public why his department exists. Although that sounds fairly simple, I doubt whether many Health Officers have ever formulated to their respective counties the real purpose of a health unit. Health work is established as an agency for the performance of services of a character which the citizenship can render better collectively than as individuals. There are, as little as you may have thought about it, two distinct branches of any organized health unit; one is legislative, or policy forming body, your county commissioners and others to whom you may have to look for support in whatever nature it may be. This policy forming body consists of persons chosen directly by the citizens to express the sentiments and policies of those who elected them. Therefore in order to secure the co-operation of county officials and other organizations, it is clearly seen that we must first secure the co-operation of the public at large. How may we do this? I agree with you in the assumption that it is a great task! The Health Officer who makes his work a success is a personage in his city! He ought to live up to the *expectation* of the public, and to do that will require every resource of body and mind that he possesses. I, while a health officer, have found it necessary to attend gatherings where public matters were to be considered, and getting acquainted with the men of the city and county. One hundred speeches in a year, outside of office hours and other work is no more than other men have done;

the attending of various meetings over your county, woman's clubs, no matter how small they may be, speaking at every opportunity, talking public health at every opportunity, and combining with the above, as best you can, a personality pleasing to all, will secure for you inestimable co-operation in your work. And further, have you ever stopped to consider just how much the opinion that your school children have of you—bears on the securing of this co-operation? Are you one of these gruff sort of fellows who "makes" them do things, or are you one of the kind who loves them all and who uses that higher power of persuasion? Do you stop to consider that the boy and the girl of today will be the man and the woman of tomorrow, and that some of them will follow directly in your footsteps? So then, let us all try hard to get these boys and girls "for us," rather than "afraid of us," Then let it be clear to all that this "policy forming body" with which we deal primarily is developed from the child up. On what we do now, depends to a large degree the future of this great work in which we are engaged.

And the other division of a Health Unit is the Administrative; this is you, and those working with you in your respective counties. This is the branch which carries out the policies which the legislative body have decided upon. It is that side of the health unit with which I will deal especially; co-operation with the policy forming body is secured chiefly through *argument*, and again, the *presentation of facts*. Further, it is secured through moral and professional influence and a direct finger tip knowledge of the existing conditions. And still further, I may say, by the granting of such requests as are within reason; such as intelligent and prompt reports. Several times since I began my administration in Vance County there have come to me letters from our officials in Raleigh complaining that several of our health officers have failed to properly fill out reports, or that they have neglected sending in reports of matters of importance. Let us remember that our State Department is the hand from which we are fed; that it is the mecca for us in time of trouble; that it is the mill where matters are carefully weighed, and that it is, after all, the base of this great project of co-operation. Were it not for these State Departments, what could we accomplish? What would we do for our clinic directors of various kinds; our statistics, and numerous other things without which we could barely exist? So then, I appeal to you individually, to look first through the "telescope" of our own State Board of Health, and through it you will see a co-operation unsurpassed anywhere.

Now, while all the above points are, if practiced, of great value in securing the co-operation of State and county officials and other organizations, the Health Officer must catch that "Vision of Community leadership." He must have in him that desire to achieve something to make his work a *reality* rather than a *mere possibility!* It was Thomas Carlyle who said, "Think of living! Thy life, wert thou the most pitiful of all the sons of earth, is not an idle dream, but a solemn reality!" We are not placed in this world to occupy space alone, nor to merely dream, nor to plan alone, *but to make things real, to achieve something!* So then, we must catch that vision of community leadership. Right here I am reminded of a story I once heard about a certain little girl who attended church with her father, and this father has not only caught the vision of community leadership but has learned the lesson that was taught to the eminent divine by his little daughter. The story goes that a very eminent clergyman went into a little New England village to spend a vacation. In this little village there was a church that had no regular minister and depended upon opportunities such as the clergyman in the village offered. A committee of deacons waited upon him and besought him to preach on the following Sunday. He agreed to do so. He came to the church accompanied by his little daughter. This youngster, being a minister's daughter, was well trained, and her sharp eyes noticed the fact that during the service there was no *offertory* and no collection taken up. As soon as the sermon was over and her father came down from the pulpit she was at his side tugging at his coat and whispering to him the awful news, "Papa, they forgot to take up the collection." The preacher quieted her and assured her that there was some good reason for it. After a little while they were passing out of the church and by the door the preacher noticed a box marked: "Free Will Offering." He directed his little daughter's attention to this, explaining to her that in this church they let the people drop their offerings into this box as they went out instead of taking up a collection in the pews. To illustrate his explanation, he put his hand in his pocket and taking out a half dollar dropped it into the box. A moment or so later the chairman of the committee of deacons appeared on the scene and thanked the minister most earnestly for his kindness in delivering the sermon of the morning and remarked to him, "By the way, doctor, it is the custom to give to the preacher the 'Free Will Offering' of the morning," and saying that he unlocked the box, took out the minister's half dollar and gave it to him. Almost immediately the little daughter was again pulling at papa's coat, and as he turned to her, she quietly remarked, "If you had put more in, papa, you would have gotten more out, wouldn't you?" And this is the lesson that we should all as health officers learn, *the more we put in the more we get out; the more we co-operate the more co-operation we will get; the harder we work, the better will be the results we will obtain.* The great motto of Rotary, we should borrow: *"He profits most who serves best."* Business is business, is the old saying, now it is, business is service, business is co-operation: So health is service, results are co-operation.

And now, how may we apply all these principles to our own individual counties? This can be easily done. First, have some *system* about your work. Know what you are going to do next and plan for it, then let your people know about it and *solicit* their co-operation! Present your plans to your State Board of Health for criticism or correction. Then when they say yea, present them to your county commissioners and tell them why you are doing this or that and what benefit will be derived. If you want a dental clinic, so put it to your people in a way that they will see the necessity for it; if you want a

venereal disease campaign, cite to them the dreadful complications of venereal infections, and show them, if practical, some cases. If you want co-operation from the teachers and school superintendents of your county, take them down and tell them why you want it; they won't turn you down. If you want sanitation in your county, show the people just why it is necessary, and in whatever else you might want to get, first show your people why and then when they give you a chance, make good, get results, *finish the job.* Doubtless the greatest reason for so-called utter failure on the part of many of us is the fact that when we are given a chance to do a thing, we let it lag after a time. *We don't finish the job!*

And so then, we may summarize by saying that the *presentation of facts, living up to the expectation of the public, argument, pursuasive argument, moral and professional influence, a direct finger tip knowledge of existing conditions,* the catching of the *vision of communtiy leadership, making things real rather than merely possible,* the complete realization of the fact that the more you put in the more you will get out, "He profits most who serves best," *system,* the *why* of your work, the *publication of your results, and prompt correct reports* will secure for you in most instances unlimited co-operation on the part of your State and county officials and other organizations.

And may I not finally state that I consider the present Cost Equivalent System of our own State Board one of the most efficient means for the presentation of our accomplishments to all really interested!

After all, Demonstrated Sincerity of Purpose and the Utilization of Common Sense will go a long way toward securing the Co-Operation with State and County Officials and Other Organizations.

THE RELATIONSHIP OF THE STATE DEPARTMENT TO THE COUNTY HEALTH DEPARTMENTS

E. F. Long, M. D., Raleigh

The fraternal relationship of the State Board of Health to the county health departments directly associated in the co-operative plan of work embraces a broad conception of mutual interests.

The 1917 Session of the Legislature provided an appropriation enabling the State Board to offer financial assistance to a limited number of counties in the development of public health activities. The International Health Board supplemented this fund with an appropriation to apply specifically to hookworm and sanitation work for the rural population. Nine counties took advantage of the opportunity afforded within the first year. Succeeding General Assemblies responded to the increased demand for extended service until twenty-five counties, representing 30 per cent of the total population of the State are included in the co-operative plan of public health work.

The Bureau of County Health Work was established in 1917 to serve as a distributing agency for the State Board and the co-operating county health departments. A majority of the co-operating counties take advantage of the opportunity afforded to receive funds from the various contributing agencies and disburse these funds as required to the counties.

The Bureau of County Health Work receives, tabulates and distributes monthly reports of activities of the counties. Vouchers, forms, report blanks and unlimited supplies of literature are furnished by the State Board, in addition to the direct and supplementary appropriations.

Paternalism and the exercise of central authority is sedulously avoided in the administration of the county units. The county health officer is a State official and represents the State Board's every interest in his county.

The State Board recognizes that the county health officer is in better position to interpret local conditions and entrusts the administration of general and local requirements to his judgment.

The uniform procedure of submitting every proposed additional unit or phase of work contemplated to the consideration of the individual and assembled health officers is an established custom of the State Board of Health. Each item of public health work in which the counties are generally engaged is carefully reviewed, first by a committee of health officers, and, later by a meeting of all the health officers of the co-operating counties.

After careful consideration, the State Board of Health proposed a plan to fix a financial value, expressed in terms of cost equivalents, for consideration of the co-operating county health officers. A committee of experienced health officers was selected and requested to consider the proposition in detail, and, if in their opinion the plan seemed feasible to select and fix a valuation on each item of established public health work. This committee completed its deliberations and presented a tentative program to a meeting composed of all the co-operating county health officers in June, 1921. Critical analysis of the proposed plan and careful consideration of each item valuation was invited. The State Board of Health offered additional compensation to the co-operating counties, based on the cost valuation the health officers placed on their work. A definite schedule of valuations was recommended by the health officers, adopted by the State Board of Health and made effective July 1, 1921. Standard record forms, definitions and report blanks were prepared in accordance with the schedule submitted. This arrangement enables each department to select any series or to include all items of public health work and receive the same relative rating and reimbursement. A spirit of friendly competition is aroused and the staff of each department is stimulated to renewed exertion. Initiative is developed and valuable items of public health work that might otherwise be overlooked or disregarded are eagerly included, frequently resulting in such rapid expansion of activities and the inevitable public demand for increased service that additional facilities long hoped for are being quickly realized.

DISCUSSION

DR. P. J. CHESTER, Greenville: The first organization which we must recognize as a county unit is the board of county commissioners, because it is from them that we get our appropriations which enable us to carry on our work. It is up to the Health Officer to know every member of the board of commissioners personally. Until he does this, he has not started his health campaign. He should know them in such an intimate way that he can feel free to discuss problems pertaining to his department at any time. Before a health officer goes before his board of county commissioners with a request for the betterment of his department, he should first give the members of the board an opportunity to familiarize themselves with the problem that he is to place before them. If he does this he will have no trouble in presenting the request or problem in an intelligent manner, likewise the county commissioners will be able to carry on an intelligent discussion. In most cases his request will be granted if it is one that will benefit the entire county.

The county board of health is the second unit that should be considered. The health officer should know each member of this board and they should know him. If they know that he is efficient and capable they will always be ready to support him and back him up in all his undertakings.

The county superintendent of schools is the next most important man in the county, in my opinion, because it is through him that you get the co-operation of the teachers in the county. Until you are able to get the co-operation of the county superintendent you cannot get the co-operation of the teachers.

Next on the list is the county welfare officer. Last, but not least, the register of deeds, the clerk of court, the county judge, the county solicitor, the sheriff, and the chief of police in the various towns in your county are very important men from the standpoint of co-operation. There are numerous ways in which they can further the cause of your work and assist you in making it a success. Just a few days ago the chief of police came to me and said that if I would give him a list of the positive Wassermans who have failed to return for treatment he would assist me and see that they would come back and be treated.

DR. S. E. BUCHANAN, Concord: I enjoyed Dr. Long's paper very much. I think that I can appreciate the value of the co-operation of the State Board of Health as much as any one. I went into a county that did not co-operate with the State Board of Health at all, and I had an uphill time. Then there is the matter of finance. The average member of the board of commissioners does not see the necessity for an appropriation. Under the co-operative plan they put up the money and you spend it. My experience has been such that I would not go back to the old plan under any circumstances. My association with the State Department has been very pleasant. Of course, there are

a good many reports, etc., but I do not mind them, provided that I can get a whack at the other man's report to see what he is doing. Since I got with the State Dr. Long comes to see me, and I get in touch with what the other man is doing, which I think is worth a great deal. We may find that we are omitting something and find that others are doing it, and if they can do it, so can we. As I said, I do not want to go back to the old status.

REPORT OF COMMITTEE ON PRENATAL CARE

DR. J. BUREN SIDBURY, Chairman: The money under the Sheppard-Towner act will shortly be available to the Bureau of Maternity and Infancy of the State Board of Health. It is the idea of the President, and, I think, of this committee, that the committee will work in harmony with that Bureau, and it should accomplish a great deal, as they will have perfected their organization within a short time. We therefore recommend that the committee be continued.

THE PRESIDENT: I shall ask Dr. Rankin to make a statement as to how the committee could work with the State Board of Health.

DR. RANKIN: I think a recommendation was made in the report that the Committee be continued. I would like to see a committee made up of representative officers from the Association, with the State Health Officer left out, because the committee should be appointed from this body to co-operate with the State Board of Health. I think it should be continued as the agency through which this Association can co-operate with the Bureau of Maternity and Infancy, and through which the Bureau can get suggestions to aid it in its work, but I think that some other person from the Association should be appointed in the place of the State Health Officer.

Motion to accept the report of the committee, and that the Committee be continued to co-operate with the Bureau of Maternity and Infancy in carrying out the provisions of the Sheppard-Towner bill. Seconded and carried.

COMMISSION ON MILK STANDARDS

FIRST REPORT OF THE COMMISSION ON MILK STANDARDS APPOINTED BY THE NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

The Commission appointed at your last meeting of the North Carolina Public Health Association, held at Pinehurst, has labored under a considerable handicap in preparing this report, due to the fact that it has not been possible for personal meeting of members composing the Commission; however, the data herein contained has been compiled from information furnished by various milk control workers

throughout the State together with certain research work conducted by the Chairman of the Commission over a period of seven years on one of the State's Municipal milk supplies. The Commission has spared no time or effort in arriving at its various conclusions in this all important subject, viz., "standardization of milk grading." Possibly there has been some mistakes, but we offer this report as a nucleus for the building of a standard system of milk grading that may be adopted by milk control officials throughout the State, subject to corrections and alterations by succeeding commissions.

In drafting this report the commission has taken no cognizance of any subject pertaining to milk grading other than that of "market milk." Pasteurization and pasteurized milk, as well as cream, skim milk, etc., have not been considered; this matter being held over for further investigation and research.

The commission is of the opinion that in the first place health authorities must ascertain that the chemical composition corresponds with established definitions of milk as food; but their more important duty is to prevent the transmission of disease. This means the prevention of the transmission by milk of typhoid fever, infant diarrhœa, septic throat infections, tuberculosis, scarlet fever, diphtheria and other infectious diseases. In the interest of milk consumers, public health authorities must take positive action to prevent the transmission of any of these diseases, in addition to their duty of preserving the food value of milk.

In view of the above facts, the commission offers a system of milk grading in the form of a score card which takes into consideration the three characteristics of milk, viz., chemical composition as pertaining to food value, general physical character as relates to preservation, foreign matter and palitability, and sanitary index. The commission has assigned the following values to the seven items appearing on the card as follows: Bacteria 40, Flavor and odor 15, Visible dirt 10, Fat 10, Solids not fat 10, Temperature 10, and Bottle and cap 5, making a total of 100 points. Condensing these figures, we find that the three main characteristics are valued as follows: Sanitary index 40, Physical character 40, and Food value 20.

The commission has adopted the following scale by which each sample is to be measured and assigned its value:

N. C. PUBLIC HEALTH ASSOCIATION

Score Card for Milk

PLACE OF COLLECTION SAMPLE NO.________

TIME________ AGE________

WEATHER TEMP.________

ITEM	Perfect Score	Score Allowed	REMARKS
1. Bacteria	40	____	Bacteria Found Per C. C.________
2. Flavor and Odor .	15	____	Flavor Odor
3. Visible Dirt . . .	10	____	________
4. Fat.	10	____	Per cent Found ________
5. Solids not Fat . .	10	____	Per cent Found ________
6. Temperature . .	10	____	Degrees F. ________
7. Bottle and Cap . .	5	____	Bottle Cap
TOTAL .	100	____	

PRODUCER________

ADDRESS________

____
TECHNICIAN

DATE________192____

(NOTE: Scoring Instructions on Reverse Side)

BACTERIA PER C.C.	PERFECT SCORE 40
Below 500 bacteria per c.c.	40.0
500- 1000	39.9
1001- 1500	39.8
1501- 2000	39.7
2001- 2500	39.6
2501- 3000	39.5
3001- 3500	39.4
3501- 4000	39.3
4001- 5000	39.0
5001- 6000	38.8
6001- 7000	38.6
7001- 8000	38.4
8001- 9000	38.2
9001- 10000	38.0
10001- 11000	37.7
11001- 12000	37.4
12001- 13000	37.0
13001- 14000	36.6
14001- 15000	36.2
15001- 20000	35.0
20001- 25000	34.0
25001- 30000	33.0
30001- 35000	32.0
35001- 40000	31.0
40001- 45000	30.0
45001- 50000	28.0
50001- 55000	26.5
55001- 60000	25.0
60001- 65000	23.5
65001- 70000	22.0
70001- 75000	20.5
75001- 80000	19.0
80001- 85000	17.0
85001- 90000	15.0
90001- 95000	13.0
95001-100000	11.0
100001-120000	9.0
120001-140000	7.0
140001-160000	5.0
160001-180000	3.0
180001-200000	1.0
Above 200000	.0

When the number of bacteria per c.c. exceeds the local legal limit the score shall be zero.

FLAVOR AND ODOR—PERFECT SCORE 15

Deductions for disagreeable or foreign odor or flavor should be made according to conditions found. When possible to recognize the cause of difficulty it should be described as cowy, bitter, feed, flat or strong.

VISIBLE DIRT—PERFECT SCORE 10

Examination for visible dirt shall be made by passing one pint of milk through a cotton disc in a "Lorenz Model" sediment tester. Particles of foreign matter deposited on the disc shall be examined with a reading glass of approximately five magnifications. Cotton should be placed on blotter until perfectly free from excess moisture.

PERFECT SCORE—NO VISIBLE FOREIGN MATTER

Less than 10 particles	9.75
10 to 20 particles	9.50
20 to 50 "	9.25
50 to 100 "	9.00
100 to 200 "	8.50
200 to 300 "	7.50
300 to 400 "	5.00
Above 400 "	.00

If hair or very large particles of sediment are found use judgment in making deductions.

FAT—PERFECT SCORE 10

4 % or over	10.
3.9	9.8
3.8	9.6
3.7	9.4
3.5	9.0
3.4	8.0
3.3	7.0
3.2	6.0
3.1	5.0
3.0	4.0
Less than 3.0%	.0

SOLIDS NOT FAT—PERFECT SCORE 10

8.5%	10.0
8.4	9.0
8.3	8.0
8.2	7.0
8.1	6.0
8.0	5.0

7.9	4.0
7.8	3.0
7.7	2.0
7.6	1.0
Less than 7.6%	.0

TEMPERATURE—PERFECT SCORE 10

50 Degrees F. or lower	10.0
51 to 55	8.0
56 to 60	6.0
61 to 65	3.0
66 to 70	1.0
Above 70 degrees	.0

BOTTLE AND CAP—PERFECT SCORE 5

Hood cover over seal	5.
San Lac seal or its equivalent	4.75
Common bottle cap	3.0

Deductions may be made for tinted glass or partially filled bottles. Leaky caps, or broken tops, or other conditions permitting contamination of milk, or detracting from the appearance of the package, use judgment in scoring.

The Commission believes that all milk should be classified by dividing it into three grades, which shall be designated by the first three letters of the alphabet. In addition to the letters of the alphabet used on caps or labels, other terms may be allowed if the same are not the cause of deception. A letter designating a grade to which the milk belongs shall be conspicuously displayed on the bottle cap.

Requirements for the three grades shall be as follows: Grade "A." Milk of this class shall be produced from cows free from disease, as determined by the tuberculin test and by physical examination, and shall be produced and handled by employees who have been found free from disease, as determined by medical inspection at the hands of the Health Officer. Milk of this class must grade 90 or more points out of a possible 100 by the foregoing score card, and must be produced by a dairy that scores not less than 85 points on a U.S.B.A.I. score card.

Grade "B." Milk of this class shall be produced from cows free from disease as determined by physical examination and tuberculin test of all cows composing the dairy herd at least once each year; and shall be produced and handled under such sanitary conditions that the milk shall grade from 80 to 90 out of a possible 100 points on the foregoing score card. Milk in this class shall be produced by a dairy scoring not less than 80 points on the B.A.I. score card.

Grade "C." Milk of this class shall be produced from cows that have been tuberculin tested within twelve months, and have been found to be free from injury or disease by physical examination, and shall be produced under such conditions that the said milk shall grade from 70 to 80 out of a possible 100 points on the foregoing card. Milk in this class shall be produced by a dairy rating not less than 70 on the B.A.I. score card.

GRADING OF MILK

It is the sense of the Commission that there is no escaping from the conclusion that milk for sale must be graded just like other commodities, such as tobacco, wheat and cotton, are graded. The merchant whose stock in trade is milk must not only judge of the food value, but likewise of the sanitary character of the commodity which he offers for sale to the public. There appears no logical reason for believing that fruit that has begun to decay is particularly unhealthful, but certainly it should not be sold for the same price as fruit that is sound. High grade milk, fresh and cold, will cost more to buy from the producer, and properly so, and therefore sell for more to the consumer than does a low grade, stale article. We believe that the Commission's most important work has been endeavoring to classify or separate milk into different grades. We have labored to make the grading system as simple as possible and, at the same time, to distinguish between milks, the sanitary character of which is essentially different. It is our belief that milk grading offers a solution that is satisfactory for most of the sanitary, as well as economic, problems which have heretofore been an obstacle in efficient control of milk and that the same is practicable for even small communities to adopt a grading system with its resultant benefit.

The Commission recognizes the fact that the grade of a milk supply cannot be determined by the analyses of a single sample, therefore it is recommended that not less than five samples be examined during a period not to exceed 60 days. The average grade shall determine the grade or class to which the supply belongs. The dairy farm shall be scored not less than once each 60 days and the last rating only within this given period shall be considered in arriving at the final grade.

The Commission recommends that all milk falling below the requirements for Grade "C" be pasteurized or sold only for cooking purposes.

ADMINISTRATIVE EQUIPMENT

The Commission recognizes that standards are useless unless properly safeguarded and enforced. The main objection that has been raised to a grading system for milk is the difficulty of insuring that milk labeled as of a certain grade is actually of that grade when delivered to the consumer.

"The prime requisite for efficient milk control is that Health Departments shall be adequately equipped with men, money and labora-

tory facilities. The Commission is of the opinion that satisfactory results cannot be expected from laws when there is not sufficient appropriation, and when there is no machinery for the enforcement. A survey of the money appropriated for milk control shows that in the majority of municipalities this is entirely insufficient for public needs."

"The key to the solution of the problem of the proper use of grade labels is the laboratory. The establishment and operation of an efficient milk testing laboratory is commonly supposed to be an item of great expense. This, however, the Commission is convinced, is a mistake, since there are numerous laboratories scattered over the State, not only private but public, which are inexpensive and operated at low cost. By efficiency methods a large number of tests can be made at a very low cost. Even small communities can afford to maintain and operate such laboratories. Where for any reason it is not possible to do this, it has proven to be practicable in other States to enter into laboratory arrangements with other cities doing such work, and even several small communities can combine in the use of a common laboratory."

BACTERIOLOGICAL LABORATORY TESTING OF MILK

Concerning the methods which should be used by Public Health laboratories for the bacteriological examination of milk the Commission unanimously recommends the standard methods of the American Public Health Association Laboratory Section.

Bacteria and bacterial testing have been considered more in detail than any other item appearing in the foregoing card. Every phase of the relationship of bacteria to the sanitary character of milk, as well as to the infectious diseases transmissible by milk has been earnestly considered. The significance of bacteria in milk and methods of testing have been considered in detail, not only from the personal standpoint of the bacteriologist, but from the administrative standpoint of the milk control official.

The Commission recognizes that the number of bacteria in milk is controlled in the majority of instances by three factors: foreign matter, temperature and age. Only in the minority of instances are the bacteria of specific disease present. The routine methods for examining milk have, therefore, as their chief purpose, the control over foreign matter, temperature and age. The only practical way of protecting milk supplies from infection by the bacteria of infectious disease is by medical, sanitary inspection and pasteurization.

In conclusion, the Commission desires to state that a great amount of data was at hand that is not embodied in this report, such as distance of haul of various producers from their respective markets, conditions of production and distribution, etc.

It may appear at first glance that the system herein outlined may not be practical for small departments to adopt, but the Commission is of the opinion that the seven factors appearing on the foregoing card are all important to the extent that not one may be omitted in arriving at an intelligent grade of a given milk supply.

We earnestly recommend that the North Carolina Public Association appoint a permanent milk commission. We further recommend that ways and means be devised whereby meetings may be held for serious study of the State's milk problems as it relates to public health work. This body to be named the "Milk Commission of the North Carolina Public Health Association."

Very respectfully submitted,

J. H. Epperson, B. S., *Chairman.*
L. B. McBrayer, M. D.
W. A. McPhaul, M. D.

DISCUSSION

Dr. J. H. Hamilton, Wilmington: I would like to get a little more information as to what is proposed to be done about this matter. The report undoubtedly represents a great amount of work by the Committee, and of research into the matter of grading. I would like to know if it describes the method in common use in other communities. I am more or less familiar with the system used in New York City, which has been recently adopted in Richmond and Norfolk, using the Bureau of Animal Industry score card for methods and equipment. It seems to me that Mr. Epperson's standard for Grade A is considerably higher and would be more difficult to attain. This seems really ten per cent higher than the standards in effect in New York City. I know by the way the milk inspectors grade them there it takes a crackerjack dairy to get 75 per cent, and it would take a most unusually good dairy to get 85 per cent. I note also that for Grade C he has 70 per cent, whereas in New York City it is 40 per cent. Of course, I know that in New York they do not allow them to sell anything below Grade C, and they make them pasteurize everything under Grade B.

Mr. Epperson: I might say that this is an exact reproduction of the Bureau of Animal Industry milk score card, with certain exceptions. The changes are in this respect, bacteria and temperature. Flavor and odor we have cut down to 15 points, and put five on bacteria and the other five points we put on temperature.

With reference to Grade A milk, we realize that is pretty hard to make, but we feel that a premium should be placed upon those people who, by conscientious effort, get up into that class. If we had made Grade C milk Grade A we would have a bunch of dairymen clamoring to get up into that class, but when they attained it they would not make further effort. In my town I feel sure that we have several dairymen who would get into Grade A class and stay there. We are using the old system, the Bureau of Animal Industry market milk card, and under that system we had an average, from 31 sources, under 17000 bacteria per c.c. We have laid stress upon the sterilization of utensils, and have checked up the results of the sterilizers, and we know that the utensils are sterile. We have laid stress upon cooling. We lay

particular stress upon the storage of milk and upon the delivery of milk at a low temperature. I believe that 75 per cent of our supply is being delivered at a temperature of from 50 to 55 degrees, and of course all those factors have an effect upon the bacterial count.

We do not say that this system of grading is perfect, but what we would like to see is an uniform system of grading, so that all the health departments could get together and adopt it, and if we could put on a market milk contest in the State, in which all the health departments could compete, we would have something which would create greater interest in milk control work.

The method of grading is flexible. If there are certain features which could not be used by the individual health officer, they could be disregarded.

DR. HAMILTON: I am not familiar with that score card. I have been using the U. S. Bureau of Animal Industry Dairy Farm score card, and I notice that it differs somewhat in the matter of cooling. There is a much higher total number of points for cooling than is indicated on the score card just referred to. I do think that it would be of very great value to all the full time health departments that devote any time at all to milk supplies to have a State dairy inspector. In our own work in New Hanover we find that sometimes the dairymen appeal from our scoring. It would help us a great deal if, when dairymen appeal from our scores, we had an authority in the State to whom we could appeal.

MR. EPPERSON: That point is, I think, very good. A man comes along and says, "You fellows have your own pet system of grading." If we could say that we have a system approved by the North Carolina Public Health Association, that has been worked out and adopted, this would answer a great many of these complaints.

Now, in regard to temperature, the market milk score card does not allow any credit for milk over sixty degrees. They give credits in this way: Below 50 degrees, 5; 50 to 55 degrees, 3; 55 to 60 degrees, 1 . Now, our score card is as follows: 50 degrees F., 10; 51 to 55, 8; 56 to 60, 6; 61 to 65, 3; 66 to 70, 1; above 70, 0. It puts a premium on cooling to any extent, even though he may have violated the law and may have sold his milk above the proper temperature. We do not want to prosecute people; we have to bring pressure to bear in some other way than by prosecution. I am the last man in the world to take a milk dealer into court if any other method will answer.

DR. S. A. NATHAN, Chapel Hill: I have had a little experience in milk inspection, and if we can adopt some system of uniform grading it would be a good thing. I thought that perhaps if this method of grading were approved by the Public Health Association the State might take it up and make some State regulations. If we can go out and say to the dairyman that these are State laws and regulations, it is much easier to get co-operation from them. If we can adopt this report with the idea of the State's possibly adopting some regulations in the future, it will go a long way toward getting better milk. I move that the report of the Committee be adopted.

Motion seconded and carried. Adjourned.

MONDAY, APRIL 24, 7:45 P. M.

HEALTH PLAY

"THE HEALTH CHAMPIONS"

By a Group of Modern Health Crusaders from Winston-Salem Schools

VALUE RECEIVED FOR MONEY SPENT IN PUBLIC HEALTH WORK, AS SEEN BY A COUNTY COMMISSIONER

W. W. DAWSON, M. D., GRIFTON

In 1916, Pitt County determined that it would take such precautions as might be necessary to prevent the running at large of transmissible diseases, and after mature and deliberate consideration, concluded that the best step to take was to employ a whole time Health Officer, in conjunction with the State Board of Health.

As soon as the department was established, it began to function in the usual way and with as great a degree of efficiency as was possible under the circumstances. Typhoid fever, in a given area, more than any other disease, shows the sanitary condition of such an area. From the early nineteen hundreds to 1915 inclusive, the number of cases of typhoid fever in Pitt County varied from 600 to 1,000 cases yearly, an average of about 800 cases per annum. The report of our very efficient health officer to our Board of County Commissioners, shows very strikingly the rapid improvement of the typhoid situation in our county, and I shall take this as a basis on which to make a monetary estimate of the cash value to the people of Pitt County of their health department.

The report of the Department to which I refer, shows there were fifty-six cases of typhoid fever in the county in 1921—our population is about fifty thousand. I assume that we would have had the average number of cases during 1921 had we not had the whole time health officer, and I believe the assumption is correct. The average number of cases for sometime prior to 1916 was about 800. Therefore if 1921 was a normal year, from the standpoint of health, and I believe it was, our county under the old system would have had not less than 800 cases, when, as a matter of fact we had only 56, showing a saving in the number of cases of 744.

What does this indicate from a monetary standpoint? Let us see. The morbidity period of typhoid fever is about 60 days. I think that it is reasonable to calculate that it costs $10.00 per day to be sick—that is nursing, doctor bill, medicine, cessation of work, etc, to say nothing of the suffering of the patient and anxiety attached. This shows the estimated cost to be $446,400.00. I think it fair to assume we would have had a 10% mortality. I also think it very conservative, to say that the life of an individual is worth $1,000.00. I know the people of Pitt County are worth more than one thousand dollars a piece. This being the case, the 10% mortality would represent $74,400.00 for these 744 cases. I am also quite certain it would have cost all of $50.00 a piece to bury the victims. This would make a grand total of $523,520.00

The following table will show exactly what I mean:

Previous to the year 1916, cases of typhoid annually	800
Whole number of cases typhoid, 1921	56
Reduction of cases	744
Morbidity reduction, estimated at 60 days each	44,640
Estimated cost of these cases at $10.00 each per day, in nursing, medical bills, incapacity to work, etc.	$446,400.00
Ten per cent mortality in these 744 cases at $1,000.00	74,400.00
Burying these 74.4 at $50.00 each	3,720.00
Total reduction	$523,520.00

Let us study the balance sheet for typhoid. It cost Pitt County last year $4,800.00 to maintain its health department, which in money value, saved $523,520.00 for typhoid fever. Does it pay in dollars and cents to have a whole time health department? It does, in Pitt County, for typhoid fever alone, to say nothing of other diseases.

This reduction in typhoid fever cases being easily reducible to money value and demonstrable on paper, as great as the monetary saving is, to my mind shows only a fractional part of the real value of our Health

The number of cases of typhoid fever in our county from 1900 to 1915 inclusive was determined as follows: The number of these cases treated by myself each year, was multiplied by the number of practicing physicians in the county. If we take:

Reduction in dollars from typhoid fever	$523,520.00
Estimated reduction from other transmissible diseases	$330,000.00
Total saving in 1921	$853,520.00

Divide this by cost of Health Department and we find that we have a saving of $177.00 for each dollar spent.

Department. A further study of the report of the health officer shows there were 804 cases of transmissible diseases reported in the county during 1921. We have already accounted for 56 cases of typhoid fever in our discussion. Now, let us turn to the remaining 748 cases as shown by the following table:

Measles	14 cases
Smallpox	140 "
Scarlet Fever	59 "
Whooping Cough	240 "
Diphtheria	175 "
Chickenpox	103 "
German Measles	4 "
Septic Sore Throat	10 "
Infantile Paralysis	3 "
	748 cases

You will observe that of this number 14 cases were measles. These cases were more or less widely distributed over the county and it is indeed a remarkable showing that the cases were held down to so few. Under the old system, such as we had in Pitt County prior to 1916, I am quite confident we would have had over 1,000 cases, however, I shall not take this under consideration, because this is only an opinion, although I am sure it is conservative.

You will notice also, that there were only 175 cases of diphtheria. It is my judgment that we would have had many times this number under the old regime.

There were 59 cases of scarlet fever. Who can tell the terrible scourge that would have resulted from scarlet fever under the pre-department system, it being so widely distributed in this case? In scarlet fever, the mortality is exceedingly high and the morbidity is even worse. No man can put down in dollars and cents the value of the health department in controlling this epidemic in 1921.

This report includes 240 cases of whooping cough. Those of us who have been practising more than twenty years, recall vividly the fearful panorama which passed before us each day during an outbreak of whooping cough—complications of all kinds, sequallæ of every description with a high mortality. Is it possible to calculate the savings in time and money, to the tax-payers of Pitt County, by the Health Department, in controlling whooping cough during the recent year? I think not.

I do not deem it necessary to discuss in detail the other items of the above table. Suffice it to say that in my opinion, we would have had under the old system, at least four or five times the number of cases we did have, making 3,500 or 4,000 or even more cases of illness from these transmissible diseases, if we had not had our health department.

But what of the dollars and cents involved? Let us assume that of the 4,000 probable additional cases, we would have had a 5% mortaliy

which means 200 lives, which would cost us $200,000.00, even in slavery times, plus $120,000.00 for the morbidity period of these cases, which we will assume would have been 30 days each at $10.00 per day. This represents a total saving of $330,000.00.

TABLE

Estimated number, old system, five times	4,000 cases
5% mortality, at $1,000.00 each	$200,000.00
200 funerals, at $50.00 each	10,000.00
30 days morbidity period, 12,000 days at $10.00 per day	120,000.00
	$330,000.00

Again, let me ask the question. Has the whole time health department paid in dollars and cents in Pitt County? I think all will agree with me when I say, "*Well*, I think it has."

If there remains one yet who is skeptical as to the money value of this work, let us go further. It is a well recognized fact that teeth, tonsils, adenoids, and imperfect eyes cause a great number of the repeaters in our public schools. I am sure I am safe in saying that Pitt County is losing thousands of dollars every year because of the number of these children that have to take their work over, session after session, due to the defects above referred to.

Our health officer in his report says, "We were unable to have an adenoid and tonsil clinic in 1921, due to the fact that there were not enough funds available. In making examinations of the school children I found so many with defective tonsils and adenoids that it was absolutely necessary for these children to be taken care of in some way." I make this quotation to show the probable number in our county which needs attention. If we add the usual ratio of defective teeth and ears, we can begin to surmise as to the number of children in school who need these deficiencies corrected, and can further guess as to the number of those who have defective organs, that are school repeaters. While I know of no way, and there is no known way, at which we can arrive at anything like an accurate estimate, it is my judgment that Pitt County is losing because of its school repeaters, a large sum, perhaps many times more than its entire health budget.

Further, it is a well-known fact that a large per cent of the diseases of the heart, kidneys, nervous system, gall bladder, stomach, etc., of middle adult life, are caused by focal infections located in the special organs, such as the sinuses of the nose, tonsils, chronic ear discharges, teeth abscesses, etc. If you ask me what of the monetary value in this line of work, I should be forced to answer that while it is the merest speculation, it will total more than a dozen times the cost of the whole health department for one year.

Again, I notice in the report of our health department, references to the work in soil pollution, mosquito control, limited amount of work in tuberculosis, limited dental work, due to lack of funds, with 667

miscellaneous examinations including life extension, 295; lunacy 37; institutional 14; teachers 220. This indicates public saving in a small rather than a large way, to say nothing of the large educational efficiency service value.

If the 4,836 people in Pitt County who were vaccinated by the health department in 1921 against typhoid fever and the number that were given toxin-antitoxin and the other vaccines, had been forced to pay even a reasonable fee for the professional services and the vaccines, it is very probable that only a small number would have been immunized. It may be said that we cannot estimate the value in dollars and cents which has been saved the public in these free vaccinations. I think I can raise the question with propriety once more—does it pay Pitt County to have a whole time health department? I think I can safely say, in answering, "*Yes.*"

I have not gone further into the analysis of the report of the Health Department, taking into consideration the value of the laboratory work, the assistance rendered the venereal clinic, visits to jail, court house, convict camps, the number of services rendered by the modern health crusade unit, and several other things, because I think that the points, which I have emphasized, have already convinced you that we are a long, long ways ahead in dollars and cents because of our local public health service.

In conclusion, let me digress, please, for one moment, from the title indicated by my paper, and observe that we, as a profession, in my opinion are making a great mistake in not putting in the way of the newspapers, etc., wisely of course; conservatively, yes; ethically, certainly; in every nook and corner, articles describing and telling of the value of the public health service, and emphasizing its importance in reducing the death rate, extending life, lessening suffering, and making more efficient the life which is lived.

Let us remember, *forty years of aggressive service is worth more than two hundred years of sub-standard existence.*

DISCUSSION

Dr. G. G. Dixon, Ayden: I do not think, from a monetary standpoint, there is much room for discussing Dr. Dawson's paper. The truth is sufficient. No one could ask for a greater return, monetarily speaking than he has shown Pitt County to receive, 177 to 1.

Instead of undertaking to discuss the paper, I would like to say a word or two further. The paper read here a few minutes ago is not new to you people, it is not new to the doctors, not new to the public health workers. We know that the work done by the North Carolina State Board of Health, in conjunction with the county departments of health, is inestimable in dollars and cents. I do contend, though, that Dr. Dawson's paper is in the wrong place. That paper should be in every home in North Carolina, on the front page, in the biggest type possible to print it, at least once a month from now on. If the people of North Carolina can be shown what they are getting

in return for what they say is extracted in taxes, we shall not have to extract any more. The shekels will be dished out. Public health work is in its infancy, but I am sorry to say that it is bottle-fed, and unless we can get the proper food for it, it will not thrive. The doctors have not always understood; they have seemed to think that it was a tendency toward State medicine, but that tendency in the profession is growing less. Unless we teach the laity the value of public health work, public health work can not do its service. There is only one way to do it—put it before the people. If it is put in bulletin form they will not give it much attention. When we, as a profession, learn to put before the people of North Carolina the value of health, so that it will attract their attention, the average life will go up five or ten years, within fifteen or twenty years.

I thank you, gentlemen.

THE PRESIDENT: The only objection I have to Dr. Dawson's paper was that he handed us too many roses and did not criticise us, as I had hoped that he would do. We want constructive criticism.

DR. J. L. SPRUILL, Sanatorium: There were one or two points in Dr. Dawson's funeral oration which rather struck me, and one point was the praise of the health officers of the State. I do not believe that too much can be said in their praise. But there is another person, who is the right hand of the health officer, and that is the public health nurse, and I do not believe that it would be right to close this discussion without saying something complimentary to her. I believe that in my position and in my work, which takes me from one end of North Carolina to the other, I have an opportunity of observing her work perhaps better than any other man in the State, and I can not say too much for their work. Of course, they are not all perfect, by a good deal. I know of one or two public health nurses in our State who could not get along with the Master (I say it reverently) if He were a health officer. But then I know of one or two health officers who could not get along with the Virgin Mary if she were a public health nurse. These women are really doing more work than they have any business to, more physical labor than any woman ought to do. I would not like to see this discussion closed without saying something in appreciation of them.

DR. J. M. PARROTT, Kinston: I find every year, that I look forward to the meetings of the Public Health Association and I always come and always enjoy its sessions. I think I have attended every one you have had.

Concerning Dr. Dawson's splendid analytical discussion, I make, first, this observation, that his county is a very remarkable and exceedingly fortunate county. It is wonderfully rich in natural resources and is peopled by a splendid folk—perhaps above the average. It is especially fortunate in that it has, in my judgment, one of the very best Chairmen of County Commissioners in the State, Dr. Dawson.

He is not only a very, very, capable physician but he is also a genius for organization and financiering. He has been of great help in his county and has performed a work which will tell for good for many years to come. I wish we had many other Dr. Dawsons distributed throughout the State.

Further, Pitt County is fortunate because it has one of the most capable health officers in our commonwealth. He is a very pratcical man and understands the very fine art of handling people and the value of cold facts. The report he recently submitted to the Board of Commissioners, is a valuable document. In my opinion, all our County Health Officers should learn how to submit facts giving information regarding all phases of Public Health work including financiering of the same. The submission of such data together with intelligent interpretation will accomplish a great deal in impressing the people with the value of this great movement—Public Health work—the large and staggering amount which could be saved with a few dollars judiciously invested and wisely expended in disease prevention as well as disease cure. Dr. Crowell stated that he disliked to include, in mortality tables, savings statistics based on prevention of deaths, that is, the value in dollars and cents of the human life, because eventually the person would die anyway. I think the doctor is in error in taking this position. We all know, of course, that more than one half the houses will eventually rot down or be destroyed by fire or physical violence and yet it is entirely the correct thing to charge to profit and loss, houses which have been destroyed by being burned down. In no other way can such a misfortune be cared for in the proper system of accounting. And so should the dollar value of a lost human life be charged in the profit and loss account of the Public Health department. I sincerely wish that we had a whole time health department as efficient as that in Pitt County, in every county in our State. It would add greatly to the happiness, efficiency, and longevity of our people.

It seems to me that our Health Officers should study and strive more for developing human efficiency, than is being done. I like to see lives saved and I also would like to see those who live, live better. This we cannot do unless we decrease degeneracy, physically, mentally, and morally, and increase efficiency, physically, mentally, and morally.

I did not intend to speak so long, Mr. Chairman, but I could not refrain from doing so. Dr. Dawson's paper has aroused me, as I know it has all of you, and if I were a member of this organization, I would move that it be published in the State papers.

THE GENERAL PRACTITIONER AND PUBLIC HEALTH

W. F. HARGROVE, M. D., KINSTON

I can say truthfully I am not glad to be here addressing an audience. February 3, 1922, Dr. Register informed me that I had been chosen to write a paper on the relationship of the general practitioner to public health.

I was very much inclined not to do it, but if what he closes with, "But we know of no one better qualified" I feel that I am in the midst of kindred spirits—"Equals in inferiority" but striving for better things. If you don't like what I say blame Dr. Register as he is responsible for my saying anything at all.

In this subject are two clear cut propositions. The doctors' duty and the public's duty.

First, we are doctors of medicine because our Alma Mater conferred this title on us, but we are practitioners of medicine because our State permits it by license.

Practice of medicine, like any other public utility, depending on the good will of the consumer for the franchise regulations that gave it life, requires of us certain things.

If we fail to do these things, then our franchises, "The right to minister to the public for pay," can be taken from us.

The kickers, against the activities of the State Board of Health regulations, as enacted into laws by State legislatures, should be reminded that they are doctors, by virtue of this franchise and not because of their medical knowledge.

But our franchise does not require us to practice medicine for nothing or to minister to the poor without pay, and the doctor that says he will gladly attend anybody that can't pay reminds me of the "Fisherman."

"Who gets up early in the morning and disturbs the household and great are his preparations.

He returns late in evening smelling of strong doings and the truth is not in him."

The protection of the public against disease is a public and not a professional function.

The enactment and enforcement of health laws are functions of the State, just as are the enactment and enforcement of laws for the protection of property. The caring for the poor is no more part of a doctor's work than the rest of the people and the public should pay for it.

The greater part of this duty has been carried by the doctors because they are cowards, afraid not to, for fear of public opinion; and they will continue to carry it until they raise up en masse and refuse to do it. And this will happen unless the public through its agent the State Board of Health, equips county hospitals and laboratories for them to work in.

With this as a preliminary I will now try to say something on my subject as it is being carried out today and will be carried out in the future.

"Oh wad we the power the giftie gie us to see ourselves as others see us, it would from many a blunder free us and foolish notion."

The relation of the general practitioner to public health, sounds very nice, in fact, the expression is a pretty good mouthful; but the actual practice of it as expressed by the activities of the State Board of Health is to put the doctors between the devil and the deep blue sea.

The dictum is getting to be "If you won't, we will," meaning usually free service; giving something for nothing, if done by the doctors in private practice; but to be paid out of the State health budget if done by a health employee—a taxeater (Oh, how we love taxes when said taxes are paid by the other fellows), for example a dental, tonsil, and adenoid clinic for children. Then a sop to the adult malefactor, a venereal clinic; with a God bless the women, through the Sheppard-Towner Maternity bill sponsored by eight spinsters and one married woman without children called the Child's Welfare Bureau.

They propose to give prenatal advice. This can mean only one thing, *that every pregnant woman must be registered,* so this bureau can get to her to give advice. This was a womans' move sponsored by eight spinsters. Is the joke on women?

Are our homes to be invaded by a Board of political taxeaters to register all pregnancies with the local health officer? Then telling and demanding how your wives must live during gestation, accuse them of being syphilitics by insisting on a Wassermann?

If the social reformers really want to do the county a service, they would go home and have a few babies of their own.

It may be that old maids and bachelors are best fitted to raise children, but I believe in the old fashion mother who kisses babies' bumps and cures the pain with a little personal love.

This state of affairs has been brought about by the sins of omission of the doctors. We have failed to be teachers of general health laws and have by our action said, let George do it.

George in this case being the State Board of Health, Red Cross, Federal aids, etc. These various agencies having gotten into action, the doctors are crying from the housetops and by-ways, "Stop the damn-fools!" But the public is catching on to some of the fundamental things of public health after being taught by our secretary of the State Board of Health through the various Bureaus. (And right here I want to commend my friend, Mitchener, as a good bureau chief to pattern after.) Not the necessity *for* but the good *of* vital statistics, reporting contagious diseases, cover up your sneezes, etc. All going to the primal law, "A sound mind in a sound body."

Both of these being in the field of general practice, I am reminded of ye old and new method of procedure.

"The old time practitioner used to call in a one-horse buggy, and his apparatus consisted of one thermometer, two hands, two eyes, and one sixty-horse sense power brain.

The modern city specialist calls in a 48-horse power limousine, accompanied by a nurse, assistant, technician, and a trunk full of apparatus. He too has one thermometer, two hands, two eyes, but the horse power is in his limousine.

Too much overhead charges.

This means that only the rich can afford to be sick. Sickness, like funerals, is getting to be a luxury to be enjoyed exclusively by the rich.

But as the poor, like taxes, are always with us, the doctors have got to help keep them well as a self protection; as we will have to minister to them anyway, whether we would or not.

We will have to teach and practice preventive medicine instead of devoting all our time to treating the sick. Take the lead in all health work instead of following some bureau chief.

It is absolutely essential that the physicians recognize the fact that treatment of diseases of the community is just as much their work as treating the individual.

If this were done then some of these health officers would have to practice medicine and get their pay out of the people instead of an envelope. It would do you good to have to go up against it every now and then. Then you would not be so cock-sure how medicine should be practiced.

Gladstone once said, "the health of the people is the foundation of any country and the care of the public health should be the first concern of every statesman."

Health being the main support to the tripod, health, liberty, and the pursuit of happiness, it behooves the medical profession to stop hiding their lights under a bushel and let the public know what we can do and then do it. Teach the young how to grow strong by having defects corrected, as the solution of the problem of child health will solve the problem of public health.

This will require some thoughts for the good of the other fellow instead of for me and my wife, my son John and his wife.

As thinking is hard work to most of us, we have let the State Board of Health do it, then we promptly devoted our *talking*, but not thinking to destructive criticism, the theme of which is, the Board is doing "something-that-will-affect-adversely-my-private-interest."

Our aims should be one, the public good and this can only be accomplished by our getting together and talking it over.

Our State through its policing power has delegated the health work of the State to the State Board of Health acting through its secretary to see that its sanitary rules and regulations are carried out, to-wit: *Teach the people, but teach them collectively.* And right here come the dangers; whenever the health authorities begin to treat individuals then a conflict is invited.

The health board has taken in too much territory. Ignorance and indifference on the part of the people regarding the value of public health work is the great hindrance. To overcome this is the work of the public health officials; leaving to the doctors individual instruction in the home to carry out specifically what the public has been taught collectively.

This means that the superintendent of health with his aids should meet with the medical society of the county in joint conferences as to how public health work should be carried out.

What particular things should be stressed

There are certain things on which there should be no disagreement, sanitation, pure water, domestic science, correcting defects of childhood, control of infectious and contagious disease, quarantine, etc.

I want to go on record right here as saying that all charity organizations undertaking any kind of welfare work involving public health should not be permitted to engage in such work without permission of the superintendent of health. This will prevent duplications which always lead to inefficiency and extra cost to the public either in taxes or drives for money. In either case the public pays the bills.

Speaking more specifically I will take up some of these items.

Sanitation being the keystone of public health this should be stressed, all the time, by all health officers. Clean up and keep clean; clean minds, clean bodies, clean houses, clean premises, clean communities. This should be taught at clean school houses.

Pure drinking water for every home whether tenanted by white or colored. Let's have no more open wells with the old oaken bucket, as every open well is a cess pool.

The only reason users of well water have not all died prior to this is due to the fact that we become immune to our own filth and if the well is used by many we gradually become immune to the community filth. But before we know it some one has dropped in some filth we are not immune to, say typhoid filth. Here starts an outbreak of fever and no one knows where it came from. Open well, being a menace to public health, should be reportable and condemned.

The twin sister of sanitation is Domestic Science. Mrs. McKimmon, State home demonstration agent, recently said, "I once heard a long lean man say, 'I bear in my body now, and will to my dying day, *marks* of having been *the thing* upon which my wife practiced when she was learning to cook'!" Not all the marking was done by bad cooking, however. The woman who feeds her family the too common diet of meat and potatoes, rice and bread, pie and coffee, and does not know what this diet lacks as surely marks her family as does the woman who has little knowledge of how to prepare food properly.

"No matter what other job a woman has, in nine cases out of ten, the job of feeding the family is thrust on her."

If Mrs. McKimmon's statement as above quoted is true, then this should follow. All girls should be taught the value of food stuffs and how to prepare same fit to eat.

In spite of "Votes of Women" there can be no other way for increase in babies except for the women to become mothers. This means homes and the keeping of homes, and the cornerstone of a home is suitable food properly prepared.

How can a woman do this unless properly taught?

Catch them while they are young and teach them that bread made with the old fashioned rolling pin is a better painter of checks than a lip stick and that there never was a divorce when the wife was a good cook.

Teach children what to put in their stomachs rather than where the stomach is and how to keep the skin clean rather than how many bones they have in their bodies.

Here begins the solution of child health which is going to solve the problem of public health.

Have Mrs. McKimmon fit a truck with a cooking outfit and go to every school house in the State and show the mothers how to cook and repeat about every three or four months.

I would suggest it be done in this wise. Invite all the patrons of the school to an *outdoors picnic* and have them bring raw food. Each family to bring the things they were going to have for dinner to feed the family at home that day. With these materials provided, prepare the dinner and feed the crowd. During the eating explain to the cooks—the home keepers, and the prospective cooks—their daughters, why certain food stuff is necessary in their daily diets and the necessity of a garden and a cow for every family. *Teach collectively*, at a clean school house and this school house should become the community club house where the State Board of Health should do its teaching collectively.

Fear has always been a potent factor in the control of diseases, and will be, until the public learns that these can be brought under effective control by prompt reporting and efficient quarantine.

Lack of control in the majority of cases is due to the failure of doctors to live up to the rules and regulations of the sanitary code.

Failure to report *promptly*, not failure to *report*, is where the doctors do most to help spread diseases.

But I can assure you it takes some backbone to report some cases, knowing by reporting we will at present, at least lose the practice of this family, for we are promptly told that Mrs. Jigg's children had the same breaking out and Dr. Inac-Prac-tic did not have a *card* stuck on her house, telling the world her *children* had bumps on them.

Without the co-operation of every doctor in the community in reporting diseases, in assisting in the prevention of diseases, the public health officer is practically helpless.

Kipling says, the law of the jungle is "the strength of the pack is the wolf (this represents the superintendent of health) and the strength of the wolf is the pack." (This represents the doctors in the community.)

Another law of the wild is, "Eat or be eaten." If doctors don't do their part then this is going to be taken from them. The various so-called healings cults are sent on us because of our sins; and not only on us, they are plagues on society as well.

There is a rule in some of the card games that says, when in doubt play trumps. The State requires this of all doctors, when in doubt

play trumps, treat all suspects as real troubles and watch them; report promptly to proper authority if your suspicions are confirmed, thereby earning the right to our franchise, the right to practice medicine for pay. In doing this we are protecting the public, which is our duty.

You notice I have said very little about the general practitioner and for this reason: That in the evolution of medicine as I see it, there soon is not going to be any such critter. For the family physician will be the family health officer and his main business will be to see that his families are kept well.

It will be here that the general practitioner will join hands with public health officials in public health work and it is here where the solution of the problem of child health will solve the problem of public health, which has for its goal, "a sound mind in a sound body."

SUMMARY

In the general unrest, whatever is its cause, taxes plus the cost of high living, is beginning to be the talk of every county in the State; and in these rumblings, are hints at the superfluous cost of superintendents of health, nurses, farm demonstrators and the various activities that have for their object public benefit.

Now if you health officials want to help the people you will have to stop wearing the seats of your chairs slick and get out among the people, touch elbows with them while firing bulletins at them.

Meet the doctors of the county and discuss county problems. Here the practitioner can aid in State health work.

DISCUSSION

DR. W. S. RANKIN: My good friend, Dr. Hargrove, one of the fairest men I ever knew, sent his paper to Raleigh to a mutual friend, and asked that friend to hand it to me, writing that mutual friend that there was some criticism in the paper of the State Health Officer, and that he wanted me to see it before he read it. Well, while the paper was on the way to Raleigh I was on the way to Kinston— not being one of those health officers who wear out the chairs. Now, I call Dr. Parrott and Dr. McNairy to witness that I expressed views in a conference there that, if I had seen his paper, Dr. Hargrove might have sworn I got from him. Later I read the paper very carefully, to see what issues he brings up. Dr. Hargrove comes out good and strong for something the medical profession should carefully consider, and which the medical profession can get rid of if they want to. I said to him the other night that charity practice, so far as the physicians are concerned, ought to pass, that in a county with twenty-five physicians and thirty thousand people the charity work has to be done, but it should rest not upon twenty-five citizens but upon the thirty thousand.

He makes another point, and puts his finger on the crux of this whole question. He says the State says to the profession, "There

is about five times as much disease out there as you are handling. We have sent out investigators and have found that you are telling the truth." There is really about five times as much disease in North Carolina and throughout the country as the medical profession is handling and can handle. The very fact that there exist cases of disease and impairment over what the medical profession can take care of is the sole ground for the health department. The State says that it recognizes the fact that the medical profession has chosen more than can be cared for. Here is a great surplusage of disease, causing a tremendous handicap, killing innocent women and children. This surplusage of disease, from two to five times more than the medical profession can handle, can be taken care of in only one way under the sun, and that is by the medical profession.

We have to create a greater demand for medical science, for the use of doctors. We have to make diseased people understand the value of medical services, and get them to use the doctors more. How can we do that? By educational methods. But we cannot increase that demand by shooting bulletins from Raleigh or by correspondence courses or by sending bulletins on special diseases to the homes where those diseases exist. We can not do it by sending out newspapers, any more than the Baptists or the Methodists could build up their churches by the church papers alone. They have local preachers. So the local doctors should be the preachers of health. This greater demand has to be brought up by the State's going its limit and by the local medical profession's going its limit.

Now, I hear you say that that cannot be done, that doctors cannot make speeches. Yes, it can be done. Let a man be chosen by the county medical society to go out and give lectures, and send him out to meet the people and to talk to them in the country schoolhouses, with an address that perhaps was prepared by the county medical society. Let it be understood that he represents the whole society. That is the first thing we have to do to increase the demand for medical science. That is done by education, and the State Board of Health can never educate to the point where the education needs to be done. The local medical society will have to do it. Then there is only one set of people under God's sun that can supply the demand, and that is the local medical profession. That is what the State Board of Health is trying to do, to make the people understand and appreciate the value of medical science and use it.

To come to the second point, the local medical profession has to be organized to handle community disease as well as individual disease. We shall see within the next few years a complete change in the attitude of the local medical societies. Now, fortunately, we can appeal to the doctor on a broad business basis, and it has to be done. You cannot build up a broader appreciation of the value of medical science without building up the doctor's bank account. The program will help not only the public, and the profession in the realization of its higher ideals, but it will also help the profession in its ordinary, every-day, bank-account needs.

I hate to hear my friend over here condemn the women. If he condemns the women he should also condemn the old bachelors.

I do not want to raise an issue here, because I always like to dodge an issue. Dr. Hargrove said that the State Board of Health is taking in too much territory. I think that when he says that he ought to tell us what territory to take in. I want him to tell me where we are treating disease individually. The only things I know are tonsil and adenoid clinics, hookworm work, typhoid work, and anti-malaria work, and he approves all of it.

Dr. Hargrove, closing the discussion: I have very little more to say, except in reply to Dr. Rankin about individual work. At the present time, I stated, the danger is that the State Board of Health would start out to do individual work. There is a tendency now to that. That is where the danger of conflict is. We always agree that collectively it has to be done by the State Board of Health, but whenever they start out to do individual work that is where the trouble comes. Let the State Board of Health do the work collectively, and leave it to the doctors to go to houses individually and teach the people in the homes what the State Board of Health has taught collectively. We will teach them at home individually. Collective teaching is their part.

Dr. Smith, President: I think I voice the sentiment of this Association when I say that we most heartily and sincerely appreciate Dr. Hargrove's paper. You have voiced, Dr. Hargrove, some of the dangers which I think every health officer is cognizant of, and I believe that your paper will help us to keep in our track. It is very easy for us to slip just a little over the line. Sometimes we are drawn into it by the associated charities worker, who draws us like a mustard plaster, and we just cannot keep out. Therefore I appreciate your paper very much, because that kind of criticism will help us.

REPORT OF COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

The Committee appointed to revise the Constitution and By-Laws of the North Carolina Health Officers' Association so as to make applicable the name, "North Carolina Public Health Association," which name was accepted at the 1921 session of this Association beg to report, viz.:

ARTICLE I—NAME

Section 1. This organization shall be known as the North Carolina Public Health Association.

ARTICLE II—PURPOSE

Section 1. The purpose of this Association shall be to bring into one organization those citizens of North Carolina interested in public health, so that by regular meetings and interchange of ideas they

may secure more efficient co-operation and uniform enforcement of sanitary laws and regulations, and for better dissemination of such knowledge as will make more effective the opinion of the profession in all scientific, legislative, public health, material and social affairs.

ARTICLE III—MEMBERSHIP

Section 1. Any public health officer in the State of North Carolina who is in good moral and professional standing, all members and employees of Board of Health, either State, county or municipal and any other citizen interested in public health.

Your Committee recommends that the entire Constitution and By-Laws be submitted to a committee for thorough revision.

C. W. Armstrong,
J. S. Mitchener,
R. L. Carlton.

The report of the Committee was adopted, and the Committee was continued.

REPORT OF COMMITTEE ON RESOLUTIONS

Resolution No. 1.

Whereas the principles of public health have, with few exceptions, been developed and advanced to their present state by the medical profession; and

Whereas the progress of public health has been such that in the public mind there is an apparent divergency of interest between public health workers and the practicing medical profession; therefore

BE IT RESOLVED that this Association go on record as urging a closer relationship between public health workers and the practicing medical profession, to the end that the mutual interests of these two agencies may be better understood and developed to the advantage of both the public and the profession.

Resolution No. 2.

Whereas the necessity for a closer relationship between the public health workers and the practicing medical profession, rather than a separation of their interests, seems to be so imperative; and

Whereas, because of the increase in the volume of the transactions of this Association, the increased cost of printing of the said transactions entails a burdensome charge upon the State Medical Society; and

Whereas there has developed some sentiment that the transactions of this Association in the future be omitted from the transactions of the State Medical Society; and

Whereas the programs of this Association, now in its twelfth annual session, approximate the usual programs arranged for the Section on Public Health and Education of the State Medical Society; therefore

BE IT RESOLVED that it be respectfully recommended to the State Medical Society that its Section on Public Health and Education be hereafter omitted and that the North Carolina Public Health Association be substituted for the same; and

BE IT RESOLVED, further, that a committee from this Association be appointed to confer with the proper authorities of the State Medical Society at this meeting for the purpose of making the necessary adjustments to carry out this recommendation.

Resolution No. 3.

Whereas the work of the superintendents of public welfare is so closely allied to that of public health; and

Whereas such a valuable addition to today's program was made by one of these superintendents; therefore

BE IT RESOLVED that an invitation be extended to the superintendents of public welfare, through their State Director, to cooperate in every way possible with the work of this Association.

Resolution No. 4.

Whereas it is felt that this meeting has been one of the most interesting and instructive sessions in the history of the Association, therefore

BE IT RESOLVED that the sincere thanks of this Association be extended to all who have contributed the splendid papers and discussions on the program.

Resolution No. 5.

Whereas the Robert E. Lee Hotel management extended, without charge, the use of this hall, which is so suitable for the purposes of this meeting, and have been so courteous to the Association in every way; therefore

BE IT RESOLVED that they be given the thanks of this Association for their contribution to the pleasure and success of this meeting.

Respectfully submitted,

K. E. Miller, *Chairman*,
P. P. McCain,
N. B. Adams.

The report of the Committee on Resolutions was adopted, and the members of the Committee, Doctors Miller, McCain and Adams, were appointed as the committee to confer with the State Medical Society and were directed to report to the Committee on Revision of the Constitution and By-Laws. Resolution No. 2 was referred to the Committee on Revision of the Constitution and By-Laws.

The following resolution, offered by Dr. A. C. Bulla, and was referred to the Committee on Milk Standards:

1. That a contest be carried on in conjunction with the North Carolina State fair, endorsed by the Health Officers Association, and under the direct supervision of the Dairy Extension Service of the State.

2. That each city maintaining market milk inspection be assessed pro-rata for premiums for this competition, and the individual entries a small entrance fee. Pro-rata higher entry fees being charged for entries coming from cities or counties not subscribing to the general fund.

ELECTION OF OFFICERS

The following officers were elected: President, Dr. A. C. Bulla, Raleigh; Vice-President, Dr. C. W. Armstrong, Salisbury; Secretary, Dr. F. M. Register, Raleigh.

Adjourned.

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