

TRANSACTIONS

OF THE

NORTH CAROLINA  
HEALTH OFFICERS' ASSOCIATION

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ELEVENTH ANNUAL SESSION

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PINEHURST, NORTH CAROLINA .

MONDAY, APRIL 25, 9:30 A. M:

# NORTH CAROLINA HEALTH OFFICERS' ASSOCIATION

## ELEVENTH ANNUAL SESSION

PINEHURST, MONDAY, APRIL 25, 1921

### OFFICERS

DR. R. L. CARLTON, President, Winston-Salem  
DR. L. J. SMITH, Vice-President, Wilson  
DR. G. M. COOPER, Secretary-Treasurer, Raleigh

### PROGRAM

9:00 A. M.

1. Call to Order by the President.
2. Prayer—Dr. J. A. Morris, Oxford.
3. President's Annual Address—Teaching Health, B. L. Carlton, M. D., Winston-Salem.
4. Report of Secretary-Treasurer—G. M. Cooper, M. D., Raleigh.
5. 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.
6. A Simplified Venereal Disease Program—Millard Knowlton, M. D., U. S. P. H. Service.
7. Symposium on Maternity and Infant Welfare:
  - (a) Infant Mortality—A Definite Responsibility of Public Health Authorities—Wortham Wyatt, M. D., Winston-Salem.
  - (b) North Carolina Birth and Death Statistics with Particular Reference to Infant Welfare—F. M. Register, M. D., Raleigh.
  - (c) The Nurse's Relation to Infant Welfare—Miss Rose M. Ehrenfeld, R. N., Raleigh.
  - (d) The Midwife a Factor in Maternal and Infant Welfare—Miss Katherine Myers, R. N., Raleigh.
  - (e) Discussion—Opened by J. B. Sidbury, M. D., Wilmington.

3:00 P. M.

1. Effective Quarantine Work:
  - (a) Getting Cases Reported Early—P. J. Chester, M. D., Greenville.
  - (b) The School as One Means—R. S. Bailey, M. D., Henderson.
  - (c) Time of Quarantine—E. F. Long, M. D., Raleigh.
  - (d) Control of Preventable Disease by Immunization—John H. Janney, M. D., Washington.
  - (e) Discussion.

2. Tuberculosis Diagnostic Clinics—J. L. Spruill, M. D., State Sanatorium.
3. General Public Health Nursing:
  - (a) The School Nurse—Duties and Methods—Miss Percy Powers, R. N., Winston-Salem.
  - (b) Reaching the County School Population—Mrs. Alice T. Bassett, R. N., Newton.
  - (c) Getting County Authorities Interested—Mrs. Mildred Hargrave, R. N., Asheboro.
  - (d) Reaching the Adult Country People—Miss Lula B. Saucer, R. N., Weldon.
  - (e) The Modern Health Crusade—Mrs. Dorothy Hayden, R. N., Greensboro.
  - (f) Discussion.

8:00 P. M.

1. Backward and Downward Trend of the Human Family in America—J. E. Malone, M. D., Louisburg.
2. Informal Round Table Conference Conducted by the President—Subjects: Whatsoever Things Concern a Health Officer.
3. Reports of Committees.
4. Adoption of Resolutions.
5. Election of Officers.
6. Adjournment.

## TRANSACTIONS

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## NORTH CAROLINA HEALTH OFFICERS' ASSOCIATION

### ELEVENTH ANNUAL SESSION

MONDAY, APRIL 25, 9:30 A. M.

The meeting was called to order by Dr. R. L. Carlton, of Winston-Salem, President.

### INVOCATION

DR. J. A. MORRIS, OXFORD

Our Father, God, we pray for Thy presence here in this meeting. We come together as Thy servants, fighting on Thy side that which destroys Thy creation, and we pray Thee to be the inspiration of this meeting and the inspiration of everyone who engages in this fight, that he may go true and brave and valiant and accomplish Thy will. Help us in the deliberations here, that we do the things necessary for our encouragement in our several works. Oh Lord, we pray for the people also, those unto whom we are sent. We pray Thy presence with every man who works against disease. Give him a vision and clearness of vision that will enable him to know the things which are necessary and accomplish them through Thy help. We pray Thy direction here as in all things we do for Thee; for we are weak without Thee, as nothing, and dependent upon Thee, and inasmuch as we are trying to do Thy work we claim Thy help and ask Thee ever to be with us. Through Jesus Christ, our Lord. AMEN.

DR. CARLTON, PRESIDENT:

Before reading what I have to say, I wish to express my appreciation in a very great degree of being where I am today. It is an honor, and it is appreciated more than I am able to express.

## PRESIDENT'S ADDRESS

## TEACHING HEALTH

Dr. Victor C. Vaughn in his presidential address before the American Medical Association in 1914 said: "We boast of a great civilization, but this is justified only within limits. Science more nearly dominates the world than at any time in the past. Learning permeates the masses more deeply, but credulity and ignorance are widely prevalent. In this country of nearly one hundred millions, there are thousands whose greed impedes the progress of the whole, tens of thousands whose ignorance retards their growth, and other thousands who live by crime and procreate their kind to feed on generations to come. We have our schools, colleges and universities, while our almshouses, insane asylums and penal institutions are full. In our cities we see the palatial homes of the very rich, the splendid temples of trade and commerce, the slums of want and poverty, and the homes, both rich and squalid, of vice and crime. No nation in this condition can be given a clean bill of health. Our hilltops are illuminated by the light of knowledge, but our valleys are covered by the clouds of ignorance. We have not emerged from the shadows of the dark ages. The historian of the future will have no difficulty in convincing his readers that those who lived at the beginning of the twentieth century were but slightly removed from barbarism, as he will tell that the school, saloon and house of prostitution flourished in close proximity; that the capitalist worked his employees under conditions which precluded soundness of body; that the labor union man dynamited buildings; that while we sent missionaries to convert the Moslem and Buddhist, ten thousand murders were committed annually in the midst of us, and that a large percentage of our mortality was due to preventable disease."

These conditions, so well described by this great man, as existing nearly ten years ago, prevail in almost the same degree today. Evidently there is much to be done before we pass out of the shadows of ignorance into the full light of knowledge. The medical profession has important duties to perform in the work of making the human race better, tho' no one would imply that the entire burden of the uplift of mankind devolves wholly upon the medical man. But, again quoting Dr. Vaughn, "In past ages, medical men have been the chief torch bearers of science, the only light in which men can safely walk, and we must keep and transmit to our ancestors this trust and honor."

Of the medical man and his relation to the eradication of preventable diseases it will be my province to more especially speak of that group and their co-workers who are engaged, as a majority of those here are engaged, in various public health activities.

It has been discovered that health, like happiness, is to a large extent a matter of habit, and that it can be taught. And, this business of teaching health does not necessarily mean a code of laws or a lesson of hard, uninviting facts to be committed to memory, but, on the other hand, it means instruction so well delivered that health habits will be formed as a result of such instruction, sickness conditions will have been prevented, and well persons will have been kept well.

To keep folks well is the objective of every health department, be it State, municipal or county. And, the mission of every one of us and of every helper in our particular department is to so carry the public health message to the public and to so explain the workings of every division of our efforts that people will fully understand and appreciate. I do not mean to imply that a health officer or his staff of co-workers should be engaged in a continual round of explanations and descriptions of their activities. But every activity should be done in such a way that it is a source of instruction and that it may in some way help the person or persons we are serving to prevent sickness and to form habits which will keep them well.

## CONSIDER VITAL STATISTICS

It has taken a long time to convince people generally that statistics of these two most important events in ones life—the birth and death—are really of importance to any one, but this has finally been driven home and it is pretty well understood that birth registration is of much significance to the individual himself and that mortality records are likewise of value not only to the family and the health department, but to the community. In this matter of dry statistics, it is found that the public will more readily respond than has been thought. For instance, a little more than the ordinary amount of human interest is taken in parents and the new baby in my town. When the birth certificate comes in to the registrar, he immediately mails to the mother a large envelope containing an attractive baby booklet, a certificate of birth registration bearing a bit of ribbon and the city seal and a letter of congratulations from the health officer. This letter makes clear to the mother that if it is necessary, the entire department of health is at her command to help her keep baby well. If, as so frequently occurs, baby's birth certificate bears no given name,



the baby's physician having filed the certificate before the given name had arrived, there is written into the certificate "Unnamed" or "No Name" so and so and a blank form for this name is attached with a simple explanation that the records are incomplete without the given name, that it would never do for the birth certificate to merely state "Unnamed" baby so and so, and almost invariably this information is brought to the registrar by one of the parents, within a very few days. This method of approach is a means of getting literature into the hands of the parents which is never resented, and should be used more extensively as an entering wedge toward public health instruction.

#### BABIES AND CHILDREN OF PRE-SCHOOL AGE

Are we doing all that can be done toward making our communities and the State as a whole safe for babies? Good work is undoubtedly being done all over North Carolina along the line of child welfare, but we will not have done all that we should until mothers shall have been so instructed that they will not lose thousands of little ones every summer because of diarrheal conditions, and that they will so understand feeding and the benefits to be derived from rest, fresh air and proper clothing that hundreds will be saved every year because of this knowledge, that they will under no circumstances expose or allow their little children to be exposed to any of the acute contagions—and just here let me add that some of the doctors themselves have not yet learned the value of keeping children away from the acute contagions. Not many weeks ago one of the older physicians of my town, before a meeting of the medical society, took to task very severely the local department of health because of its activity in urging mothers to keep their young children away from measles which was at that time epidemic in the community. The health department had repeatedly warned of dangers of complications, after effects, etc., and this physician questioned whether such statements were not actual misrepresentations of the facts. Indeed, our program is not a small one nor an easy one when such obstacles as this are to be overcome.

#### SMALLPOX

Are we doing all that can be done toward the eradication of smallpox? One would not think so in view of the number of cases occurring in this State every year. Are we delivering the message of vaccination as it should be delivered? There is absolutely no excuse for any school child in North Carolina to ever come down with a case

of smallpox and this is doubly true in those towns and counties which have a health organization. Our laws are amply sufficient to enable local health departments to enforce vaccination of school children and where this is not done some one who is positively responsible is guilty of failing to teach this phase of health to his board and the community.

#### DIPHTHERIA

All public health workers insist that every case of sore throat in a child should arouse the suspicion of parent, teacher, nurse or other person with whom the child comes in contact. Where there is school medical inspection, teachers and nurses are instructed to take cultures of a suspicious throat and send the child home to be isolated. Parents are told of the dangers of diphtheria, are instructed not to attempt home treatment, but to send for the family physician, are warned that delays are very dangerous and are told of the wonderful advantages to be gained by the early administration of antitoxin—thus far we have gone with our instruction regarding diphtheria in most communities in North Carolina. Have we gone far enough? Have we taught all there is to teach of this dread disease which in spite of antitoxin takes a toll of our children every year? Have we given the public in this respect all to which it is entitled? Have we prevented all the cases of diphtheria which could have been prevented?

All is not being done that can be done for the control and stamping out of this disease. We agree with Dr. C. E. A. Winslow who says: "A quarter of a century after the discovery of diphtheria antitoxin, the fruits of that discovery are not fully garnered. We possess a more complete knowledge of diphtheria and a more complete power over it than in the case of any other communicable disease. We can detect the incipient case and the carrier. We can measure natural immunity by the Schick test. We can produce passive immunity by the use of antitoxin and active immunity by the use of toxin-antitoxin mixture. Every weapon which could be needed to fight this enemy is in our hands, yet diphtheria continues to occupy third place among the communicable diseases and kills eleven or twelve thousand persons in the registration area each year.

Children, and adults too, are entitled to the benefits to be derived from the application of the Schick test and treatment with toxin-antitoxin and it is hoped that every member of this association will so impress this fact upon the people of his community that programs for the inoculation of all non-immunes will be urged all over the State. I am very glad that this particular phase of communicable

disease control is to be discussed in some of the papers on our program today.

#### TUBERCULOSIS

The amount of good work being done in North Carolina for the care of our tuberculous and for the protection of others from infection is very gratifying indeed. We have a State Sanatorium which for character and excellence of work is not excelled by any in the United States. The sad feature is that the capacity can not be increased threefold for white patients and a sanatorium for colored patients be established. Just here, let me say, our duty as teachers of health comes in again—we should so teach and preach anti-tuberculosis propaganda in our various districts that public sentiment will be so moulded in favor of increased sanatorium facilities that our legislative bodies will gladly make them possible.

The various county and city clinics for diagnosis of tuberculosis are doing good work, as are the clinics conducted by workers of the State Bureau of Tuberculosis. We are teaching our people along right lines when we encourage them to go to such clinics for examination and advice. We are giving them proper instruction when we send our public health nurses into their homes to tell them how to care for themselves and how to protect others and instruct as to the correct use of rest, fresh air, sunshine and diet. Much has been done for our people by means of literature, clinics, nurses, sanatoria, etc., and much is yet to be done. After all, we have hardly made a beginning in anti-tuberculosis work. There are many things we need to teach concerning tuberculosis and the various methods of prevention which have scarcely been mentioned. How many of us have so taught our school boards and parent-teacher associations regarding the advantages of *Open Air School Rooms* that such have been established? So far as I know there are no open air school rooms in North Carolina schools, which fact is a sad commentary on our work as teachers of health along this particular line. There are children in our schools who have tuberculosis now, others who are from families some one or more members of which have the disease, others who are anemic and ill nourished and who will fall an easy prey to tuberculosis if exposed to it. More should be done for these children than is now being done. Leading health workers from all sections of this and other countries think the chief means of solving the problem the problem of the care of children of this type lies in the establishment of *Open Air School Rooms*. An open air school room is one where the children are cured and taught at the same time. The rooms are

so arranged as to be practically out of doors—of course being protected from storms. The children are clothed in accordance with the weather, extra lunches are served, rest periods are observed, the work modified to suit their needs. Children who should be in such rooms are not necessarily tuberculous, but may have been exposed to it, they may be suffering from malnutrition and are too weak to keep up with their classes, they may be children who are frequently absent from school because of colds, bronchitis, etc. When such children are placed in open air rooms they gain rapidly in their school work, and they gain amazingly in their physical development. The child's power of resistance is greatly increased, they seldom suffer from colds and they contract the infectious diseases with less frequency than their mates who are not in open air classes. Such classes are life savers and have prevented many cases of tuberculosis where they have been thoroughly tried. In cities where schools of this kind have been opened they have never been closed. There are numbers of children in both white and colored schools all over North Carolina who should be in just such classes as those mentioned and it is a very worthy part of our teaching program to so make our people understand this need that open air school rooms will be provided. And this can be done for the country and small town schools just as easily as for the larger city schools. The problems are very similar. In this day of good roads and consolidation of rural schools the staff of teachers and school workers has so increased that there is practically no difference now in the methods used in the city schools from the neighboring ones in the rural community—and it has been shown many times that our country children need such special advantages of health just as badly as do those in the city.

Open air school rooms only are mentioned—but this one feature of fresh air education is by no means the entire program of fresh air teaching. Schools and children are mentioned especially because with children particularly lies our chief hope of putting across any worth while health program. Any community plan for fresh air education is incomplete which stops short with the schools and homes and ignores the fact that in the factories, the department stores, the offices, the shops, where boys and girls of today will be working tomorrow, conditions must also be made right. We pay heavy toll each year in preventable deaths from foul air diseases for our disregard of the simple requirements of nature.

Another thing closely related to this feature of fresh air education has been brought to our attention very vividly recently as we have gone about the systematic examination and weighing and measuring

of the school children of my community, and that is the lack of *Nutrition Classes in the Schools*. We have been amazed to find so large a percentage of the children so much undernourished that, on account of this malnutrition they find it extremely difficult and at times almost impossible to keep up with the work of their classes. Children of this type are found in every school and in practically every room of every school of my town and I feel reasonably sure the same conditions exist in the schools of other towns and rural communities as well. These little folks are pale, anemic, inattentive, listless in their studies and are easily fatigued both mentally and physically. The malnourished child is peculiarly susceptible to disease and is always catching whatever contagion happens to be making the rounds. Dr. W. R. P. Emerson, of Boston, a leader in the establishment of nutrition clinics and classes says the reasons for malnutrition are: 1. Physical defects (especially those which obstruct the breathing passages). 2. Lack of home control (the disorganized, badly-directed family, rich or poor). 3. Over fatigue. 4. Lack of food and faulty food habits and 5. Faulty health habits. These conditions apply to rich as well as poor and indicate that the problem may be one of ignorance rather than poverty. Are we having the children of all our schools regularly weighed and measured and having this done in such a way as to enlist the child's interest in the health game? Are we and our helpers explaining this condition of undernourishment so as to enlist the active co-operation of child, teacher, parent and school physician? Are we doing anything toward furthering the establishment of *Nutrition Classes* in these schools? If we are not doing this we are failing in our mission as teachers at a very vital point. One of the best solutions of the problem of malnutrition is a nutrition class or classes in every school in which intensive work among these children may be done. Such class would consist of a group of these undernourished children who meet regularly under the direction of physician, nurse, dietitian or other specially trained worker. The children's physical condition would be closely watched and any defect, of course, be corrected. Weight records should be kept and causes of gain or loss carefully explained to the entire class and the mothers if they could be induced to attend. Additional nourishment, especially plenty of milk and hot lunches should be provided for these children. The proper place for such class is in the school where it becomes a part of the educational system, and where the four agencies acting for the protection of the child may be most easily co-ordinated, that is, the home, the school, the medical and nursing service and the child's own interest.

In our opinion, no community in North Carolina could take a more important step than the establishment of nutrition classes for both white and colored schools. "The most vital thing in education, and the one which we have neglected longest, is to teach the weak how they may become strong and the strong how they may keep so. Every child has a right to grow up with a healthy body unless he has some physical handicap which could not be prevented and could not be removed," according to Dr. L. E. Holt of New York, who further says that "We should not rest until everything which is preventable has been prevented and every defect which is remediable has been remedied."

#### SCHOOL MEDICAL INSPECTION

The boys and girls of North Carolina are her greatest asset. In order to be of the greatest possible value to the State and Nation, care must be given their bodies as well as their minds and souls. Without physical well being the mind cannot function to its best advantage. Not a great many years have passed since the time when very little attention was paid to the physical condition and health of the school child. There was a strong tendency to regard "book learning" alone as practically the ideal thing. The activities of health officers and medical inspectors of schools were regarded as fads and the idea persisted for a long time that the mental training of a child is all that is necessary and that nature will look after the physical development. Now, the defects of such a system are realized and "health first in the schools" is the slogan frequently heard. Never again must the schools place "book learning" before physical fitness. Supervising the health of the school child is one of the great means of teaching health to that child, and teaching it in such a way that generations to come will be benefitted by such instruction. Preventing the spread of contagious diseases, indicating to parents the need for treatment, removing physical defects, rendering children more responsive to the educative process, etc., are some of the aims of supervising the school child's health and doing these things in such a way that the child gets driven home a lesson which his parents in all likelihood never had is probably the greatest objective in this work. For instance, if little Johnny is found with a suspicious throat and is sent home and quarantined because he is a "diphtheria carrier" and the whole process is carefully explained to him by the school nurse, a few years later when he has a little Johnny of his own in school he will better understand how to care for his boy and protect him and others and there will not be the so frequently found misunderstanding between parent and school

medical inspector. The same holds good for the other communicable diseases and for the correction of defects such as decayed teeth and diseased tonsils and adenoids—and the same would be found true of open air school rooms and nutrition classes if we had them. A part of our best teaching is done in the dental clinic of the school where the child's teeth are repaired or cleaned and he is told how to care for them and of the benefits to be derived from such care and in the tonsils and adenoid clinic where diseased conditions so often handicapping him are removed. These special clinics for the schools cannot be too strongly endorsed.

Other means of teaching health in the schools are by the inauguration of the Modern Health Crusade, by establishing Little Mothers Leagues among the girls or by using the Child Health Organization, or by forming a Posture League among them. One or more of these or similar organizations should be established in every school, large or small and by so doing actually teach the child health habits which may last throughout life.

At this juncture I would like to mention the actual *text book teaching* of health in the schools. We have progressed a little beyond the old physiology of a few years ago in which we were taught to recite the bones of the body and were warned of the dangers of alcohol and tobacco. The hygiene taught in the public schools of North Carolina today is a decided improvement over that period but in our humble opinion there is still much room for advancing the text book methods of teaching health to our children and if this association should go on record as being an advocate of the adoption by the book commission of a text book for our schools which would really teach the proper care of the body and health habits and teach it attractively, we as a body of health officers would add decided impetus to the teaching method.

#### OTHER MEANS OF TEACHING HEALTH

As was said a few minutes ago every activity of a health department has for its prime object teaching health. When your sanitary inspectors go out on their rounds and by persuasion or enforcement of the law secure the abatement of nuisances, your greatest point gained is not that the nuisance has been abated but that one more individual or family has been led to see that health conditions have been improved by such abatement. You are teaching health by your campaigns for pure water and milk supplies; by your campaign for immunization against typhoid fever; by your insistence that all homes in North Carolina shall have sanitary privies or sewer connections;

by your activity in seeing that pure foods, properly handled are provided for your communities; by the physical examination of food handlers, etc.

Health is being taught in a most practical way in some of our larger communities by means of baby clinics and health stations; by venereal disease clinics and by campaigns of education concerning this class of disease.

It is being taught, as no one else can teach it, by that class of our co-workers—*Public Health Nurses*. The nurse is the central figure in the modern public health campaign. Her chief work is to help people to be well, to get well, to stay well. Any form of community work in which the health of the public is concerned is hers. Wherever she is found, in the home, the school, on the public playground, with mothers and their babies, in industries and factories she delivers a public health message with more force and effectiveness than any other worker can possibly do. She assists the school medical inspector in his work, she is a very valuable part of the various clinics, she teaches mothers how to care for their babies, she instructs boys and girls in the Modern Health Crusade, she instructs girls in Little Mothers Leagues, she helps more than any other agency to establish a bond of firm friendliness between the family she visits and the health department. More public health nurses to deliver this message and to teach the things pertaining to health are needed by every department of health, be it large or small, in North Carolina.

My message is ended. If, by what I have said today some one may have been stimulated in the smallest degree to put forth a little greater effort to deliver the public health message in such a way that a few babies lives may be saved in North Carolina, a few more cases of small-pox prevented, a few more lives saved from diphtheria or tuberculosis or other of the preventable diseases, my effort shall have been well worth while. May I close again quoting Dr. Vaughn: "The wisdom of our fathers has secured for us a greater measure of health and a longer term of life, let us do as well for those who are to possess this fair land in the next generation. Let us live not only for ourselves and the present, but for the greater and more intelligent life of the future."

Not myself, but the truth that in life I have spoken,  
Not myself, but the seed that in life I have sown,  
• Shall pass into ages—all about me forgotten,  
Save the truth I have spoken, the things I have done.

DR. G. M. COOPER, Secretary: In arranging this program, the Committee, realized that the chief recognition coming to any city,

county or State health department must eventually resolve itself into a reduction of the death rate from preventable diseases, and realizing also that we have in the infant death rate from preventable diseases the chief obstacle to such reduction, we went out of our Association in an effort to couple up the pediatricians and the people in the State engaged in infant welfare and maternity work, extra-medical, as well as medical, and that accounts for our arranging the program as you see it, and for our getting Dr. Wortham Wyatt, of Winston-Salem, and Dr. J. B. Sidbury, of Wilmington, to take part in this program.

### REPORT OF SECRETARY-TREASURER FOR YEAR ENDING APRIL 1, 1921

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

At the close of the meeting in Charlotte one year ago there was no funds left over. There have been no collections since, consequently your Treasurer during the past year, having no money, has expended none, has nothing on hand now.

The active membership of this Association constitutes about 10% of the total membership of the North Carolina Medical Society; but the space used in publishing our Transactions constitutes about 15% of the volume. This has been done heretofore without special charges against our Association. For this special courtesy we should thank the Publication and Finance Committees and the Secretary of the State Society. I wish also to express full appreciation to the State Society for providing our Association with a stenographer to report our meetings at Charlotte last year.

I thought seriously for a long time of making recommendations at this meeting, the anniversary of ten full years of service, which would call for an extensive and far-reaching expansion of the activities of the Association; but for several reasons I have decided that for the present at least, it would probably be best to content ourselves with making no other changes than that involved in the special consideration of the report of the committee appointed last year with reference to changing the name of the Association in order to confer full membership privileges on registered nurses and others interested in public health progress.

### APPOINTMENT OF COMMITTEES

The President announced the appointment of the following committees:

Auditing Committee: Dr. W. M. Jones, Greensboro; Dr. Millard Knowlton, Raleigh; Dr. Arch Cheatham, Durham.

Committee on Resolutions: Dr. E. F. Long, Raleigh; Dr. A. C. Bulla, Winston-Salem; Dr. J. A. Morris, Oxford.

Committee on Visitors and New Members: Dr. L. L. Williams, Mount Airy; Dr. W. A. McPhaul, Charlotte; Dr. E. T. Hollingsworth, Clinton.

DR. COOPER: To save Dr. Carlton, our President, the embarrassment of appointing a committee to consider and act upon the President's address, I shall take the liberty, with the permission of Dr. Carlton, of suggesting that such a committee be appointed, and I also take the liberty of asking that Col. J. L. Ludlow, Mr. R. B. Wilson, and Dr. E. F. Long, serve as members of this committee.

### A SIMPLIFIED VENEREAL DISEASE PROGRAM

MILLARD KNOWLTON, M. D., C. P. H.

Regional Consultant, United States Public Health Service;  
Director, Bureau of Venereal Diseases, North  
Carolina State Board of Health

In respect to method of initiation the venereal disease campaign differs from all other public health movements ever inaugurated in this country. For most States and lesser communities this work was introduced from without instead of being developed from within; the activities to be undertaken, the form of organization with which to work, and even the laws and regulations for the control of venereal diseases were all of outside origin.

This unusual method of development was made possible by the fact that the federal government took the initiative and made a large appropriation for venereal disease control, part of which was allotted to States on condition that they duplicate the fund by State and local appropriations. This action provided for the simultaneous inauguration of activities in all parts of the country. Under such circumstances, with no corps of trained workers to take up the work, it was necessary for a program to be handed down to the States and lesser communities.

This method of establishing a governmental activity in a democracy such as ours has both its advantages and disadvantages. Among its advantages may be listed the following:

1. A rapid development of activities is made possible.

2. A standardization of efforts along approved lines is facilitated.
3. Less time is required for experimentation by local agencies.
4. A national clearing house of experience is placed at the service of all communities.
5. Material for educational purposes can be prepared in one central office instead of many offices.
6. The prestige of the Federal Government can be used to back up the campaign wherever needed.

Among the disadvantages of such a plan of procedure the following may be mentioned:

1. Difficulty may be experienced in adapting the program to all local communities.
2. Mistakes in the program are apt to be repeated in many communities before correction is made.
3. In the rush to get things done the duties and responsibilities of other governmental agencies may be thrust upon the health department. It is especially with respect to this point that a simplified program is considered. Our vision in regard to the matter has been greatly cleared by experience. Simplification is accomplished by a distribution of duties and responsibilities among the various governmental agencies concerned with activities relating to the problem.

Approved activities in the program of venereal disease control as projected and developed may be grouped under the four heads of medical measures, educational measures, repressive measures and recreation. I suppose that no one has ever seriously thought it to be the duty of a health department to develop recreational facilities, but health authorities have been expected to assume responsibility for the other three lines of activity which may be considered somewhat in detail.

1. *Medical measures.* Two distinct lines of activity belong to the group of medical measures. In the first place there must be provision of facilities for treatment by qualified physicians. In the second place there must be some administrative procedures by the health officer to discover cases and place them under treatment. Such procedures would include gathering information through required reports, the investigation of cases, and quarantine or other procedures necessary to enforce treatment. In large population centers the treatment of indigents in clinics is a simple matter. In smaller communities the problem becomes more difficult.

The complete handling of an indigent patient requires social treatment as well as medical treatment. Disease carriers are frequently found in the courts and in jails. Thus in his case work the health

officer comes in contact with the welfare worker, the court official and the police. This does not mean that the health department is to employ social workers or detectives. It means preferably co-operation with existing agencies performing these functions. It means recognition of the duties and responsibilities of each agency concerned, and the performance of such duties by the proper officials. This is the essence of the simplified venereal disease program.

Another point to be considered is the proper distribution of responsibility among the State, county and city authorities. In some States, including North Carolina, responsibility for the medical care of such venereal patients as require treatment at public expense is placed by law upon the county. In the early days of the campaign the States contributed liberally of their funds for the establishment and maintenance of clinics and the provision of other treatment facilities for the service of the local communities. Obviously the handling of individual cases, whether medical, social or legal, is a matter for local officials who are on the ground and who can handle the cases economically. A simplified program must recognize local responsibility for local work, and all case work is local work.

The one exception to this rule is that facilities for the detention of patients who require restraint while under treatment are best provided by the State. At present there is no place available in North Carolina for detaining such patients except the jail. Jails are not well suited for this purpose. The necessity for detention, either under court sentence or quarantine, is often so urgent that jails must be used. Handling this matter as a State project and providing for detention in State institutions would be more economical and would lessen the temptation for local officials to weigh the cost of maintenance over against the protection of the public health and permit the former to outweigh the latter.

Such an institution should be self-supporting. The advocates of institutionalizing venereal patients either by court procedure or quarantine, can do nothing better toward promoting the idea than to devise a method by which the patients can earn their own living while in the institution. The drain upon public treasuries for various purposes has become so great that additional burdens must not be imposed except for weighty reasons. A recent supreme court decision recognized the principle of personal responsibility for the transmission of venereal disease to another. If the character of an infected person is such as to require detention to protect the public, surely it is reasonable to expect such person to earn his own subsistence while being detained and treated.



2. *Educational measures.* There are two lines of educational effort connected with the venereal disease problem. One is the dissemination of information concerning the prevalence of venereal diseases, the harm they do and the methods of prevention and cure. This is distinctly a health department function. The other is the imparting of information to the young concerning sex and the contribution that sex makes to life. This function has been thrust upon the health authorities as a temporary emergency measure, but it really belongs to the educational authorities. Perhaps the most important end to be gained by sex education is not so much the diffusion of knowledge as the creation of proper, respectful, reverential attitudes toward sex. The attitude of an individual toward sex is formed during the adolescence period, supplemented perhaps by earlier influences. Obviously the schools have the best opportunity of any governmental agency to deal with this matter which is essentially a problem in character building.

At best the health department can come in contact with children during the adolescence period only spasmodically. For an outside lecturer to go into a school to discuss the sex problem tends to lift it out of its normal relationship and place an over-emphasis upon it which is undesirable. Accordingly, the health department has accepted responsibility for this kind of work only temporarily. It is now planning to discontinue the "Keeping Fit" campaign and other activities concerned with sex education and limit its own activities strictly to the health field. Of course, health officials recognize the importance of sex education, but it is outside of their sphere.

3. *Repressive measures.* As a part of the general program of venereal disease control the police function of enforcing laws against prostitution has been thrust upon the health authorities. This has created an anomalous situation not in accord with our governmental system and practice. In performing this function, health authorities must either supplant the police in law enforcement, or assume the function of directing police activity, either openly or surreptitiously. Either course would be based upon the assumption of police failure in the performance of duty and the superlative fitness of the health department for the task.

As a matter of fact, the police are responsible to the public for law enforcement the same as health officials are responsible to the public for disease prevention. If either police or health officials require stimulation in the performance of their duty, such stimulation should come from the public rather than from another governmental department. The police feel that the public is indifferent toward the en-

forcement of laws against sex offenses. The best way to stimulate police activity, therefore, would be to convince them that the public is really interested and really alert to the situation. Public opinion is the power that rules this country. It is within the province of health officials to educate the public as to the necessity for law enforcement to repress prostitution as a disease prevention measure. It is not necessary to assume responsibilities that properly belong to another department in order to have the other department's work done.

During the war when quick results were desired there may have been some justification for "short cut" methods that have no place under peace conditions. Successful government with harmonious relations between the departments is not promoted by one governmental agency prodding another into activity. Satisfactory law enforcement is the product of co-operation rather than strife. The health department and the welfare department can accomplish more by working with the police than by working against them. Agitators have advocated proceeding on an entirely different theory of government—one involving more nearly direct action. By a large faith in humanity and in the essential integrity of public officials, such as becomes a true believer in representative government, it is possible to steer a course against the winds of get-rich-quick agitation.

#### DIVISION OF RESPONSIBILITIES

The simplified program for venereal disease control means a division of responsibilities among the different departments of government and mutual recognition of the responsibility belonging to each department. It means also that each department of government will perform its own function and that no department will attempt to set up an autocracy over another. It means that everybody on the job should do his own work and not waste time trying to boss the other fellow. The respective functions properly belonging to the different departments of government may be enumerated as follows:

1. *Health department.* The responsibility of the health department in venereal disease control covers two points, medical measures and the educational work with reference to the prevention of venereal diseases. Medical measures include the treatment of patients, the detention of those requiring detention to protect others, the collection of information from reports and other sources, the investigation of cases about which information has been received, and other measures necessary in the proper handling of individual cases. These activities fall within the province of the local health authorities.

The basic importance of treatment as a factor in prevention will be recognized when it is considered that the venereal diseases tend to become chronic and patients remain infectious for a long period of time. If through proper treatment the period of infectivity can be reduced one-half, the new cases resulting from existing cases should be reduced accordingly. As a matter of fact the reduction should be greater, for cases under treatment would be expected to exercise greater precaution not to expose others to infection. In syphilis the possibility of prevention through treatment is especially promising. An untreated case of syphilis is thought to remain infectious for a period of four or five years. If recognized in the initial stage and promptly treated with arsphenamine the period of infectivity may be cut to a day or two after treatment is begun. Treatment is thus a more important factor in the prevention of venereal diseases, particularly syphilis, than in the prevention of any other communicable disease. In fact, the direct attack upon venereal disease is made by the provision of proper treatment facilities with supplemental provision for follow-up work, the detention of untrustworthy patients, the investigation of suspected cases and other measures that will help in the discovery and proper treatment of infected persons.

But the problem of getting people under treatment is an educational one. Thus if treatment constitutes the direct attack on venereal diseases, educational measures constitute the indirect attack or flank movement upon this scourge of humanity. The indirect attack by educational means may be appropriately undertaken by the State health department. Conducting an educational campaign which utilizes the excellent motion pictures now available and reaches people in rural communities requires considerable outlay for equipment. The initial cost can be borne better by the State than the local communities. The development of a method of campaign by using a field car equipment for this purpose is one of the achievements of North Carolina during the past year. It is now hoped that the North Carolina State Board of Health may find it possible to concentrate its efforts along this line, and eventually reach every community in the State. If this can be done there will be no excuse for anybody being ignorant concerning the methods of spread and the methods of prevention of venereal disease. This program is based on a broad faith in humanity, a faith that expects the race to keep facing forward and believes that the people can be trusted with information concerning vital facts of life.

2 *Welfare department.* Responsibility for certain activities in connection with venereal disease control rests with the welfare depart-

ment where such department exists. In some States where there is no welfare department, it may be expedient for the health department to employ welfare workers. But in North Carolina where the welfare department is well organized with a superintendent of public welfare in each county it is neither necessary nor advisable for the health department to use its meager resources for the employment of social service workers to perform duties placed by law upon the regular welfare officers.

Welfare workers will frequently establish contact with venereal disease cases through the courts. Sometimes information will come from other sources and sometimes cases may be referred by health authorities for social investigation. Efforts for rehabilitation belong distinctly within the welfare department function. The point of contact between the welfare officer and the health officer is concerned with infected cases. It is important for welfare officers to recognize that proper medical treatment of such cases is basic to all social handling, and that co-operation with the attending physician or the health officer in securing proper treatment is both fundamental and essential.

3. *Police department.* Law enforcement against prostitution is a responsibility of the police department that should not be usurped by any other governmental agency. Support for vigorous enforcement measures should be gained by educational activities rather than by attempts to bring pressure to bear upon the police, through espionage or other questionable methods.

4. *Educational department.* The health department's part in the sex educational program through the "Keeping Fit" exhibit and other similar activities is merely an emergency measure. Eventually the schools must assume full responsibility for whatever governmental activities may be required in connection with sex education. It is believed that the sooner this fact is realized the sooner the matter will be put on a solid basis and the way cleared for the educational department to discharge its responsibility in the matter. In accordance with this view the North Carolina State Board of Health is planning to discontinue the "Keeping Fit" campaign and other work along sex education lines at the close of the present school year.

In conclusion then, from the point of view of the health authorities, a simplified venereal disease program means that health officials will accept responsibility for medical measures and for educational activities in so far as such activities relate directly to the prevention of venereal diseases. The police duty of enforcing laws against prostitution will be left to the police. The welfare work required in the



social handling of individual cases will be left to the welfare department. Activities in relation to the incorporation of instruction concerning sex in the school curriculum will be left to the schools. This recognition of the responsibility of different departments for the performance of different functions in connection with venereal disease control means a very great simplification of the program.

With reference to the health department function, it is expected that the application of medical measures and such auxiliary activities as may be necessary in carrying out treatment procedures will devolve entirely upon local authorities, while conducting an educational campaign concerning the prevention of venereal disease will be considered the special function of the State Board of Health.

DR. CARLTON, President: This very important paper of Dr. Knowlton's is now open for discussion. Dr. Knowlton has mentioned several features which have given all of us more or less concern, and I am sure that there are several here who wish to discuss it.

DR. A. H. LINDORME, Wilkesboro: I think that there is no one measure in the problem of venereal disease prevention more important than that of education. My experience as regimental surgeon during the war was that there was a decided falling off in venereal disease in the regiment whenever proper lectures were given to the men. Venereal disease was looked upon as a joke, as something that would do no harm, but when it was presented in its full light and the harmful effects explained, it would do more good than bringing men before a court martial. After a lecture men would come to me for instruction and advice, and ask what effect former wild oats would have. When you get a man's personal interest and he himself wants to do something, you will have a sounder foundation than is possible in any other way.

#### SYMPOSIUM ON MATERNITY AND INFANT WELFARE

##### NORTH CAROLINA BIRTH AND DEATH STATISTICS WITH PARTICULAR REFERENCE TO INFANT WELFARE

F. M. REGISTER, M. D., RALEIGH

Director, Bureau of Vital Statistics, State Board of Health

Since the beginning of time census figures have been used in one way or another to find out the ebb and flow of the human race. We read in the Book of Books time and time again about the numbering

of the people (2 Samuel, 24-2) "For the King said to Joab the Captain of the host, which was with him, Go now through all the tribes of Israel, from Dan even to Bersheba, and number ye the people, that I may know the number of the People." "And Joab gave the sum of the number of the people unto David, and all they of Israel were a thousand thousand and an hundred thousand men that drew sword." Joab was King David's Director of the Census.

To more recent years we turn for the application of vital statistics in Preventive Medicine. While vital statistics are more valuable with age, the alert health officer and public health nurse are more interested in weekly, monthly and annual statements of the profit and loss of human lives. As the mariner steers his ship by the compass, so the health officer and public health nurse steers the ship of preventive medicine by the trend of human lives as indicated by births and deaths.

Dr. Creasy L. Wilbur has said: "Vital Statistics is the Cinderella of modern public hygiene. She sits in the chimney corner and sifts the ashes of dusty figures while her proud sisters, Bacteriology and Preventive Medicine go to the ball and talk of the wonderful things that they have done. But the princess slipper fits no other foot and when we descend to facts and not to mere empty bombast, vital statistics and accurate vital statistics are our sole dependence. The chief thing in the development of vital statistics is to conserve life and health, and secondly to furnish legal records of greatest value. The State wants facts—knowledge as to waste in infant life, in early life from preventable infection and in middle age from degenerative diseases. A complete system of vital statistics alone affords us the means of learning accurately the extent of such waste, the definite locality and causes, so that we may apply suitable remedies."

For statistical study human life is divided into different age groups. Shakespeare divides these groups in a most pleasing way which he calls the Seven Ages of Man.

(Jacques:) All the world's a stage,  
And all the men and women merely players:  
They have their exits and their entrances;  
And each man in his time plays many parts,  
His acts being seven ages. At first the infant,  
Mewling and puking in the nurses arms;  
Then the whining school-boy, with his satchel  
And shining morning face, creeping like a snail  
Unwillingly to school; and then the lover,  
Sighing like a furnace, with a woeful ballad  
Made to his mistress' eyebrow; then a soldier,  
Full of strange oaths and bearded like the pard,

Jealous in honour, sudden and quick in quarrel,  
 Seeking the bubble reputation  
 Even in the cannon's mouth, and then the justice,  
 In fair round belly with good capon lin'd,  
 With eyes severe and beard of formal cut,  
 Full of wise saws and modern instances;  
 And so he plays his part; the sixth age shifts  
 Into the lean and slipper's pantaloen,  
 With spectacles on nose and pouch on side,  
 His youthful hose well sav'd, a world too wide  
 For his shrunk shank; and his big manly voice  
 Turning again toward childish treble, pipes  
 And whistles in his sound: last scene of all,  
 That ends this strange eventful history,  
 In second childishness and mere oblivion,  
 Sans teeth, sans eyes, sans taste, sans everything.

Our paper today deals principally with the first group—infants. The definition of infant is a child one year old or under. The mortality among infants is very high in North Carolina as well as in other States and is attracting a great deal of attention just now. News-holme says "Infant mortality is the most sensitive index of social welfare and of sanitary improvements which we have." People careless of their offspring are careless of themselves. The principal causes of death among infants is prenatal influences, prematurity and lack of care. The remedy for this condition is left to other departments.

In North Carolina there were in 1920, 83,966 births. This would mean a continuous row of cradles placed side by side that would reach forty-seven miles. During 1920 there were 6,953 deaths of infants one year and under which would mean a row of coffins placed end to end that would reach 3.9 miles and added to these coffins 4,171 stillbirths occurring in 1920 which would reach 2.3 miles more, so you see while we have miles of smiles, we also have miles of tears. Now of these 6,953 infants, 42 per cent died from prenatal causes and a large per cent of the 4,171 stillbirths could have been prevented by proper care of the mother. So by having correct statistical data, the health officer and public health nurse can map out a definite program from which to work. We can give the number of births and deaths, the causes of these deaths, race, age, etc., in a particular locality. With this information in hand it is easy to set up a health department and have in view some definite object for which to work. Every physician must contribute his brick (viz., the reporting of births and deaths) to building the Mansion of Health. As Pharaoh's task masters cried to the Children of Israel, "Wherefore have ye not fulfilled your task in making brick both yesterday and today, as heretofore?" The

Israelites answered and said, "There is no straw given unto thy servants, and they say to us, make brick, and behold thy servants are beaten, but the fault is in thine own people." So, The Bureau of Vital Statistics can not furnish the people vital statistics unless the facts are furnished the Bureau. See that the Bureau of Vital Statistics is furnished complete birth and death registration and we will tabulate them for you as to disease, age, color, residence, etc., and from this information valuable conclusions can be drawn. Every first-class medical man today thinks in statistics and figures. He is not content to know that the baby died and that it could not be saved by all the skill of himself or anyone else, but he begins to figure out the number of children in the State who die of this particular disease. If the number dying in this particular community is greater in proportion than those dying in the State. What is being done in the State to prevent this particular disease? And what is being done in this community and in each particular home? So closely allied to infant mortality is that much neglected field; obstetrics. Ignorant obstetrics is not only responsible in a large degree for a high death rate among infants, but to the high death rate among mothers due to the puerperal state—The cheapness of motherhood is taught by such outstanding facts as this—in 1919 there were in North Carolina 550 deaths among mothers due to the puerperal state—one death of a mother during that year for every 128 births. When you compile statistical facts in regard to infant welfare and motherhood in North Carolina and preach these facts in season and out, every mother and every potential mother will become interested, and this great waste of infant life will cease.

DR. R. S. BAILEY, Health Officer Vance County, Henderson: Just at this juncture I would like to read a very unique letter which my Department received, as it is so pertinent to what Dr. Register said:

DR. E. J. KEHOE,  
 DEAR SIR:

Will you kindly send me the "forms and postage" to send in the reports of births and deaths in my township, Nutbush, Vance Co.?

I have been registrar since Feb., 1919, and we have had three white children born in this territory in this time. Now if the negro women mothers had a carload of literature sent to them on the subject of nursing babies they would never look at a single sentence or pay any attention to any instructions given verbally. As far as deaths are concerned, we have never had an epidemic of any thing, and it is unjust to the limit to make taxpayers deny themselves to pay taxes for any such "blooming nonsense."

I have been looking after the health of the babies for forty years, and it has never cost the parents or the Government a cent. The babies are brought to me

from all over the county to cure their ailments, and I am glad to help them, as they are fully persuaded that a regular physician kills more babies than they cure with their drugs.

It is the law that a death must be reported to me before one can buy a coffin, but half the time I have to run them down weeks after the burial to get the parents to report to Raleigh.

However, I am going to try to find time to report to you, knowing all the time that it isn't worth a thousandth part of a picayune.

Very truly yours,

LUCY F. WATKINS,  
Manson, N. C.

DR. CARLTON: It strikes me that the letter read by Dr. Bailey is rather typical of a great many midwives in North Carolina.

### THE NURSE'S RELATION TO INFANT WELFARE

ROSE M. EHRENFELD, R. N.

Director, Bureau of Public Health Nursing and Infant Hygiene,  
State Board of Health.

(1) *"The nurse's relation to infant welfare" is that of a means unto an end—the ultimate end being marked reduction of maternal and infant mortality, and the nurse an essential factor in effecting it.*

The fact that over one-half the infants' deaths are chargeable to causes antedating birth (therefore not touched by current methods in health work of educating the mothers and only partially reached by prenatal work) is THE PROBLEM that challenges the attention of the public health profession today.

(2) *The nurse's relation thereto must be the same as her relation has always been to the most urgent need for her service, namely, a direct relation and a personal contact.* First as a woman and second as a nurse she is the worker (endowed by nature and prepared by training) best fitted to establish direct relationship with the home and personal contact with the mother; so public health nursing is recognized as fundamental to any child welfare program and a vital educational function.

As child welfare in the last analysis is largely dependent upon certain social, environmental and economic factors, the question arises, "What does the American child need for growth and development consistent with his dignity as a future American citizen?" The answer is embodied in MINIMUM STANDARDS OF CHILD WELFARE (representing the most expert opinion on the needs and rights of childhood) which offers an ideal that is considerably in advance

of present day provision for child welfare. Among other things they recognize that the protection of the child must begin with the protection of the mother, and demand that care during pregnancy and confinement and instruction in the hygiene of maternity, infancy and childhood be made available for all mothers through such agencies as prenatal clinics, maternity hospitals, maternity care in the home, children's health centers and provision for a system of public health nursing adequate to reach every mother and child. (They emphasize especially, the need for a family income adequate to enable mothers of young children to stay in the home instead of going out to work, with the consequent neglect of home and family.) This is the ideal that as public health workers should be ever before us.

What the relation of the nurse to infant welfare in this State should at present be, can best be determined from the story told by statistics:

The 1917 birth rate of 74,795 was offset by 11,749 deaths under five years (one out of every six); 7,825 under two years, due to three principal causes:

- (a) stillbirths, (3,152).
- (b) diarrhea, (2,626 babies' deaths): 1,456 under one year,  
: 1,170 in second year.
- (c) congenital debility, lack of care, etc. (most of which occurred during first month of life) (2,046).

4,672 deaths under two years from diseases largely preventable by proper education of the mother in care and feeding; 3,153 stillborn babies, many of whom might have been saved by a reasonable knowledge of prenatal hygiene. These figures together with 4,000 known midwives (and possibly one-half that many more) indicate our State's particular problem. The all too frequent (a) adverse environmental conditions of the rural community, together with (b) lack of appreciation of the economic value of human life and (c) the deplorable fact that the need of a veterinarian is more often realized and heeded than the need of a physician, add to the complexity.

The achievement of the 269 largest cities of the United States in attaining an infant death rate of 87 per 1,000 born alive (as compared with 131 a few years ago—or even higher) denotes progress to be proud of and our consolation is in the fact that it shows American mothers can be counted on to support health officers and private health agencies in their campaign against infant mortality.

(3) *The nurse's relation to infant welfare* is that of the heretofore missing-link between the health department and the home. While the public health nurses may be guilty of having diminished to some

extent the rank of private duty workers, thus placing to a large degree upon the public the responsibility of nursing their own sick—their entrance into the *rural field* as pioneer workers primarily to lessen the uncertain chance of motherhood and babyhood and to thus serve the most sublime profession (that of motherhood), more than compensates for their action. They are mindful of their obligation to train the public to meet the responsibility placed upon them and—taking advantage of the opportunity that is theirs for reaching people in greater numbers (the sick and the well, county as well as town)—the public has gained by the knowledge they impart.

(4) *The nurse's relation then to infant welfare is that combination relationship of social worker-nurse-teacher and guardian: social worker in adjusting environmental and economic conditions, guardian of the infant, and teacher of all classes of mothers—the expectant mother, the nursing mother, the unmarried mother, the grandmother and the mother-in-law (with the mammy and the granny-woman thrown in).*

(5) As 600 women die in childbirth in North Carolina every year, in the nurse's relation to the expectant mother and the young mother of children under five years lies her greatest responsibility. She owes it to the former to convey to her in understandable language: (1) the necessity for proper medical attention at confinement; (2) importance of supervision during pregnancy—including early physical examination, urinalyses and pelvimetric measurement; (3) that neglect of her welfare during pregnancy (permitting overwork and disregard of simple rules for good home care as to diet, sleep and rest, clothing, bathing, exercise and outdoor life, mental habits, etc.) affects the baby adversely; (4) what the danger signals indicating prompt medical service are; (5) the help to be obtained by registering (as a prenatal case) with the State Board of Health; (6) the necessary preparation for confinement, including arrangements for housekeeping during her incapacity, which will remove the danger of too short a rest period after childbirth; (7) what should constitute proper care during the lying-in period; (8) what should be the daily habits of a nursing mother to insure health and a good supply of breast milk; and (9) the value of birth registration.

In justice to mother and child, the nurse—whether a public health worker or private duty nurse—owes it to the young mother to teach her:

1. The care of the newborn as well as daily routine of the normal baby during the first year.
2. The importance of breast feeding.

3. Indication for weaning.

4. Preparation of supplementary or artificial feedings, care of milk, etc., and to encourage adherence to a formula and hours of feeding prescribed for each individual baby, and to make known dangers of improper feeding.

NOTE: (Pictures were shown here illustrating how the nurse educates the rural parents and the results obtained.)

No nurse is worthy of her calling who does not emphasize the need of screens, sufficiently large covered garbage pails, sanitary privies, and their relation to infant welfare.

Very discrediting to the State is the comparison of "diarrhea and enteritis" mortality under two years with that of Virginia and South Carolina. If same were reportable, it would insure attention of public health nurses more promptly, as well as better results.

Unless especially provided for as a group, the child of pre-school age should be included in the infant welfare program. Present day theories of proper nourishment; training and habits; physical care to prevent defects or remedy them; as well as necessity for protection from contagions and periodical medical examinations and vaccination against smallpox should be impressed by the nurse if the child is to reach his first day of school in condition to benefit from the opportunity that is his.

"I have been appalled at the task of reducing infant death rate in Edgecombe County since the fifty-seven varieties of midwives assembled with us," was the comment of the county public health nurse. The nurse's relation to this particular problem of infant welfare is covered in the paper to follow.

With one other group of mothers should the nurse establish a relationship—the future mothers. To encourage this we are issuing certificates and pins to girls over twelve who complete a course on baby care given by a graduate nurse. (124 children in eight counties have earned certificates—20 of them colored.)

It is in the capacity of health teacher that the public health nurse makes her greatest contribution to infant welfare. This fact is being recognized and one State reports seventy-four nurses under supervision of the State Health Department (56 of whom are paid by the State). This is the method of dealing with the problem destined to be the most effective in declaring "safety zones for babies."

## THE MIDWIFE A FACTOR IN INFANT AND MATERNAL WELFARE

KATHARINE MYERS, R. N.

State Board of Health

When public health workers are engaged in their "favorite indoor sport" of juggling statistics, nothing receives, nor deserves, greater applause than the figures showing the remarkable decrease in such preventable diseases as typhoid fever, diphtheria, and tuberculosis. But the diseases caused by pregnancy and childbirth are largely preventable and yet in twenty years there has been no reduction in the maternal death rate and it still stands second only to that of tuberculosis among women from fifteen to forty-four. Of the sixteen largest nations, United States ranks fourteenth in this respect and North Carolina contributes to this unenviable record about 575 women per year. The hospitals are filled with women suffering from injury or neglect at childbirth and uncounted numbers are dragging through years of semi-invalidism and inefficiency. These are very real facts to public health nurses who perhaps are in closer touch with conditions than any one else.

The welfare of the child is wrapped up in that of the mother. More than one-half the babies who die during the first year of life die from causes related to the condition of the mother, five times as many babies die in the first month of life as in the second and fourteen times as many as in the twelfth month, most of them babies who were born too weak or too diseased to live and some because their mothers did not know how to safeguard their breast milk nor appreciate the importance of breast feeding.

So much for the problem—now, what is needed to protect maternity and infancy? It can not be denied that the health and very life of the mother are dependent upon the character of the obstetrical service she receives. The practice of obstetrics has become a highly specialized science which is difficult to apply to the salvaging of rural mothers and babies.

The distressing lack of medical service in our ten super-rural counties, the concentration of physicians in the towns, bad roads, absence of telephone connections, poverty, ignorance, and custom all have combined to foster a service enormously powerful for good or evil. 4,000 midwives are known to the State Board of Health, approximately 34,000 deliveries were attended by them in 1920. 20% of the white and 80% of the colored employ midwives.

The majority of these women are dependable, self-sacrificing, poorly paid. They refuse no call, day or night, rain or shine. Most of them are past middle age, unable to read and write, and have had no training except that gained in rare instances by nursing for and assisting local physicians. Occasionally one is found who reads a "doctor book." They are still plodding along with the knowledge handed down from generation to generation, some of it valuable but interwoven with a mass of misinformation, superstition, and unbelievable fatalism. Their deep ignorance of anything resembling modern asepsis puts into their kind and faithful hands the weapons of destruction.

In practically every European country midwives are under strict State control. They are required to undergo a course of thorough training and their practice is carefully regulated by legislation. And so, although midwives are universally employed, Sweden, for instance, shows the loss of but one mother for every 430 babies born alive, while the United States loses one for every 150 and North Carolina one for every 127.

The State Board of Health is awake to the situation and is calling for the co-operation of health officers, physicians, nurses, registrars and all who will enlist in this crusade to remove the hazards of motherhood.

Four things are required of midwives by State law: registration, use of silver nitrate solution, reporting of cases of ophthalmia neonatorum, reporting of births. Some of the county health departments also require registration and in a few instances are undertaking instruction and supervision, which is highly desirable since for obvious reasons the county can enforce a higher standard for the practice of midwifery than a State agency can.

The county nurses are especially valuable for making the personal contact and demonstration of nursing technique, so necessary to success in teaching midwives. In 25 counties of the State this instruction is going on, the nurses following a syllabus prepared and outlined by the Bureau of Public Health Nursing and Infant Hygiene.

In an effort to improve conditions in the counties as yet unreached by official health agencies, the Bureau of Public Health Nursing suggested a series of conferences and offered the services of a nurse to try out the plan in co-operation with the Bureau of Epidemiology under which the midwives are registered. Letters are sent out in advance calling them to a meeting, specifying place, date and hour. After a few conferences it was evident we were on the right track, for the women were so eager to learn, and so grateful for instruction,

that the 2 to 5 hour lesson, with rest periods as needed, seemed all too short.

Since November, 1920, 73 such conferences have been held in 52 counties, with a total attendance of 889 midwives, 106 of whom were white, 2 of them men, 97 of these were ignorant of the use of silver nitrate, and 36 had never reported a birth.

The meetings are usually held at the Court House, sometimes at the depot, a school house, a church, or a doctor's office. Enrollment blanks are filled out for those present and names of others secured. In this way many have been located who were unknown to any official agency. In Mecklenburg alone, nine were found who, with a record of from two to twenty-five years practice, had never reported a birth.

In opening the meeting it is necessary to explain its purpose as the vaguest ideas prevail regarding it, in spite of the clear statements sent out in the notification letters. We take up in detail the laws relating to the practice of midwifery in this State and reasons for same, then the mental attitude and qualifications, character, physical fitness and habits desirable in midwives. Their status and relation to physicians needs defining, especially in the "black belt" and every effort is made to inculcate in them a feeling of regard and respect for his opinion and advice, and to look upon him as their friend and counsellor.

They are told of the value of prenatal instruction and asked to report expectant mothers to the Bureau of Public Health Nursing for the series of advisory letters.

Some of the ailments of pregnancy and indications of abnormal conditions are pointed out so that they may wisely advise as to reporting danger signals to a physician, testing of urine, etc. If time permits, they are told what instruction they may give in regard to hygiene, diet, care of the breasts, preparation for confinement, and so on.

The midwife's own preparation for a case, her bag and supplies, her garments, cleaning of room, preparing bed, boiled water (hot and cold) and lysol solution, and scrubbing of the patient for delivery are discussed and demonstrated as simply and freely as possible. At this point in the lesson, if a physician can be secured he is asked to instruct them in the conduct of labor.

Some of the complications of labor are brought up as instances of when to call a doctor—such as ante-partum hemorrhage, too hard or too long labor, breech, hand or cord presentation, patient weak, pale, or chilly, delay in twin births, severe headache, blindness, convulsions. Also some that may arise later as post-partum hemorrhage, stoppage

of flow, chill, rise of temperature, red and swollen breasts. They are told what to do while waiting for the doctor.

As much of nursing technique as is possible is given concerning the care of the baby.

Throughout the lesson the points most emphasized are these:

1. The State laws;
2. Responsibility of the midwife;
3. Danger of vaginal examinations;
4. Necessity for absolute cleanliness;
5. Obligation to call for medical aid;
6. Prevention of eclampsia;
7. Protection of baby from infection of eyes and cord.

The great task now confronting us is to devise ways and means to supervise and train this body of women, discourage their employment where medical service is adequate, eliminate the unfit, and bring speedy relief to our long neglected mountain mothers, countless numbers of whom are denied either medical or midwife service.

Establishing training centers as has recently been done in Charleston, S. C., and enlarging and amplifying the plan now operating are under consideration.

The greatest gift in the power of preventive medicine to bestow has too long been withheld. The obligation bears heavily upon us, no less than upon those who "go down to the sea in ships" to observe the rules of Birkenhead and carry on with high endeavor the ideal embodied in that old phrase "women and children first."

In the absence of Dr. Wortham Wyatt, a motion was offered and carried that his paper on "Infant Mortality: A Direct Responsibility of Health Authorities" be read by Dr. J. S. Mitchener, and this was done.

### INFANT MORTALITY: A DIRECT RESPONSIBILITY OF HEALTH AUTHORITIES

WORTHAM WYATT, A. B., M. D., WINSTON-SALEM

In considering the subject assigned for this discussion, namely, "Infant Mortality: A Direct Responsibility of Health Authorities," I deemed it an excellent opportunity to mention preventive medicine, not confining myself strictly to infantile statistics, but to handle the question more or less broadly. So, with this idea, I am asking you to bear with me for a few moments.



If practicalities ever reach our ideals, then infantile diseases will be a thing of the past. It will be only by the consistent practice of preventive medicine and the education of the people of our country that we can prevent such statements as "300,000 children under five years old died in the United States during the first year of the war," and "one-half of these deaths might have been prevented by proper care" (1). So, it will be the duty of not only health officers, but of every man who is now and will be then classed as a pediatrician or general practitioner to assist in the further education of the public.

In 1920, in the registration of the United States, there was, approximately, a weekly average of 1,842 cases of diphtheria with 92.0 deaths, 1,222 cases of scarlet fever with 21.0 deaths, 1,299 cases of tuberculosis with 612.0 deaths, 2,187 cases of measles with 31.0 deaths reported (2). Or, to limit myself more strictly to infancy, there were in 1918, seven thousand, four hundred and eighteen deaths due to diphtheria, pertussis, scarlet fever, measles and tuberculosis (3). In 1917, there were in the United States, 48,231 deaths in infants under two years old due to diarrheal diseases (4). In 1918, there were 28,306 deaths in infants one year or younger caused by diarrheal diseases (5). Are not our medical forefathers responsible, to a certain extent, for not only these deaths, but, from an economic standpoint, responsible for the after-results of these diseases in those that did not die, for the loss of time, and for the expense entailed? And will not we, the medical men of today, be even more responsible if the same conditions prevail twenty-five or fifty years from today?

Please let us consider the individual diseases very briefly, in order that we may either deny or shoulder the responsibility. I believe the greatest scourge of infancy today is ileocolitis and other diarrheal diseases. As far as I can learn, Dr. Kerley considers the etiology of these diseases largely, if not entirely, bacteriological (6); Dr. Holt classifies the etiology as largely bacteriological, toxic or chemical, and mechanical (7); Czerney recognizes food, constitution and infections (8); Drs. Morse and Talbot incline to theory that bacteria or bacterial products are the causative factors (9). At any rate, I believe that you will agree with me that all of these factors are essentially important. With this as a basis, does it not center itself into one fact: if we teach the mothers how to feed their babies, shall we not eliminate these factors? If we can make the mothers realize the importance of breast-feeding, or make them take the necessary precautions in the preparation of cow's milk, and teach and persuade them to feed their babies and older children intelligently, shall we not, to a great extent, have removed the causes as taught by the above mentioned men?

Along this line, it is interesting to me to note that Schereschewsky, the present Assistant-Surgeon-General of the United States Public Health Service, considers heat as the greatest, or at any rate among the most important causes of summer infant mortality (10), considering the point along the idea of the actual outdoor heat, the indoor heat, through ventilation, clothing, and, of course, the metabolism of the infant in hot weather. Although primarily interested in and discussing the prevention of all cases, nevertheless some cases are going to develop, and our efforts must also be directed towards controlling these diseases. Granting that the condition was primarily not a bacterial one, before the case has recovered, the bacteria have entered in and are largely the responsible factors. This being true, the infection calls for the most rigid care of the intestinal discharges. The discharges are all potentially, if not actually, contaminated with the causative organisms and may contain millions of the organisms. The discharges, the clothing and the bodies of the infants must be disinfected to prevent further spread of the disease. So, our efforts should be directed toward the regulation of the environment of the infant population, which can be accomplished only through the education of the mothers, nurses and other attendants, who must be brought to realize the possibility of the transmission of diarrheal diseases through different channels. The control of these diseases narrows itself largely into a question of personal hygiene for those responsible of the care of these sick infants. If they, the attendants, themselves are free from the infecting organisms and exercise due care with regard to the feeding, cleanliness and clothing of the infants, and to the exclusion of flies, much will have been accomplished in the control of these diseases (10A).

If you will pardon a reference to our own City Department of Health, I would like to say that we have established Baby Stations for both white and colored babies and mothers for the past two summers. We open these clinics or stations early in May and continue them until in October. I do not mean to claim that these stations will account for it, but from the annual report of the Health Officer of Winston-Salem, I find that in 1918 we lost from diarrheal diseases, 139 babies; in 1919, 64 babies; and in 1920, 55 babies. Possibly after several years I might not have this story to tell you, but that is our status today.

In considering measles, pertussis and scarlet fever, it seems to me most plausible that, if we could impress on the parents the seriousness of these diseases and their complications, teach them the earliest symptoms in order that they might segregate or separate any suspicious

looking case early from the well children, and make them realize the importance of a very strict quarantine, we could possibly make these diseases as much a thing of the past as typhoid fever is. I realize that this is probably theorizing, and that those of you who have had more experience will know the futility of my ideas. But even granting that my ideas are impractical, can we not make more effort to control these so far unpreventable diseases among infants? By attempting to postpone these diseases until the children are older, even though we do not cut down or reduce the morbidity reports, are not the chances better that we will reduce the mortality reports, on account of the fact that a child eight or ten years old has a greater resisting power against these diseases than an infant?

Personally, I think it is as much a disgrace to have a case of diphtheria today as it is to have a case of small-pox or typhoid fever. In the city schools of New York, Philadelphia and Rochester, N. Y., they have, I understand, almost entirely eliminated this disease. When you consider that 88% of adults, 80% of persons from 10 to 20 years, 70% of children from 5 to 10 years, 60% from 3 to 5 years, and 40% of children from 1 to 3 years have a natural immunity against diphtheria (11), it does seem to me almost criminal to allow any of our children to have this disease. We know full well that we do have a positive, definite, very simple, and, in the hands of a competent physician, a method devoid of any risk of determining an individual's susceptibility, namely, the Schick test or reaction, and, if susceptible, then an equally positive, definite harmless and equally simple procedure to confer an acquired immunity, namely, the administration of toxin-antitoxin, which immunity is said to last from three to four years, (11A), and probably longer.

The prevention and control of infant mortality due to tuberculosis would be a much more probable thing if the public were educated to the point of suspecting the early symptoms and demanding an annual chest examination, or if the diagnosis of early or incipient pulmonary tuberculosis in infants, children and adults were easier, or if our general practitioners would make these diagnoses, making a detailed, careful examination of the lungs with the chest bared. As a result of these conditions not being present, the majority of cases of pulmonary tuberculosis are far advanced before a diagnosis is made, and, therefore, the children of these tuberculous parents cannot possibly avoid infection. And right here I wish to emphasize the fact that the majority of the better men are today advocating the idea or theory and are teaching that all tuberculous individuals receive their initial infection in childhood, and that tuberculosis developing in later life

is only a lighting up of a latent process. Does not this sound reasonable? And does it not, therefore, granting that it is true, make it all the more important that we protect these children and babies at a time when they are unable to protect themselves?

Finally, it is of the utmost importance that the expectant mothers be brought to the point where they will not be satisfied with the ignorant midwife, but will only be satisfied to report to the competent medical man for observation and treatment as soon as she discovers that she is pregnant. Let us impress upon every woman the importance of urinary examinations and the taking of her blood pressure at regular stated intervals, the importance of dental care, the importance of diet, and the necessity of our making pelvic measurements. By doing these few simple and, I believe, easy things, shall we not have the women in better physical condition at the time for delivery, and shall we not, therefore, have given to these newborn babies a better start for their fight for existence? To carry out these ideas, some of us have found it worth while to make use of two bulletins, Prenatal Care and Infant Care, published by the Children's Bureau, U. S. Department of Labor.

In conclusion, I will not attempt to shirk or deny the responsibilities of not only the health authorities but of every medical man as well, and it is only by the long continued fight for the better education of the mothers and fathers of today and tomorrow and the constant struggle for the prevention and control of diarrheal conditions and other infections of infancy that we shall be able to reduce our infant mortality, so that, instead of having a comparatively high infant mortality rate, 101 per thousand, (12) comparing favorably with Japan, Spain and Germany, we shall have the lowest infant death rate of any nation in the world.

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DR. CARLTON: I recognize Dr. Sidbury, who is on the program to open this discussion.

DR. J. BUREN SIDBURY, Wilmington: If I may suggest it, let us recapitulate some of the things that have been said. First, what particular phase of disease cause the greatest infant death rate in the Registration Area of the United States? If I may summarize in a few words, the causes of infant mortality are many and complex. To quote:

"The health and vitality of the parents, the condition of the mother during pregnancy, the care of the mother during labor, the feeding and hygiene of the infant in the first few months of life are all important factors in preserving infant life."

As has been said today, the greatest factor in infant mortality is congenital debility. The next question is: What is congenital debility? If I may, I would like to read from the New York Bulletin, which says:

"Congenital diseases bear no relation to errors in infant hygiene and dietetics, but are dependent within certain limits upon conditions in the mother, operative before, at, or shortly after birth of the child."

The New York Board of Health states still further:

"A point has been reached in the supervision of infancy where it appears that the number of infant deaths from congenital diseases is so great that it controls in large measure the curve of infant mortality. In fact, for several years past, statistics have shown that the number of infant deaths from congenital diseases alone was almost equal to or exceeded that of diarrheal diseases and respiratory diseases combined."

As far back as 1913, the bureau realized that any further material reduction in infant mortality rate of the Greater City must come through organized effort to supervise expectant mothers. Then, in their opinion, the first and foremost factor in reducing infant mortality is getting after congenital debility. Of every thousand babies

born alive, 101 died before they became one year of age. Of the forty-two per cent which died in the first month of life, seventy-five per cent are due to congenital diseases. From these figures we see that our first trench is the reduction of congenital diseases. How shall we do this? First and foremost by establishing prenatal clinics in every city and county of our State. Let the State Board of Health be the clearing house, and each county and each city in the State be the offspring. The State Board of Health will act as a clearing house and guide and direct the efforts of the individual community.

What consists in prenatal care? The ideal way would be for each woman who becomes pregnant to register such condition at some central office and be sent literature in regard to her health and her care during pregnancy, and during puerperium. It is absolutely untrue that prenatal care ends with the birth of the baby, after it carries the mother safely through puerperium. The mother must be ready to bear another child if we fully complete this care. If the mother is left unfit to bear another child, our care is not complete. Prenatal care is the most important factor in the reduction of infant mortality. Our president has stated already a very important thing. Whenever any baby is born in Winston-Salem, the mother receives a pamphlet of instructions as to the care of her baby. I congratulate you, Mr. President, upon taking a forward step in North Carolina in carrying out the prenatal care clinic.

If I may, I will also read a few more statistics, to compare the infant death rate from congenital diseases:

"Over forty per cent of all deaths during the first year of life are caused by congenital diseases.

Approximately seventy-five per cent of all deaths during the first month of life and ninety per cent during the first ten days of life are due to congenital diseases.

While infant mortality rate from second to the twelfth month of life has shown a decided reduction during recent years, the rate during the first month of life has remained practically stationary.

The infant death rate from diarrheal and respiratory diseases have progressively declined during the past ten years, while change in rate from congenital diseases has been inconsequential.

Over forty per cent of all deaths during the first year of life reported for 1918 took place during the first month of life.

Today congenital diseases occupy the unenviable first place in list of baby-killing diseases, with respiratory diseases second, and diarrheal diseases third. In fact, during 1918, out of 12,657 infant deaths, 2,993 are ascribed to respiratory and 2,032 to diarrheal diseases, a

combined total of 5,025 as against 5,344 infant deaths from congenital diseases. More infant deaths from congenital diseases than from respiratory and diarrheal diseases combined. Such figures must give cause for reflection and point the way to a future program for infant mortality control."—(New York City Health Bulletin.)

From these figures we see that the death rate from congenital debility practically totals the death rate for all other causes among infants born alive. We must meet congenital debility, and meet it fair and squarely. How shall we do it? By establishing baby health stations in every city and county in North Carolina. This is absolutely a possibility, as has been demonstrated by every city and town that has done it. What is a baby health station? What are the factors? One of the most important is the prenatal clinic. A most important point is that the baby, as soon as he is an hour old, should be registered in the baby health station, just as he is registered on the cradle roll of the Sunday School. That only will enable us to detect many deaths which otherwise would go undetected. It is not only a station for the distribution of milk, but a center of education. We can not accomplish large results unless we adopt the method of education, as well as that of treating the individual who happens to need help at that time.

Then there is the Little Mother's League. Teach the girls that the pacifier, the dirty bottle, the dirty nipple, are not only a means of making the baby sick, but will cause its death. The little mothers will go home, see the abominable pacifier in the baby's mouth, and take it out and throw it in the fire. This and the other things will help not only the babies in this generation, but will help these little mothers when they themselves have babies.

The next thing is the health nurse. The nurse will follow the baby on to the end of its first year. Her field is that of spreading information and education to those mothers who will gladly and willingly receive it.

One more important factor in the baby health station is the care of the pre-school child. I guess many of us have seen lots of fat babies up to one year of age and have wondered what becomes of the fat baby from two to six years of age. They are strikingly absent. One factor is that, not infrequently, after the baby passes its first milestone, another baby enters the household and the first baby is left largely to take care of itself. It is neglected, not only by the mother, but by the medical profession. The pre-school age has been badly neglected. Just as prenatal care takes care of the infant, so pre-school

care will take care of the pre-school child until he goes to school at his sixth year.

In regard to midwives, who are a very important factor in raising or lowering the death rate of our children, an important point was brought to my attention in Asheville two years ago, at the meeting of the Southern Medical Association, that the midwife is here to stay. She will stay here longer than we shall. So the only broad and progressive thing to do is to take her and teach her the important facts of infant welfare and hygiene. People will choose whomsoever they please to deliver themselves or their wives. It is our prerogative to educate the midwife so that she will not be a menace.

Breast feeding, complementary and artificial feeding have been taken up, and I wish to say that one of the great factors in our Southland is that too many babies are weaned prematurely. The baby has colic, the baby has this or that, and is taken off the breast. As a result, when the summer comes, the baby has diarrhea, and the baby goes out unexpectedly and untimely. The milk station, where milk may be prepared, is one means of combatting this mortality. Breast feeding can be continued longer than it is. Eighty per cent of doctors' wives can nurse their babies from three to four months longer than they think. (I take doctors' wives as an illustration because they are, perhaps, the hardest patients we have to deal with.) Eighty per cent of all women, I would say, can nurse their babies longer. We can encourage the mother to nurse her baby longer by showing her that by taking the baby off the breast she decreases his chances by twenty-five to thirty per cent.

Another point: I wish the North Carolina Health Officers' Association would go on record as taking action that no milk shall be sold as baby milk which has a higher percentage of bacteria than 30,000 bacteria per c.c. In my own town I have seen milk sold, labeled as baby milk, with a higher content than 100,000 bacteria to the cubic centimeter. 100,000 bacteria to the cubic centimeter is not baby milk. I think that the North Carolina State Board of Health should set some standard so that milk with a higher content than 30,000 could not be sold as baby milk. It is all right to sell the milk, but not as baby milk, if it contains more than 30,000 or 40,000 bacteria.

One more point: Diphtheria and vaccination. You have very few deaths from smallpox, but you have had cited to you today that the death rate from diphtheria is practically the same as that from typhoid fever and diarrheal diseases. We should not have any more deaths from diphtheria. The people in North Carolina are willing to be led just as fast as we doctors wish to lead them. In Wilmington

we have treated between two and three thousand children in the schools and in private practice with the Schick test with no untoward symptoms. One or two nurses had a reaction, with fever of about 103 or 104, but no children did. In New York the Schick toxin-antitoxin is put on the same level with smallpox vaccination. It is recognized by the authorities as reducing diphtheria. I hope with the wise guidance of Dr. Mitchener, every county in the State will see that every child in the county is made immune to diphtheria within the next few years.

DR. C. W. ARMSTRONG, Salisbury: (Addressing Dr. Sidbury): Do you advocate weaning every child when it becomes a year old, regardless of the season of the year when it attains that age? Most pediatricians, I think, advocate this, regardless of the season of the year.

DR. W. S. RANKIN, Secretary State Board of Health, Raleigh: I think that Dr. Sidbury's discussion of this symposium has given a very practical turn to the whole thing. He suggested a very definite course of action, and one, I think, that should go further than mere suggestion—one which should be carried out. His suggestion of county prenatal clinics, where women could be registered to come for advice in regard to this condition, and in order to discuss congenital debility, is a perfectly practical and valuable public health measure, and I think that this Association should see to it that it be carried into effect. I promise you, so far as the State Board of Health is concerned, the fullest sort of co-operation. I move that the Chair appoint a committee to confer with the State Board of Health and draw up a detailed plan for county prenatal clinics. I think that such a committee should include Dr. Sidbury, as chairman, and it should also include the State Directing Nurse, Miss Ehrenfeld. It ought to include a county health officer and one of the best county health nurses, and perhaps Dr. Root, who is Consulting Pediatrician to the State Board of Health in Raleigh. I do not want to assume the prerogatives of the Chair, but I do think that it should be a composite committee with certainly Dr. Sidbury as a member. It is a problem that, when it comes to relative values, stands head and shoulders above some of the things upon which time is being wasted.

Dr. Rankin's motion was seconded by Dr. R. H. Lewis, and carried.

DR. J. A. MORRIS, Oxford: As to the matter of the use of toxin antitoxin, at a recent conference of the health officers there was some little shade cast over its use because of a rumor of some bad effects

had somewhere. I can not give any idea where it was, but I have already talked to some of our people and they are favorably inclined to its use if it is safe. Something was said of a certain output that had too much toxin for the antitoxin, and bad results were had. I would like to know if a health officer can obtain a product absolutely safe, so that no bad results will follow. Perhaps Dr. Sidbury can give me this information.

DR. J. S. MITCHENER, Director, Bureau of Epidermiology, State Board of Health, Raleigh: In discussing this symposium, I wish to speak first of the work among the midwives which has been done by Miss Myers and Miss Manning, who were loaned to my Bureau by Miss Ehrenfeld.

The first thing we are trying to impress upon the midwives is that they are not doctors and are to take the physician's part only when he is not with the patient, and, then only in normal cases. Great emphasis is put upon cleanliness, what not to do, the observance of the State law in regard to registering births, the use of silver nitrate in the babies' eyes, and that they should not make vaginal examinations. Three or four hour conferences are held in each county, and the attendance at these conferences is usually very good. The midwives show great appreciation of our efforts and are as willing to abide by the laws governing them as any set of people I know of.

It is my aim to be able some day to send a good nurse into each county to have conferences each day for a week. This nurse should be provided with a manikin and instruct the midwives how to conduct a normal labor, for this is what they are there for, and until they learn the principles involved, we shall continue to have the horrible results which have followed births all these years.

I might state that we try to get some physician to come to these conferences to talk to the midwives. I have seen but one who has any objections to our method. On the other hand, complimentary remarks of the work of these nurses has come repeatedly from the profession and the midwives themselves.

The second point I desire to discuss is toxin-antitoxin. My whole heart is wrapped up in prevention of diphtheria. The death rate in North Carolina has been practically at a standstill. Last year we had about 30 more deaths than the year before. This made the number of deaths from diphtheria just about 60 less than typhoid fever. It is with toxin-antitoxin that the men in public health work in North Carolina will be able to demonstrate to the State that they have done

a service. Those who have gone before us claim that the reduction in typhoid fever is a result of their efforts in this field.

Early in the year I visited New York City Health Department to confer with Dr. Harris and Dr. Zinger about the use of toxin-antitoxin. I might state that they were enthusiastic over the results of their work, inasmuch, as they were finding that 90 per cent of those treated over four years ago are still immune. They approve of toxin-antitoxin being administered to all between six months and six years of age without the use of the Schick reaction.

The merits of toxin-antitoxin must be presented to the medical profession in each county. Every county quarantine officer should take this matter up with his local Medical Society. From my office, a circular letter and a bulletin printed by the New York City Health Department will be sent to each physician in the State. Already we are anticipating giving toxin-antitoxin in about ten counties in the State at the same time that we offer typhoid vaccine.

Let us bear in mind that if we will but immunize every child between six months and six years of age in our State with toxin-antitoxin, we can reduce the number of deaths from diphtheria 75 per cent.

DR. R. A. McBRAYER, Sanatorium: In Dr. Wyatt's paper there was one thing mentioned which I would like to emphasize a bit more fully. At present there is a very strong tendency to the opinion, mainly, I am inclined to think, among the more radical men, that all infection with tuberculosis takes place in infancy and young school life. Things like that are all right for doctors to study. They must be worked out. But we must not teach the public that too strongly, because the Von Pirquet test in school children will not bear it out that the infection is there. The new modification of the Von Pirquet is not to scratch the arm but to put it in intra-cutaneously. The second reason why I am not so strong for the theory that all infections occur in childhood is because the complement fixation test is not positive nearly as often in children as in grown people. The other thing is that at autopsy the pathologic findings of tuberculosis are not nearly as high in children as they are in the adult. So I do not see that, as men who are meeting the public, we could afford to teach them that infection in tuberculosis occurs in early life. If we did that, what would be the result? It would break down part of the teaching that the State is doing. We are teaching that you must shield the face when you cough or sneeze and dispose of your sputum to keep from infecting anyone. The main thing is that, if they are not going to be

careful about infecting adults, their carelessness may result in infecting little children. So I think that it would be a serious mistake, when we are so far from proving that all infection, or even most of it, occurs in early childhood, to teach that theory to the public.

DR. C. B. McNAIRY, Superintendent Caswell Training School, Kinston: I would just like to call your attention to one or two things which I think would be of interest. There are born in North Carolina each year 350 to 450 mentally defective children. If there is anything to be hoped for, or anything to be done, this condition must be recognized early. One form of mental defectiveness upon which we now look with a great deal of hope is that form of defectiveness known as Mongolian idiocy. I hope that you doctors and nurses in all your clinics will look to the diagnosis of mental defectiveness. We believe now that there is some hope of remedying enough to help them enjoy life to some extent and not be such a menace to society. I refer especially to the pituitary and other endocrines. We are considering that especially at our Institution now. I wish that I could show you two little tots that we have there. A year ago they sat around and paid no attention to anything; now they are bright and active. No doubt, it will be necessary for us to feed them the gland until they are physically matured.

We are also doing some experimental work with the thyroid gland.

DR. A. S. ROOR, Raleigh: I wish to call attention to one other class of mental defectives, in whom the condition is due to cerebral birth hemorrhage. In a great many of these cases, if the condition is recognized a few days after birth, it can be relieved by drawing the blood from the spinal canal by lumbar puncture. A great many of these children grew up to be mental invalids, spastic paralytics, mentally defective children of all grades. But if, during the first few days of life, before the blood clots on the brain, and provided the lesion is below the tentorium, a lumbar puncture is performed and the blood withdrawn, a great many of these children can be saved as to their mentality. Two of these cases have come within my practice in the past year, and I feel that they would have been mental defectives all their lives if this simple operation had not been performed. I think we ought to educate the profession, and the public too, to recognize this condition early and to realize the possibilities from such treatment.

DR. L. B. McBRAYER, Sanatorium: There is another thing in the way of infections in which I feel these health officers should be very

deeply interested, and that is venereal disease as distributed by wayward girls. We had hoped—this community had hoped, as well as the Moore County Medical Society—to take this Association over to Samarcand Manor for this afternoon, but the Secretary stated that he was paying out the money for a scientific meeting and that he thought that we ought to work. But arrangements will be made to take to Samarcand Manor those who care to go. So I suppose there is nothing left for us to do this afternoon but to obey the mandate of our good Secretary and work.

DR. SIDBURY, closing the discussion: In regard to weaning the baby, the policy is, of course, a disputed question, and each doctor has his own method. My method is to try to wean the baby before summer comes. If the first year terminates in the middle of the summer, then wean the baby at nine or ten months. Every baby should receive a supplementary feeding at seven or eight months. If you put it on this supplementary feeding at six or eight months and begin to give the baby cereals, by the time it is eight or ten months old, it is in position to be weaned and put on a rational formula when the summer comes. If the baby is only seven or eight months old, I believe that it is best to keep it on the breast and give it supplementary foods through the summer. If it does then become necessary to wean the baby during the summer he will have already become accustomed to the foreign food.

As to toxin-antitoxin, the most unfortunate experience was on the Border where a commercial product was used. It was found that there was too much toxin for the antitoxin. The product which has not received any black eye is that produced by the New York City Board of Health. It can be obtained by writing to the New York City Board of Health. I feel that if you use the New York product you are absolutely safe, for when you consider the number of cases that have received it all over the country, with not a single fatality, or untoward happening, we can feel safe. With this product there has not been a bad result since it has been used.

## AFTERNOON SESSION

### SYMPOSIUM ON EFFECTIVE QUARANTINE WORK GETTING CASES REPORTED EARLY

P. J. CHESTER, M. D.,

Health Officer Pitt County, Greenville

Early reporting, early quarantining, and early lifting of quarantine—these three things are the essentials for successful quarantine. To get cases reported early we must make both the doctor and the people realize the importance of reporting, not only as a measure to protect the people in general, but as a bounding duty for the protection to health and lives of the families in the various communities. The earlier the report is received, the earlier they get the literature which gives them the precautions they should take in preventing the spread and the control of the disease, as well as complications that so frequently follow in the paths of contagious diseases, thereby saving lives of many children as well as adult life.

To get early reports, we must keep in touch with the machinery which turns out these reports. The doctor, the parent, the teacher, and the neighbor give us the reports. We must get the reports with as little trouble as possible to everyone, trying to point out not only a reason for, but the advantages to be derived from reporting. Quarantine in the rural communities can be made more effective by co-operation with the people in communities where diseases exist, by acknowledging receipt of report with a personal letter to the person making the report, and as far as it is possible, make a personal visit to the reported case. In this way you show the people that you are interested in them and appreciate their co-operation.

I think the doctor should be encouraged to report by telephone if you have a clerk. It will likely give you complete information and will surely be quicker. Most doctors had rather talk than write. The talking takes longer, but the reporting physician may feel like he is doing less. It will be better still to encourage him to fill out a card also, but avoid double reports. After receiving reports over the telephone from physicians, I would like to suggest getting out a form receipt to return to the doctor. He may wish to keep it for his files. Anyway it will impress him with the fact that the efforts of our department stands for results.

Parents should be encouraged to report early for this reason: take for example, whooping cough; do not wait for the characteristic whoop before making a diagnosis. Waiting for the whoop in whooping cough is like waiting to find tubercular bacilli free in the sputum before making a diagnosis of tuberculosis. Then in a majority of cases it is too late to control contact. Parents should be taught to report every case to spasmodic or paroxysmal cough in a child who has never had whooping cough. In the majority of cases they will be correct.

The teacher, the parent, and the neighbor may be reached through various ways discussed under the educational unit, as follows, press articles, visiting schools, visiting the homes, using forms, asking reports of unreported cases, etc., show you are after each case and they will readily see the importance of the work being done. Make monthly reports through your local newspapers showing the number of contagious diseases reported or quarantined in the county. Compare with same month of preceding year showing comparison. Follow this with an article telling the people how to prevent the various diseases and the management and control as they occur in the family. From the use of the October number of Health Bulletin in the public schools of Pitt County we put over a wonderful educational program and by this method I have been able to impress many people in the rural districts, as well as in the towns, with the great necessity of early reports and quarantine. I can attribute an unlimited amount of good directly to this plan of educational work. These bulletins must be used as a reading lesson by the children. Once you have impressed the children with the source, the danger and the prevention of the disease, you have the backing of the entire family. Again we can make a good impression by assuring the children that they are the boys and girls of today and the men and women of tomorrow. If they are sickly, delicate, and unhealthy boys and girls today, they will be unhealthy and unfit men and women to handle the future problems of our country.

We must be prompt in getting in touch with the case after the report reaches us. This puts contact under control. If we, as health officers, expect promptness, we must give promptness. If we delay, public or moral support will not come up to what we would like to have it. All typhoid and diphtheria cases should be visited as soon as possible.

An important factor in making quarantine effective, is to get reports early, quarantine early and lift the quarantine as soon as it is safe to do so. This will put the children in school soon. Doctors

should be told (on the case form which I spoke of) how to get the quarantine raised early. This will be gratifying to the physician and to the householder. No opportunity should be lost towards teaching parents to report cases not seen by physicians, as there is no better way of determining the success of the quarantine officer in a community. The parent should be taught that all cases should be reported by the family or by the family physician. Our State Epidemiologist, Dr. Mitchener, has recently begun to send out form letters to be returned when friends of our work know of unreported cases. We hope this will help us to further the cause of health work. The Health Officer should visit the doctors on every occasion, thereby assuring him that you are willing and ready and want to co-operate with him. In case the doctor overlooks the reporting of a disease or case in the midst of a big rush it is up to the Health Officer to call him over the telephone or call at his office and inform him of the fact that he has overlooked the reporting of this case. In this way you invite the hearty co-operation of the practicing physician and in every case he will be the most co-operative man in the county and will be invaluable in making this work successful. Quarantine is not complete unless you get your reports early, and vaccinate in cases of typhoid fever and smallpox, or immunize or give toxin-antitoxin in cases of diphtheria.

I am heartily in favor of prosecution in cases of absolute negligence to report contagious diseases. After every community has been shown that it is their duty to report diseases themselves or call in their family physician, which of course, makes him responsible for reporting, they should be prosecuted for failure to report. For example, I have prosecuted within the past year, a number of cases for failure to report and find that it has resulted in an unlimited amount of good in the entire community. You will have a number of cases to come up in your quarantine work, where the family quarantined will remove the placard without authority to do so before the date of release. You will find that a number of these families are ignorant and must be handled very carefully. If I feel that they have not had the opportunity to become enlightened on health work as I think they should, I penalize them by extending the quarantine date, and notifying them of the fact that if this placard is again removed without my authority that they will be prosecuted. This has proven to be very effective. Another method of encouraging early reports is by holding up the sick benefit insurance. This is something that nearly every colored man and woman is carrying and he prizes it very highly. When he or she fails to report a disease this insurance application can not be



signed officially by a physician and, since having a conference with the insurance agent, we have so arranged that all claims paid in cases such as smallpox and other contagious diseases are checked in my office. If a physician signs this he assumes the responsibility thereby subjecting himself to prosecution and if the claim agent pays it without being signed, he assumes responsibility. Of course, as you can readily see, this brings tears to the eyes of the man and woman who holds such insurance. After all it is a matter of education, which takes time and patience.

### THE SCHOOL AS ONE MEANS

R. S. BAILEY, M. D.

Health Officer Vance County, Henderson

The most abused term in the English language, the most elastic term, the term used to cover more moral obliquity than any word we know of is conscience. Old Julius Caesar used a certain expression in one of his commentaries. He said, "Homines credunt quid volunt," that is to say, men believe what they wish to believe. Our own experience in dealing with human nature compels us to say that Caesar was right; they do believe what they wish to believe, and they always fall back upon conscience as an infallible guide. We all know that conscience is a guide directly in proportion to the amount of correct knowledge we attain, and that an uninstructed conscience will lead to all sorts of crime and absurdities. The prompting of an ignorant conscience leads to greater catastrophes than any other brand of ignorance.

The various branches of our present day school curriculum have very little to do with the development of a conscience; their purpose is to develop the intellect. The mind is given certain things to do that by the doing of them it may become strong. No special effort is made either to develop the body or to quicken the conscience in the observance of health laws, hence the whole burden of inculcating the morals of health devolves upon those agencies employed by the State for that purpose.

The most important part of a teacher's training should be hygiene and sanitation, and yet little or no attention is given to this matter by our normal schools, which annually turn out hundreds of teachers who neither have any sanitary conscience themselves nor the wisdom and instruction necessary to develop such a conscience in their pupils. There is nothing we know of that ought to appeal to the conscience

more strongly than the conservation of human life, and yet our common school teachers, with few exceptions, do little or nothing in training the conscience of their pupils unless prompted thereto by such agencies as the Red Cross, the Tuberculosis Association, the State Board of Health or the County Health Department. All the efforts of our normal colleges are directed to training teachers to develop the minds of their pupils, and little or nothing is done in the pedagogy of physical training and sanitation.

Not only should the public school teacher begin a thorough course in physical training, but they ought to be instructed in the recognition of all contagious diseases so that valuable time be not lost before the disease is recognized. For example, we all know that the most infectious stage of measles is the period when catarrhal symptoms become manifest, and what good does it do to send a child home after it has been coughing and sneezing for hours in the school room.

Unless the teacher is drilled in the recognition of contagious diseases; unless she is continually reminded of her own responsibility in safeguarding the health of the children under her care, she will have no sanitary conscience of her own and therefore can not be expected to inculcate a sanitary conscience in the children under her care.

We all know that physical education was given the first place in the schools of the ancients. We also know that the best physically developed people of antiquity were the Greeks, and it is a striking fact that they were also the best mentally developed. After the dark ages and the beginning of the renaissance, the pendulum swung almost entirely towards mental development, and it was taken as a matter of course that the intellectual giant was a physical weakling.

Though little or nothing is done by our normal schools to train our teachers in the conservation of health and the protection against disease, much can be done by the health officer to supply the deficiency in their training.

First we can make it our business to attend all meetings of the county teachers' association, the parent-teachers' association, the mothers' clubs and all other agencies that have any connection with the school. Second we can arrange to meet and have heart to heart talks with the faculty of every school, white and black in the county. Third we can write a brief handbook for the teachers, containing no more than necessary information.

In order to get people to read health literature, it must be simple as possible, void of technical terms and above all things, as brief as possible, people can take this information only in broken doses. The

might take large doses but only a little is absorbed and must be administered at the psychological moment. For instance, if we should find a child with bad teeth, bad eyes or defective hearing, all the information necessary can be printed on a slip of paper 4x5 inches.

When I first started as a health officer, I asked for a full supply of the State literature. The State Supervisor smiled significantly and so did his stenographer. I asked the meaning of the smile and was told that I had made the same useless request that others had made; that I was welcome to a large supply if I wished it, but that the experience of the State Health Department was that people would hardly ever read it. After I had perused some of it myself I soon discovered that this literature attempted to give far more information than was necessary. In other words, it was too voluminous. I therefore discarded it and wrote on little slips hardly larger than a man's hand, a little treatise on some one subject which I wished to call attention to. I sent these to the parents in a sealed envelope. They did not fail to read them, and if they did not acquire a large amount of information they did learn a little well. It is a maxim of the conscientious teacher that "To learn a little bit well is far more important than to get a smattering of a whole lot."

If a handbook on prevention of disease be prepared by the county health officer, his next step is to secure without fail the co-operation of the county superintendent, and exact a promise from him that this booklet be rehearsed at least in part at every meeting of the county association. It is also a good plan to give the teachers a correspondence course, using your own booklet as a text-book and sending out a questionnaire covering an allotted part of the text that has already been assigned.

If we expect to develop a physically strong nation, if we expect our people ever to learn how to prevent disease, we health officers ought to make a concerted effort to have physical training and sanitary instruction made just as compulsory as any other branch of the school course of study. The compulsory physical training was enforced in our army, and we all know what remarkable results it produced. The results would be far more remarkable if this same training were started early in life. The child's instinct to play is a striking reminder that nature endows the child with the play instinct in order to develop its body. When we confine children in a school room for hours, compelling them to breathe vitiated atmosphere and then fail to give them compensation by vigorous out-door physical training, we are thwarting nature in her effort to develop a strong, healthy animal.

It would seem that in speaking so much about physical development is sidetracking the matter of quarantine which is the theme for discussion, but it must be remembered that all sympathetic co-operation depends upon the inculcation of a sanitary conscience, and a sanitary conscience is not established by teaching alone. It must spring from habit of thought and habits of action are established mainly by doing things until they become second nature in the lives of the rising generation.

Now a word as to the health officer's particular duties. I have found out by long experience as an educator and physician that the personal equation outweighs all other considerations in getting results. Personal interviews in which earnestness and every charm of personal attraction constitute the most effective weapon of the health officer. It is very wearisome for a man to be continually showing earnestness and enthusiasm. If carried too far it becomes a nerve racking procedure, but all experience of successful men shows that these things count more for success in educational work than the most profound learning and the most consummate skill. The man that is too lazy or indifferent to train himself to be personally attractive, especially to children, is putting his light under a bushel.

The crux of the whole matter so far as the school is concerned, is the teacher. A considerable part of the health officer's time should be devoted to instructing them in the recognition of contagious diseases. I believe they will gladly respond if the health officer shows by his own interest and enthusiasm the importance of this matter.

The teachers are woefully ignorant of such matters, but what can we expect when there is no instructions given them at normal colleges? The teaching of physiology and hygiene in our public schools is done in a perfunctory manner and regarded no more seriously by pupils than history or arithmetic.

Epidemics, especially of children's diseases, are most likely to begin in the school and there is where we should concentrate our efforts.

To summarize, there are comparatively few people in the world who have a sanitary conscience, due to the fact that they are ignorant. The physical and moral education of the rising generation in our public schools is our only hope, for it is a well known fact that "You can't teach an old dog new tricks." The training of the children should consist in the inculcation of correct hygienic habits of thought and action by requiring them to do things. They should be specially trained in their obligation to society.



The health officers should make a concerted effort to have compulsory training in hygiene and sanitation made a part of the school curriculum.

Our normal colleges should train their graduates in hygiene and sanitation, even if something else must be neglected. They should be continually impressed with the fact that they are the builders of character, even more so than the ministers.

As matters are now the health officer should concentrate his efforts upon the teacher, and should devise a course of study whereby they can acquire the desired knowledge that begets a sanitary conscience. He should spare no effort to secure the co-operation of the county superintendent of education.

The most important business of the county health officer is the training of himself in making his personality effective.

In conclusion, let me say that the health officer who engages in the work without a sincere desire to preserve life and spread happiness and sunshine in this vale of tears has missed his calling. Our efforts are directed to the living that they may have life more abundantly.

Eyes that are closed in the slumber of death  
Cannot gaze on the beauty of flowers;  
The perfume of roses is lost to the breath  
That was hushed in the twilight hours.

Hands that are rigid can never caress  
The gift or the friend that is giving—  
Don't wait till they're gone for your love to profess,  
But show all your love to the living.

There are struggles and striving and sometimes a fight,  
There are cares, there are tears, there is sorrow;  
Don't wait till a loved one has gone from your sight,  
All chances have flown on the morrow.

The heart that is stricken with anguish and pain  
The charm of kind greeting will strengthen,  
The handclasp of friendship will ever remain  
While the shadows of life slowly lengthen.

The fairest of blooms in this valley of tears,  
Their fragrance, their charm ever living,  
Are the deeds that are wrought by a self-sacrifice—  
There's nothing that's sweeter than giving.

The gloom is dispelled by the sunshine of smiles  
From the grief-shaded faces around us;  
Our hearts will then beat in a symphony sweet,  
For the rapture of service has found us.

## TIME OF QUARANTINE

E. F. LONG, M. D.

Health Officer, Raleigh

In offering this paper for your consideration I desire to emphasize the distinction between the "time of quarantine" as contrasted with "the time for quarantine."

I submit that the time of quarantine should be limited to the shortest time after the onset of a contagious disease compatible with a reasonable assurance of non-infectiveness, for the following reasons, viz.:

1. The reluctance of the average householder to report contagious diseases, due largely to inconvenience to the family as a consequence of quarantine.
2. The regrettable custom of delaying reports of contagious diseases until the certainty of diagnosis is established.
3. The established fact that the most contagious period of infectiveness is during the latter days of the incubation period and the initial stages of the infection, diminishing with the subsidence of temperature.

Probably more cases of infections result from contact prior to, than after, definite diagnosis. Notwithstanding this handicap, quarantine at this period materially affects the spread of the malady. The degree of effectiveness of quarantine at any period is in almost direct proportion to the promptness and character of the personal contact of a diplomatic representative of the health department with the family affected, the epidemiological investigation undertaken, and the isolation of contacts during the incubation period.

In addition to isolating known non-immune contacts in affected districts, routine physical inspection of pupils should be systematically done, suspects isolated and re-inspected until diagnosis is established or probability of infection removed.

Few, if any, city or county health departments represented in this association, are sufficiently manned to assure daily inspection of all pupils. To offset this disadvantage, in a measure, the State quarantine regulations authorize and require all principals and teachers in public and private schools to inspect the pupils daily when any contagion exists in their community; to exclude non-immune contacts and suspected pupils and to report suspected cases promptly to the

health department or quarantine officer. The duty of the health officer, or the quarantine officer, to acquaint every teacher in his jurisdiction with the legal requirements and to exact a rigid accounting of the stewardship of her susceptible charges is too patent for argument.

To expedite contagious disease control work in the schools, standard blank forms for comprehensive susceptibility records should be supplied to each teacher at the beginning of the school term. These forms should be filled in duplicate, one copy each for the teacher and quarantine officer. Reference to these records enable both the teacher and quarantine officer to concentrate their activities on the non-immunes. While the average teacher hesitates to accept responsibility for functions other than class room work, the intimate relation of sick absentees to regular attendance and effective class work; the splendid spirit of co-operation of professional teachers in every helpful enterprise and their sympathy for suffering humanity assures intelligent support in this fundamental phase of public health work.

Isolation, or, at least, limited restriction, of non-immune contacts is essential to control of infectious diseases. The case and death incidence arising from infectious diseases is dependent, in a very high degree, on the capacity of the health department to restrict association between non-immune persons exposed to contact infections and those who are not so exposed.

Children are so vibrant with life and so loath to have their liberties restricted that they do not usually complain until the rising temperature, coincident with the onset of infection, becomes sufficiently marked to compel consciousness of dullness, malaise, aching or anorexia. Effective contacts are frequently established, even before anxious, expectant parents are able to note the slightest change in the condition of the child. The perversity of the human ego seems to be well exemplified in the conduct of the average adult when first conscious of symptoms of infectious disease. Feeling badly, he is inclined to button-hole friends or passersby to relate his discomfiture; to mingle more freely with other persons than is his habit when well and his mind centered on business affairs. Being thirsty, he frequents fountains and public or private water supplies, using any available drinking vessel. Mucous gathers in his mouth, so he expectorate freely and promiscuously. He is restless and discontented, so he pays an extra visit to the picture shows or any gathering or diversion that offers. In fact the full significance of his actions does not seem to dawn on him until he is incapable of further derelictions, when he

regretfully wends his way homeward to rest and restore his tortured body.

The time of beginning restrictive measures is vastly more important than the date of release. Excluding lingering infections, such as tuberculosis and typhoid fever, the infectiveness of communicable diseases is most marked at the onset, with a distinct, if not well defined, danger period before the initial rise of temperature.

Our attention, and the attention of the public, should be emphatically directed to contact control. Not only are infectious diseases more destructive to life during early childhood, but frequently result in permanent impairment of the organs of special sense, the respiratory system and other organic structures, the effect of which is cumulative, resulting in lowered resistance to succeeding infections, retarded physical and mental development and relatively low standard of efficiency during childhood, adolescence and maturity and limited life prospect.

The records of the Bureau of Vital Statistics reveal an alarming mortality rate among infants and children, due in large part to needless exposure to infectious diseases.

The following suggestions are offered in defense of helpless childhood, whose innocent bodies suffer the consequences of gross negligence and ill advised practices.

1. *Educational.* Intensive, unremitting, applied, intelligently and forcefully presented instruction directed to the kiddies, their parents and the public, frankly and truthfully presenting and portraying the danger of exposing infants and children to infectious diseases. The press, national, State and local authorities; relief, social and philanthropic agencies are supporting and fostering public health activities with gratifying unanimity. The burden of engaging and enforcing responsibility on the individual conscience is dependent on intimate contact of trained public health officials with the individual and the public.

2. *Reporting.* Carefully and forcefully instruct local officials, physicians, school principals and teachers and the public regarding legal and moral requirements for reporting, excluding cases, suspects and contacts, and hold each agency strictly accountable.

3. *Restrictive Measures.* Rigid exclusion from schools and all public assemblages of suspects and non-immune contacts, early diagnosis and quarantine of cases, and prompt release as soon as the infective period declines sufficiently in the average or individual case to assure relative safety.

4. *Immunization.* The uniform administration of prophylactic vaccines of established value.

5. *Applied Epidemiology.* Public attention should be directed to the urgent necessity for providing a sufficient staff of qualified medical assistants and public health nurses to enable local health departments to promptly visit each case reported, to carefully instruct the family and attendants regarding sources and modes of infection and methods of prevention, to conduct rigid epidemiological investigations, isolate or restrict suspects and non-immune contacts and control disposition of dejecta.

6. *Time of Quarantine.* The time of quarantine should include carefully restricted limitation of suspects and non-immune contacts, prompt and rigid quarantine of cases, extending over the shortest well established or probable period of infectivity.

DR. J. S. MITCHENER: It is my desire to thank the three doctors for presenting these papers on subjects of such importance to the work of my Bureau.

We want reports early or late, but preferably early, so that our machinery can render effective services in preventing the spread of communicable diseases.

It is my policy to tell the truth and not inflate what is being done. Last year our Bureau began to check the morbidity reports against the mortality reports for the list of reportable diseases. I am very sorry to state that we found 40% of the deaths reported had not been reported as cases. Some of us are health officers and some of us are physicians, so this will let each see how things stand.

There is one study we have recently made which makes us feel good. It certainly speaks well for the spirit in which the householders accept compulsory reporting of these diseases about which he has not consulted a physician. During January and February, 1921, a total of 8,700 cases were reported to our Bureau. 6,100 of these were measles and whooping cough and of the 6,100, 1,900 were reported by parents. I believe this will compare very favorably with other States.

In regards to the benefits that the teachers can bestow upon us, I am of the opinion if she will but do what the regulations require her to do, much good can be done, and my experience as a county health officer is that they usually co-operate very well indeed. The teacher should notify the quarantine officer on report cards of suspected cases sent home from school or that exists in families which have no children in school, but to have these cards, the health officer

must supply her with them. She should watch carefully the children in her school when such diseases are prevalent in the community and discuss with the children the early signs and symptoms, with the request that they explain these and the responsibility of reporting to their parents.

Dr. Long brought out a very excellent idea when he spoke of the "time of quarantine" and the "time for quarantine." As mentioned above, we are getting reports late and often not getting them at all. The regulation governing the non-immune contact is the same thing as the case itself and by strict supervision of the contact, we can hope to prevent the spread. The child confined to its bed has already done its epidemiological damage.

I am sorry that Dr. Janney is not here to present to us the subject of immunization against these diseases. His paper would have completed the symposium. However, papers read this morning touched upon some phase of this subject. I wish to mention a few words about the typhoid situation in our State. Last year we had 330 deaths or 97 fewer than the year before. This was a remarkable reduction and is going to be a task to keep a low death rate this year, but it can be reduced and our hope for this lies in the fact that the death rate from typhoid fever is higher in that section of our State under the supervision of whole time county and city health officers than it is in the other part of our State, but with the effective work of these men we hope to maintain our excellent record, if not improve it.

I shall be very glad for any one to make any suggestions which will improve the services of my Bureau to the State.

DR. J. A. MORRIS, Oxford: Referring to Dr. Bailey's subject, "The School in Effective Quarantine," I find that, from overwork and unwillingness combined, I do not get the co-operation I need. We have distributed the cards gotten up by your Bureau, giving the principal diseases prevalent in schools. We have gone over those cards again and again with the teachers. They are in practically every school-room in the county. Yet in five schools I was called by the parents, asking if they should send their children to school, there being measles and chickenpox in the schools. I have never found measles, but I did find chickenpox. The result was that I thought I ought to break up those schools. We sent home the cases and then took a survey of the school. In one school of ninety pupils I sent home thirty-four. Instead of making an impression and making the teacher feel that she had failed, I got opposition. I think sometimes that we ought to be backed up by authority. I think that the county

board of health and the county board of education should confer together and make compulsory the teaching of sanitation and hygiene. If the teachers are not able to teach it effectively, they should be demoted. I believe that it would have a good effect and that the teachers would learn what they ought to learn, because of the overhanging authority. I really hope that may be one approach, so that we may get quick results. Education is slow. The tuition of this learning is sickness, death and sorrow. People do not want to learn. We need immediate results. However tactful a health officer may be, his influence is not that of authority. If he rises up and revolts against the teachers he will get them all opposed to him in a short while. But if there were some authority making the teacher learn these things, I believe we could get quick results.

DR. CHESTER: I especially emphasized in my paper that teachers should be trained in the normal colleges in the recognition of disease, and taught to teach that effectively. These subjects will have to be made compulsory in the school curriculum of our State, and until that is done we shall not have the proper kind of physical education.

DR. N. B. ADAMS, Murphy: We are just passing through an epidemic of whooping cough in my county, and I would like to say a few words in regard to what has happened with the pertussis vaccine in my experience over there. Since the first day of January, 1921, I have had twenty-two cases of whooping cough. They were all treated with the pertussis vaccine and fourteen of them had not another spasmodic cough after the third night. The others were benefited. Forty-six persons were vaccinated against whooping cough, some of them in the same families where children had it, and not a single one of them developed it. I felt that perhaps my experience there might be of use to somebody, and so I am glad to offer it.

Dr. —————: I think the subject of whooping cough is the Pandora's box of all health officers. I get word in some roundabout way that whooping cough is present, and when I go over there I find it epidemic. In nearly every community I find cases which have been taken to a doctor. The average physician will balk at making a diagnosis of whooping cough unless he hears the child whoop. He tells the parents that the child may have whooping cough, or it may not, and the parents want to take it for granted that the children haven't it, and send them back to school. Sometimes the teachers protest. But I am sorry to say that I have not gotten the proper

co-operation from the teachers. Some times the teacher is intimidated, but often they pass this thing up. I believe that if we are to make much progress in the prevention of whooping cough we shall have to use pertussis vaccine. I have come to that conclusion. I do not know how effective it is as a preventive, but I know that some men have gotten good results. I know that the authorities claim that you get good results. I know some physicians who have used it in treatment, and who claim that it makes the disease much milder.

Now, in regard to the reports of typhoid fever from counties where there are whole time men, I believe that the reports from whole time counties are one hundred per cent complete, and in other counties they are not.

Dr. —————: In my county we had twenty-five fewer cases in 1920 than in 1919, but we had a much higher death rate. I suggest that Dr. Mitchener call on the practicing physicians.

DR. MITCHENER: I am very sorry that my statement in regard to the fact that there is a higher typhoid death rate in the part of the State which has full time health departments than in the part of the State which has not was misconstrued. The time has been when the difference was even greater than it is today. Because a given county had a high death rate is why the State and county officials chose that county as one in which to develop a full time health organization. My point is that there is yet work to do and we must keep at it.

I might state that we hope to maintain the low death rate established in 1920 for typhoid fever because such a large percentage of our people are under the oversight of a full time health organization. Morbidity reports are much better in counties and cities which have live health organizations, but I am speaking of deaths, and our State as a whole is certainly 90% perfect or we would not be placed in the registration area by the federal government. We are unfortunate in not being able to prevent those cases that die for they are the ones that tell the tale.

DR. LONG: I have been more puzzled as to means of control of whooping cough than any other quarantinable disease, because it is so difficult to diagnose early. The physician is almost helpless to make a diagnosis unless he can get an absolutely true and comprehensive statement from the parents. But we have a saving phrase in the regulations, which say "whooping cough or any spasmodic cough."

I want to call your attention again to one item in the paper which I submitted, "applied epidemiology." It is true that we get results—a reasonable degree of results—by instructing our teachers, getting at them through their monthly meetings and reaching them by correspondence, but we do not get the enthusiasm that we need. And until the county health departments are sufficiently manned to get into touch with the teachers in their schools during epidemics, give the necessary instructions there, let the pupils carry them home to each family, and require that every suspected case, and every non-immune person who has been in contact with a case or a suspected case, be kept from school until a diagnosis is made, we cannot control whooping cough or any other contagious disease in an effective manner. The solution, in my opinion, is a sufficient corps of public health nurses to enable health departments to make vital contacts in schools at the psychological moment.

DR. W. S. RANKIN: I want to say just a word in regard to the pertussis vaccine. I was particularly interested in what Dr. Adams said about his experience in Cherokee County. I have been hoping ever since this was developed that it would be an effective means to control whooping cough. My understanding is that in New York City, where they have been doing a good deal of work with this vaccine, they find the preventive power to be very marked, enough to justify public use, when the vaccine is very fresh—that is, not over a week old. I do not know that I can say anything about the curative power of pertussis vaccine, but the preventive value is very marked when it is fresh. Of course, if it should turn out to be the case that pertussis vaccine is reliable for preventive measures when it is fresh, it would place upon laboratories some little inconvenience in keeping the supply fresh all the time, but if it proves to be true that fresh pertussis vaccine will prevent whooping cough, then we have some means for dealing with this disease.

Now, as to whooping cough and measles, there are two things which we want to get across: First, that these diseases are practically impossible of prevention. Sooner or later people exposed to measles and whooping cough will have them. But the point that we can drive home is that there is a right time and a wrong time to have them. The mortality of whooping cough in children under one year of age is about twenty-five per cent. Between the first and the second years of age it is about seventeen or eighteen per cent, and after five years of age, one per cent. If we can get that thing across, and get the people who have infants to take special pains to protect them, I think

we have won a very important point in combatting these diseases. While these diseases are doubtful of prevention in any large way, there is a right time and a wrong time to have them. The wrong time is under one or two years of age, and the right time after children are five years of age.

DR. ADAMS: I want to say that I believe in the pertussis vaccine. I got mine from New Orleans. It is manufactured after I wire for it, and I get it in four days. This vaccine that I have used there has done just what I stated a while ago. Out of twenty-two children who were given it, fourteen never had a single spasmodic attack after the third night. Out of forty-six persons vaccinated against whooping cough with this vaccine, some of them inmates of the same home with children whom I treated for the disease, none took it. Not a single one took it who had the vaccine. I believe that if you get fresh vaccine and the vaccine is what it should be, you have the control of whooping cough.

DR. RANKIN: I want Dr. Adams to thoroughly understand that I spoke in appreciation of his contribution to this discussion. I did not want to raise any question as to the accuracy of his observation. The only point I want to make is in reference to the experience in New York, which is reconciled with his own.

DR. WM. M. JONES, Greensboro: I have had some experience with pertussis vaccine in something like two hundred cases. At times I have thought that the results were excellent, and again I have not been able to see that I got any effect at all, and I have not been able to explain why. Probably the statement made by Dr. Rankin in regard to the freshness of the vaccine explains it. I have had a number of physicians ask me what I thought about the use of this vaccine. I have always advised that I believe that it is worth using, and have made a statement of what I have seen as a means of prevention and the result and also what I have not seen. It is probably explained in that the early or fresh vaccine is effective, whereas that which is a little old has not been effective.

As to the two diseases, whooping cough and measles, I have listened with a great deal of interest to the discussion. I would rather have anything else reported than a case of whooping cough. I do not have any trouble getting typhoid fever reported or smallpox (except in the way of black measles in negroes) and scarlet fever and diphtheria, but in a rural section, if a physician makes a report of whooping

cough, other children get it and do not call a physician, and pretty soon there is an epidemic. These two diseases, whooping cough and measles, give me more trouble than all the others put together.

DR. A. S. ROOT, Raleigh: Most of us who have had experience in giving pertussis vaccine have had the same result that Dr. Jones reported. Sometimes it is effective, sometimes not. The vaccine must be fresh, and it should be given in larger doses than it is ordinarily. I have been greatly interested in the different reports of series of cases in various medical magazine. Some report five hundred or six hundred cases with excellent results, and some that number with poor results. The failures, I think, are in part due to not using fresh vaccine, but I think also that there are several strains of the organism, and unless the particular vaccine is made from the strain of the organism causing the disease it will not be effective. If it is effective it will clear up the disease in a remarkably short time. In every early case and in every case exposed to the disease in an infant under three years of age the vaccine should be given. After the paroxysmal cough has begun I have never seen the slightest benefit.

DR. LONG: I want to offer a suggestion on the care of vaccines. Immediately upon receipt they should be placed in a refrigerator that refrigerates. For carrying the vaccine to dispensaries and families use a vacuum bottle. Roll the ampules in a little cotton and pack them snugly. Then whatever is left can be returned with practically no deterioration.

DR. L. B. MCBRAYER, Sanatorium: There is one point to which I think attention should be called, and that is the length of quarantine and also what quarantine is for.

Quarantine, as I understand it, is a public health measure to prevent the dissemination of diseases from sick people to other people, and the very moment that the disease ceases to be infectious the quarantine should be raised. The time was, as a great many of us will remember, when we quarantined diphtheria for a certain length of time. That is because we did not know any better. Now, just as soon as we find out from a culture that the Loeffler bacillus is no longer in the throat, we release the patient, whether it is a few days or longer. That is the only way to regulate quarantine.

Now, if I understood correctly, they propose to use quarantine as a punitive measure, to penalize the parents and physicians if they do not report the disease at the proper time. I do not believe that

that is a proper measure or that it would stand in the courts. I hope, for the sake of the health officer, that it will never get into the courts.

DR. CHESTER: Dr. McBrayer misunderstood my meaning. It is only after the card has been removed without authority that the quarantine is lengthened.

DR. J. E. MALONE, Louisburg: I want to ask a question: What is a carrier, and what are you going to do with carrier?

I have a carrier of diphtheria in my town, and I want to know what to do with him. I had a case of diphtheria to break out yesterday in that same family. I have tried to isolate her as much as I can. I keep her from school. Dr. West, of Raleigh, treated her. When I took hold of the case the mother told me that she had seen Dr. West recently and had a letter stating that she had a disease of the throat, diphtheria, but no one could catch it. But when I wrote Dr. West, he said that she is a carrier of diphtheria. The only thing I could do was to keep her from school, but daily I see her playing on the street with other children. I have remonstrated with her again, but you know it makes them mighty mad.

As to whooping cough and measles, I am a veteran in health work, and I feel like Bishop Brooks of Norfolk, "There is more christianity in patience and toleration of other people's ignorance than in all the creeds and dogmas." So I started out to be patient and I was patient for a long time. But last week I turned loose and made the fur fly. I made thirty-four indictments in one week. I think I accomplished a good deal by the gentle art of persuasion, but now I think we should call in the law.

## RURAL TUBERCULOSIS CLINICS OF NORTH CAROLINA

JOS. L. SPRUILL, M. D., SANATORIUM

The tuberculosis clinics of North Carolina financed by the North Carolina Tuberculosis Association, The American Red Cross, The State Board of Health and local agencies are doing as much real tangible work in the fight against tuberculosis in the State as any other organization in existence.

The clinics are conducted in co-operation with a whole time health department, a whole time health officer or a County Public Health Nurse; and where none of these exist, in co-operation with the physicians or welfare workers.



Dr. Armstrong has rightly said, "The next step in the fight against tuberculosis is the finding of the cases," hence the establishment of clinics.

The most successful clinics are those held in the counties which have a well organized board of health with a whole time health officer and public health nurse. They of course have a record of all the cases of tuberculosis in their counties, and in preparing for the clinic, visit all these people and select from them all doubtful cases, and others that have been exposed to infection, together with any others who may have reason to suppose they may have the disease, and give them dates to attend the clinic.

The Public Health Nurse is in most instances by far the most potent factor in the work. She it is who most frequently finds the new cases, calls the attention of the local physician and has them ready for the clinic when it is established.

There are twenty-eight of these nurses in our State in as many counties and their value to the cause cannot be estimated. Without exception, they have the respect and confidence of the physicians as well as of the best people in the counties where they work.

They go through these counties and select those cases whom they have reason to believe have tuberculosis, or have been exposed. In other words, "they find the cases." They then give them dates and hours to report for examination and see that they are present at the appointed time. As an example of their influence and efficiency, I will cite one instance where I examined ninety patients for one of our nurses who had gone among her people and given each one a day and hour to report at the county town for examination; I examined 96 cases for her, and of all those, one patient alone failed to meet his engagement on time.

The work is stimulating an interest among the physicians all over the State, and I have yet to go into a county where they have not given me their heartiest support. In several of the counties the clinics have resolved themselves into consultations, the physicians themselves bringing their doubtful cases and going over them with the examining physician. By their co-operation as well as the care exercised by the nurses along the same line, many cases of tuberculosis are diagnosed that would otherwise escape notice.

The Assistant State Director of Public Health Nurses or one of her assistants, usually accompanies the examiner in all his clinic work, and while the local public health nurse supervises the patients when they come, she takes their histories and assists the examiner in his work. With her assistance we are able to make the usual careful

examination in about half an hour. So much for the details of the work. As to results.

I have already shown the results with the physicians, how they are eagerly embracing the opportunity of having their doubtful cases examined, but the most far reaching result is among the people themselves. The examination per se, is only a part of our work. We get the people together in the churches, courthouses, school houses and any other places, wherever we can get an audience and talk to them about themselves. Tell them of the ravages of tuberculosis in our nation, State, and particularly in the county where we are working.

We tell them the number of reported cases in their county and the number of deaths there last year; and argue to them that no one need die of tuberculosis if he only has a chance to live; and then explain to them the county and State Sanatorium plan of treatment, together with an explanation of the special act of our State Legislature providing for the building and maintenance of a tuberculosis hospital in each county in the State. As a result of these talks three counties in the last year have taken steps toward the building of these hospitals; one at a cost of \$150,000.00, one at \$100,000.00, and one a smaller hospital which is now open and doing fine work.

In addition to this, one of the mountain hospitals has turned its infectious disease ward into a tuberculosis ward and is treating tuberculosis patients as a result of a clinic held in the hospital. The number of patients coming to these clinics for examination is always far in excess of those whom we have time to examine, and we frequently have to return to the same county to finish the work. People are waking up to the importance of early diagnosis and treatment; and this naturally causes them to ask why the counties and State have not provided more adequate facilities for treatment; and out of this question has grown the tuberculosis hospitals now on the way to construction.

There is still another phase of the Director of Clinics' work. For a number of years the Medical Staff of the North Carolina Sanatorium have used artificial pneumothorax in the treatment of all cases of tuberculosis which were suitable for its use. Many patients have been greatly benefited by it, but we have found that very few could remain at the Sanatorium long enough for successful treatment requiring, as it does, from one to three years or more to get permanent results. It therefore became necessary for this treatment to be continued after the patient left the Sanatorium.

On investigation we found that there were few physicians in the State, outside of Asheville and vicinity, who had taken the trouble

to make themselves familiar with, and efficient in the use of this treatment. So the Director of Clinics goes to the physician of the discharged patient needing this treatment, teaches him how to give it, and offers to refer other patients within a reasonable distance to him for the treatment.

To sum up briefly we endeavor to have our clinics accomplish:

1st—Finding the cases and finding them early while they can be cured.

2nd—Endeavoring to interest the authorities and people generally in making it possible for these patients to receive proper treatment:

(a)—By enlarging the State Sanatorium.

(b)—By building Sanatorium for the Negroes.

3rd—By building county sanatorium.

(a)—By counties organizing health departments with whole time employees.

(b)—Smaller counties employing public health nurses.

(c)—Establishing permanent clinics as has been done in Winston.

(d)—State wide clinics as per the subject of this paper.

#### Statistical Report:

Since the establishing of these clinics eighteen months ago, the following work has been done:

Number Clinics Held .....	22
" Patients Examined .....	1,911
" Positive Cases Found .....	507
" Addresses Given .....	74
" People Present at Addresses .....	12,980

DR. MALONE: Tuberculosis is one disease in which I am very much interested, and have been for a long time, and I am very happy to say that it has been greatly reduced in my county, I hope by my efforts. Some years ago I started a campaign, initiated by myself, to try to reduce it and eliminate it from my county. The most difficult part of the work is to get hold of the cases of tuberculosis. They are modest and timid. When a person is suffering with tuberculosis or a suspicion of it, it is a hard matter to get it reported. Whether they think it is a shame to have the disease or not, I do not know, but I find it is harder to get people to report that disease than any other.

I went over my county, and, after giving all the instruction I could, in the course of time I got eighty-six cases. I sent the list to

Dr. McBrayer, and soon after a history\* of each case. I called my physicians together a few days ago and asked them how many patients they had with the disease, and I counted up only eleven. So I am very much gratified at the reduction, and I am more gratified that we shall soon have unlimited homes for these poor unfortunates. The greatest trouble I have had is to find a place for them, because of overcrowding at the Sanatorium. I hope that soon I shall be able to eliminate it from my county, and turn them over to Dr. McBrayer, who certainly does them good.

Getting them reported and getting hold of them is most difficult. But now I am working through the school teachers and I think it is the best way I can devise. I have them interested and am furnishing them literature. I think the teacher is a mighty factor among our people today in the work of advancing public health. I believe the teachers will aid me in getting every case of tuberculosis in my county and in turning them over to Dr. McBrayer to have them cured.

DR. A. H. LINDORME, Wilkesboro: Just prior to coming into health work in North Carolina, I was with the U. S. P. H. S. and assigned to the Federal Board of Vocational Education for ex-soldiers.

I traveled the State of North Carolina from Raleigh to Wilmington, and I was surprised to find so many men who had symptoms of tuberculosis. Some of these men dated their troubles from an attack of "Flu," and others from being "gassed" in the army.

I think, as a class, it is well not to overlook the ex-soldier when we are fighting the spread of tuberculosis.

DR. SPRUILL, closing the discussion: I have not anything to say in closing except this: Dr. Mitchener jumped on the health officers about various things. I want to say this much to Dr. Rankin. You have a corking good bunch under you—at least those with whom I have come in contact—able fellows, and the jolliest lot I have ever met. I also want to thank the physicians for their aid in the work which I have been trying to put over. I have never failed to get their co-operation, socially and professionally. I want to offer my most heartfelt thanks. We can not get along without the practitioner. If we have had any success, a great deal of it is due to the general practitioner and to the public health nurse. In the whole time health officer counties the success is due largely to their untiring efforts.



## SYMPOSIUM ON GENERAL PUBLIC HEALTH NURSING THE SCHOOL NURSE—DUTIES AND METHODS

MISS PERCYE POWERS, R. N., WINSTON-SALEM

School nursing is the natural outgrowth of Medical inspection of children which resulted in the exclusion from school of many children with minor contagious diseases. Very soon it became apparent that medical inspection must be carried further than the detection and exclusion of children suffering from contagious diseases or physical defects. School authorities and physicians began to cast about for a solution of the problem and following the habit so well established in the home and in the care of private patients the nurse became a necessary and successful complement to the school physician. Medical inspection sends the child home with a notice, and "Call your family physician." In most cases a family physician is not called in, because to use the words of Artemus Ward, "There ain't none." The child is kept out indefinitely without effective treatment, to mingle on the streets with other children after school hours and beyond the control of school authorities, a condition placing a costly tax on class work and attendance and offering a premium on truancy—natural evil tendencies which upon the slightest provocation grow with the proverbial rapidity of Jack's Bean Stalk. The wisdom of the eminent psychologist and teacher, who warns "never command a child to do what he cannot do," was here quickly manifest. To do without professional aid what medical inspection directed and suggested, was an utter impossibility to the child. Not only from the home of poverty, superstition and ignorance, but as frequently from the home of the better class, careless, busy or unconsciously indifferent—hence the employment of a corps of nurses to carry out and supplement the work done inside the schools.

The duties and functions of the school nurse are many. She assists in the prevention of contagion, in the correction of physical defects, and is responsible for the education of children and oft times their parents, in the principals of personal and public hygiene.

In making preliminary inspections, the nurse visits each class room and before inspection begins; short, simple directions should be given so that each pupil will know what is expected of him. The nurse then stands with her back to a window and has the children in room file past her, each child holding out his hands with palm and wrist exposed. He then opens mouth wide and is instructed to say Ah! Ah!

which gives a fair view of throat and teeth, then with fingers of one hand he pulls down eyelids in such a way as to expose conjunctiva. In this manner the eyes, throat, teeth, skin and hair of each pupil are examined and the general condition as regards cleanliness, nutrition, etc., noted. The pupils demanding immediate attention may thus be easily selected.

It cannot be too often repeated that the examination of pupils for contagious diseases is a relatively unimportant part of health supervision of schools. Statistics show that as a rule not more than 4% of the pupils of a school system need to be excluded in one year, whereas on the other hand 60% of the pupils suffer from non-contagious defects which need correction. Notwithstanding this relative importance shown by figures, carelessness in this direction may easily bring into confusion the whole school organization to say nothing of numerous homes. With the advent of scarlet fever, diphtheria, meningitis or the more frequent measles, whooping cough, etc., a constant and careful watching of the pupils will avoid an epidemic. Children with scabies, impetigo and pediculosis are excluded but if treated by the nurse at the school or by the parents after her instructions, exclusions are usually reduced to 10 or even 5 per cent of the number previously necessary.

The postal card notification is a poor educational device. Parents notified of physical defects are advised to have corrections made. If at the end of a reasonable time, the child is not placed under treatment, the nurse goes into the home and by tactful presentation of the child's case, effects what practically no other agency can accomplish. It may require frequent and repeated visits and much moral suasion to induce parents to take the proper steps toward medical care. Many parents do not see the necessity of correcting defects that to them seem minor but which the nurse knows may be a handicap to the child through life. In such cases the nurse must be kind and sympathetic having due respect for the superstitions of some, and the traditions of others, but at all times the nurse must be firmly shaping these whims, into stepping stones toward her desired goal—the proper care of the child. We often hear how well a nurse controls or manages her patients, how easily she seems to bring them to her plans (or will). This is based almost entirely upon her ability to understand his point of view. The school nurse must understand the child's point of view, the parent's point of view, and then from *this angle only* may she hope to bring them to an understanding of her vision (for the child). A *common* point of view *must* be reached else failure in the particular case at hand is liable, and worse still, any hope for future co-opera-

tion in the family is given a severe blow. The financial situation is often the real reason for failure to secure proper care for children even when specific defects and their results are pointed out to intelligent parents, but this obstacle may be removed by the nurse without any offense to family pride if the nurse is wise in her treatment of the subject. Fears must be allayed, but at the same time parents must be brought to realize how important it is for the child to be given an equal chance with the well child to develop into a leader of his grade, and eventually into a good citizen.

If a mother be unable to take a child for treatment, either because she is a wage earner, or because of home duties, or if as is often the case, she is timid about approaching a specialist or in making hospital arrangements, the nurse accompanies the child.

We might continue indefinitely a list of such duties and occasions, in which a school nurse may be the means of righting defects and yet there would be in your minds instances and ideas which would apply to your own particular school and community.

In every contact with her people, for soon they become her people, the nurse should be able to keep in mind the future of her work. The righting of individual defects through constantly appealing, is only a part of the great principle of school nursing. The greater outlook, that which has been given to this branch of nursing service an individuality, is teaching.

The nurse who visits a home to advise medical care for a child is falling short of her highest possibilities if she confines her attention entirely to that child. Often there is a baby in the home and every mother is made happy by some little attention shown to this, the most important member of the family. The nurse without seeming inquisitive, can learn about the baby's health, its food, how it is dressed, and if these conditions are not favorable to the child's development, the mother may be given various suggestions or may be directed to the Infant Welfare Station or whatever organization the city or county affords for better and healthier babies. Thus the mother is taught to a varying degree of success, but in the *schools* is the greatest opportunity for the nurse. This is her realm. Teach these children not alone to relieve the day's needs, but so that they may be permeated with sane principals of personal and community hygiene, and live them.

Attend the emergency case, dress minor wounds, burns, etc., so that the child may learn anew the old adage, "An ounce of prevention is worth a pound of cure." But above all teach the child that phy-

sical and mental development follow definite principles of intelligent thinking and living.

In case the school is not large enough for a nutrition expert, this may come into the work of the school nurse and nowhere can there be found a more interesting or a more needed line of study than this. Make schedules of weight, urge right and nutritious diet. It is an easy matter to get the child interested in being a normal child. Teach the child that he can think more quickly, accomplish more, play better ball, be a better man, provided he will feed himself intelligently. The recent "Drink More Milk" campaigns are so well known in methods and results that I need not here urge that this is the simplest and most accessible form of nourishment.

These experiments show that children if brought to think in terms of need and nutrition will deny appetite more readily than adults.

Again I say the school nurse has the opportunity to teach the child to think and understand from childhood that his body is his—to make or wreck, according to the intelligence with which he uses or abuses it.

Did I say that here was the nurse's realm? Yes—but no one lives to himself if he wishes to accomplish things. So in order that the nurse may succeed she must early learn that co-operation is and must be her keynote in all successful public health work.

The co-operation of medical inspector, principal, teacher, parents and nurses more than doubles the efficiency of health work. To be sure of this the nurse must be patient, must possess a broad mental view, must be slow to take offense.

Much of her success or failure will depend on her ability to fit her work into the daily program of the schools, without disturbance or interruption of classes.

There is probably no other branch of nursing in which personality counts for so much, as in this work.

She should possess good sound sense and judgment, quick perception, a faculty for keen observation and quick decision, good memory, cheerful disposition and imagination and vision which will enable her to look beyond the confines of the present and see the results of her work in future generations.

## REACHING THE COUNTY SCHOOL POPULATION

ALICE T. BASSETT

County Public Health Nurse, Catawba County

I do not know just how to begin, because I do not think that there is any set way to reach the rural population, for every superintendent, every teacher and every mother is a law unto themselves. But I can reach the little folks and through them the big folks. My never failing rule is to laugh with the kiddies and if that should fail and they will not do as I wish, I laugh at them and you can just guess they hate that and come to terms. Some folks think that I over do school work to the neglect of the other branches; maybe I do, but it is not that I love the babies or the mothers less, but because I know that when I go to see the mother about her child from school I am doing the thing they are used to having done, for the teacher has many times done the same thing and people do not like drastic and new experiences. Also during the visit I am sure to hear of babies and expectant mothers who need care; in fact, more than half of the babies and prenatal visits I make are found in this way, for I never call on any family without telling the scope of my work. When I get into the home, if tonsils are not the accepted subject of conversation I talk of babies, cats, chickens, etc., until I get the friendship of the family and then it is easy sailing. I have visited over a thousand homes this winter and in only two have I failed to be asked back and made welcome, but even in these two I have not failed, for I cannot afford to fail, as they need me badly and I will try again.

When I came to the county in which I am at present, I found the school people particularly interested. I have been able to meet the teachers in their reading circles, where I talked of my hopes and plans, suggested lines of health work for the school and brought defective and well children and talked of the difference and the remedy. Also I am to teach one hour a day during the summer school session, which means much good work started for next year as our teachers are in many instances young and inexperienced, but ready and willing to learn. An other avenue of approach is the Health Crusade. We have 2,250 children enrolled in the county schools this year and it is most gratifying to watch the general improvement in the appearance of the children. Also when Willie falls down on his chores, the visit which helps to urge him on also opens up other needs in the family to me. I had a child with very bad tonsils and in going

to the home to see the mother, I was greeted with the welcome "that you need not come here talking tonsils to me for they are not going to come out," and she dissolved into tears. I laughed and said, "Let's talk about something to eat," for the child was badly in need of proper food. So we did and it ended in me being asked to dinner and the tonsils are out.

Again I had a boy twelve years of age who had been deaf for five years and was still in the second grade. I went to the family, only seeing the mother; there was a family of only eighteen children and were poor. I saw it was practically out of the question for them to pay for their removal. So I went away pretty blue to try to get the money to have it done. The next day the father came to see me and said to take the boy and he would raise the money. Friday he met me with the boy and the money and I took him and three others to have their tonsils and adenoids removed. On Sunday during prayers the lad jumped up and said, "Daddy I can hear you pray." They tell me that they wept and had a real Thanksgiving service.

So it has been through my entire county, there is no theory, there is no system, because everybody is different and must be handled differently. There is only one set rule to it and that is the love of little children.

My school houses are heart breaking; they are dun colored and smoke stained and the window-panes gone (for which I praise the Lord). I was sorely distressed and yet saw no way to brighten them up. But one day we had a speaker begging for a mountain school and she had all the ladies weeping over the poor little mountain children who walked down the long mountain trails to a new fine high school. I wept too, but for my little folks of the red clay roads who walked long ways, not shaded like the mountain trails, to drab, ugly schools. I then racked my brain and decided to brighten them up, and, as necessity is the mother of invention, I dug down into a closet where there were some old Red Cross posters and I took them to the schools and bought all the old Coco Cola and cigarette signs with nice bright, clean Red Cross posters and it would do your heart good to see these bright posters in the schoolrooms. In giving the posters, I told them stories of the Red Cross and Health. When these posters gave out I asked for more and then resorted to Fair posters of good bright hues. The benches are all of the same size; the little folks are too short and the big folks are too long. I put pieces of wood under the little folks feet, but was helpless to help the big boys and girls, only to ask the teacher to give them a chance to stretch once in a while.

One more little trick I have is story telling. I tell health stories and some time play them with the children. I have one, The Sign Posts, which I got from the Massachusetts State Bulletin, which they like particularly well.

After all, reaching the rural school population is simply reaching the little folks.

### GETTING COUNTY AUTHORITIES INTERESTED

MRS. MILDRED HARGRAVE, R. N., ASHEBORO

I have been in Randolph County about two years. I think that I was one of the first public health nurses in North Carolina. I went there in 1919, and the corporations of the county taxed themselves  $1\frac{1}{4}$  cents a spindle for my appropriation. I went through that year and worked, and I believe last year I told you about it. Then the corporations went before the commissioners and asked them to give one-half the salary, and so they did.

In a small town called Coleridge, there was a family with eleven children. We were called there by a message saying that they were poisoned. The health officer and I went there and found that they had influenza. Within a few days the whole town had it, one hundred and seventy-five people. So I went and stayed there and worked with the few people who were up and with some children. That was one thing which I did to interest them.

The best work that I feel that I have done has been in the schools. I go to every school, and stay in a district a week. I go from home to home. I examine the children and talk to them in the morning about their health. In the afternoon I talk to the parents about their children, or to the girls about how to dress, or to the boys about exercise. At night I talk to the mothers and tell them about the children and about the mysteries of life, so that they will be informed and so that the children will not be afraid to come to them. Sometimes I give a lecture to the girls over fourteen.

Sometimes I go to a home where there is a girl who has fallen, and I get her into the Crittenton Home. I hunt up the ex-soldiers, and help them to get back into a hospital, if they need it.

About two months ago we changed and put in a new administration in Randolph County, and the appropriation has been cut. The Board of Commissioners tell me that there is no money and that they are falling behind. I am the only worker in the entire county at the present time. I feel this way about it. I have worked for two years

in Randolph County, and I love it second to Union, which is my own county. But I do not see how one woman can go over the entire county and do it right. Either we have to specialize and take one work and do it over the whole county, or take one district and do it well. If the work is going to depend upon politics or upon money, I think you men had better get busy and see to it, because almost always the new ones are of a different party and they think that the nurse must be on the other side. I want you men to see if a nurse cannot be put in to take care of your children and take the matter out of politics. If a little child dies or is defective and is not well educated it shakes the foundations of North Carolina. One thing which I think should be done is to put three nurses in each county. I think that the State ought to pay part of the expense. I do not think that private individuals or corporations should pay any. I do not think that the school board should pay it. They have enough to do. But it ought to be done.

### REACHING THE ADULT COUNTRY PEOPLE

MISS LULA B. SAUCER, R. N., WELDON

I have not a paper, but I have some notes. I had some notes prepared that I thought I would give you, but I think the other speakers have touched on what I was going to say.

I wish that my subject had been, "Reaching the People." It is really one and the same thing as reaching the adult country people. We reach the adults through the children and through every imaginable channel. My county is Halifax, and our country people center about the little towns, so we scarcely know what country people are.

The nurse's line of work is entirely different from that of the health officer, for she is working in an entirely different way. She is not an officer, yet their work dovetails and interwinds in such a way that it is sometimes difficult to know where the one begins and the other ends.

In order to interest the people in a community, we must first be interested ourselves. We must love people and we must love to serve people. I think that that is the life of every nurse and doctor or they would not be following those professions. We must help people to learn the difference between helping themselves—the betterment of their own selves and their families—and the betterment of their community. We must teach them that. Then we must teach them the value of co-operation and mutual understanding. After all, what is there greater in life than making people feel the need of each other?

After you have made them feel this need, after you have helped them to feel this need of helping each other and needing each other, you should watch them work. You must care for the people in the way in which they care for each other. You must be one of them, enter into their pleasures, their trials, and their sorrows. Go into their homes. Accept from them what they have to offer, as well as give what you have to give. I find that unless you are one of the people there is a little aloofness. It does not make any difference what station in life they hold, unless you can sympathize with them, and be one of them, you cannot get as close to them and you cannot reach them in just the way you want to reach them. I find, too, that getting on the inside and working out is a better plan.

Our county is a large one, sixty-five miles long, and thirty-five miles wide in the wider places. We have about six hundred and eighty square miles to cover. There are about 43,000 people, about half of them colored. There are many small towns scattered all over the county, thus making it possible for the country people to gather into these little centers, and they do this. Some of our most influential workers in these little towns are the adult country people. We have several interesting Red Cross Chapters. There are six in the county, dotted around so as to nearly cover the county, and they have sub-chapters to co-operate with them. The people already know what it is to work together. These six chapters, together with the county commissioners, pay the nurse's salary and for the car and the upkeep. The Red Cross Chapters pay the salary, and the county commissioners pay for the upkeep. We find it very convenient to work through these centers, and therefore our work has been centered around the towns.

To begin with, we organize classes or clubs in the six centers where the Red Cross Chapters are. These clubs we call Red Cross Home Nursing Clubs, and they are almost everything else. One town started with eighteen members, and now every family in that town is represented in that club. The members kept getting out and bringing in others until every family is represented. We teach home hygiene, the care of the sick, dietetics, the chemistry of food, the proper preparation of food and of meals, etc. A certain day is baby day, on which every member of the class goes out into the surrounding country and gathers in every mother with a baby. On that day the babies are weighed and measured and examined for defects. The mothers are told about them. We lay special stress on some of the things you talked about this morning, the diet, pacifiers, etc.

Another club, after their class had finished, wanted to go on with the work. They had become so interested that they wanted to carry it on, so we got the funds together and have everything ready to start a clinic and health center in that town. The members of this class will conduct a health center, the ladies taking turns in spending afternoons and evenings at the center.

Then another town that had a Red Cross Chapter that had gone to pieces asked if they would work along with us just as if they had one, and they are doing just as much work. Some other things we do are with the soldiers, in helping to get them back into hospitals and helping them with their compensation. In some districts we find it very hard to reach the people, especially with literature, because of illiteracy, so we started some night schools. Then we had in the schools malnutrition clinics. In the fall we offered a prize of a loving cup to the school that gained the most of their underweight during the school year. Very few took part. It had not been arranged in the curriculum for the school year, and it was hard to get it started, but the few schools that have taken part are very much interested. The first few months they gained forty per cent of their underweight. The other schools will probably take it up next year, because they are interested now.

When weighing the children we usually glance down through the schoolroom to see if the children's seats anywhere near fit them. Sometimes the teacher can change them around and help them, and in some of the schools they have put in some little stools. These things can be supplied.

Along with our nutrition work, an ex-soldier had nothing else to do and he started a dairy. He had never heard of certified cows, but I gave him some literature that I had, and now he has all of his cows certified and is selling certified milk. This lack of milk is a very serious problem.

We had one community fair last year in which we gave prizes. The tuberculosis work is a nice work, and one in which we really reach the people. It is very satisfying. I think the prenatal work is perhaps the most satisfying, if there is such a thing as one part of the work being more enjoyable than the rest. The mothers appreciate one little word of help so much. The mothers who get letters from the State Board of Health value them almost beyond anything.

Another factor in the county that helps us in securing the co-operation of the adult population is the midwife. You would be surprised how the midwives bring us in touch with the adult population, but they do. I think we have met them four or five times, and we shall

probably meet them every two months. They are just as interested as they can be. They bring their reports, discuss anything unusual, and we teach them cleanliness, etc.

If I were going to tell you what would help you to receive the co-operation or help you to reach your adult people, it would be to let them help you. Give them something to do. The people in North Carolina, I believe, are hungry to work. They want to do something. Mrs. Hargrave said that she does not believe in collecting any funds from the people, but I believe that that would be depriving the people of one of their great pleasures, for I think every one believes that it is more blessed to give than to receive.

### THE MODERN HEALTH CRUSADE

MRS. DOROTHY HAYDEN, R. N.

GREENSBORO

The Modern Health Crusade is a health movement to teach children between the ages of six and sixteen, health habits with the minimum of expenditure of time and money.

Each child is given a chore folder with spaces ruled at the right, and for each chore performed an "x" is placed in the space designating the week and the day.

If 52 health chores are made each week for the first two weeks, the child is given the honor of "page."

If 52 health chores are made each week for five consecutive weeks, a button is awarded and the honor is "squire."\*

If this same record is made for ten weeks, the crusader is made a "Knight."\*\*

Last year in North Carolina there were 52,000 crusaders in the schools enrolled for the white children and 12,700 in the colored schools.

The modern health crusade is an organized movement that has enlisted more than three million American children.

It is a system of health education that grips the child's interest until health practices become a habit.

Through the children it is educating parents and promoting community health.

\*Squire—Button is round, has a blue field, the lettering white.

\*\*Knight—The button is oblong, red field and white letters.

The Greek Ideal of a "Sound Mind in a Sound Body" made their civilization the greatest of all time. But for the fact they neglected the third pillar of the triangle, they might have continued their power to this day. The third pillar is religion, morality. There are three great divisions in education, each of equal importance.

The individual, community or nation that neglects one, no matter which, long enough, is doomed to utter failure or ruin.

(1) First the development of a sound body.

(2) Mental, a cultured mind.

(3) Moral and spiritual training.

The pillars of this triangle you and I are interested in are the first, the second, and the third, but the one we are privileged to discuss today, is the first, "the development of a sound body," beginning with the child of school age.

The Junior Red Cross was the medium by which the modern health crusade was introduced into the schools; but that has now been taken over by the Anti-Tuberculosis Association. In Guilford County, my county, the enrollment of children in the health crusade is a Junior Red Cross activity financed by the Red Cross Chapter, supervised by the county nurse, and operated by the teacher.

In Guilford County we have enrolled 2,450 modern health crusaders. Our children "take to" this method of keeping tidy and well, as it is presented to them in the spirit of play; the rules are simple and they like the game.

This health course may be introduced into the schools as a part of the morning exercise and not interfere with the days program. In some of these schools the awarding of the honors have been made a gala occasion by having the class of girls and boys making the required number of chores, sit on the rostrum and invite a member of the school committee or the County Health Officer, to make a short talk and present the badges. This attracts the attention of the parents and pleases the children.

The crusade system has been made a curriculum activity in thousands of schools and is given credit for.

Most of the chores are done out of school hours, being mostly home work.

Chore No. 1.—*I washed my hands before each meal today.* Our crusaders are taught that communicable disease is largely a matter of personal and household hygiene, and that ten of the ways to catch catching diseases are these—ten fingers. If our children are permitted to eat lunch with dirty hands, even if the lunch is alright (and so often it is not) how much progress have we made!



None of our teachers enjoy facing all day for weeks and months, a room full of dirty, ungroomed children. In every instance we get the whole hearted co-operation of the teaching staff, and may I say the teachers learn things about health, too? We cannot blame the mothers. So many mothers, especially the rural mothers are overworked, sending perhaps several children off to school early in the morning, packing lunch, small children left at home for her to care for, the milking, sewing, mending, washing, ironing, cleaning, using her leisure time for hoeing in the garden is not as observant or careful of the niceties of health and habits for her children, as is necessary. The children have not formed their life habits and so are careless, too, but with a definite program, and a health chore folder, for a guide, directed by the teacher, the results are not only successful, but in many cases, surprising.

Johnny, who was never known to "wash and comb" without an argument or maybe something more persuasive, jumps at the chance of living up to the highest moral of the health crusade, and will perform these unpleasant tasks as a privilege.

Chore No. 2.—*I kept fingers, pencils, and everything likely to be unclean or injurious out of my mouth and nose today.* One of our State Health Bulletins sometime ago published an article, "If saliva was blue!" We picture to the children what a blue world this would be were this true, emphasizing the other dangers if chore No. 3 is not strictly observed.

Chore No. 3.—*I brushed my teeth thoroughly after breakfast and after the evening meal today.* It is not my purpose to more than mention oral propolaxis, but may I say that nearly all our hopes are centered here, and necessity forces us to pay a great deal of vigilance, propaganda, and demonstration to chore No. 4.

Chore No. 4.—*I took ten or more slow breaths of fresh air today. I was careful to protect others if I coughed, spit or sneezed.* "How to cough," is one of the big lessons of the modern health crusade and when we explain influenza, pneumonia, T. B., sore throat, etc., our crusaders are glad to "Cough Right." The picture of the man (as pictured in our State bulletin) coughing a spray out over women, children and babies, impresses them as crime of which they do not wish to be a part. Having been a part of two practical demonstrations of spray-borne disease, our two epidemics of flu, the crusaders are interested in curtailing the activities of the Grim Reaper, statistics showing his harvest was greater than the loss of our soldiers from German gun fire in the same length of time.

Chore No. 5.—*I was in bed ten or more hours last night and kept my windows open.* Some authority has said, that the white race is disappearing faster than any of the others. By our methods of prevention and health habits, we hope to at least make a start at curbing this tendency by doing our part as teachers to make tomorrow's citizens strong and healthy in body and mind.

Chore No. 6.—*I drank four glasses of water, including a drink before each meal, and I drank no tea, coffee, nor other injurious drinks today.*

Chore No. 7.—*I tried to eat only wholesome food and to eat slowly today.* It seems such a pity the country child has so much food, such an abundance of food and often is poorly nourished. In Guilford County we are hoping, together with the Community Clubs and the teachers, to serve in the schools, hot lunches, or at least one hot dish or cocoa or soup, every day. Also to visit the homes and talk with the mothers of the underweight children.

Chore No. 8.—*I tried hard today to sit and stand up straight, to keep neat, cheerful and clean minded, and to be helpful to others.* The encouraging physique for T. B. is the round shoulders and the narrow chest. All the children know what T. B. is, because in nearly all their families there has been, or is a victim. Much stress is put on chore ten. Very definitely, too, another reason is given for sitting and standing erect, that the vital organs are in the chest and in order that they function properly, they must have plenty of room and not be crowded by one another.

It is the aim of this health program to supplement the school inspection to such a degree that disease-producing germs can find no welcome or lodging place in the body of the school child and by this measure to bring about an economic effect of moving the repeaters. The reflection of this course in the home is illumination and while the parents, as a rule, do not contract the contagion—washing, combing and brushing—they do encourage the efforts of the children, because they, too, like clean, healthy children, and in some instances they follow their children's lead. We hope that by this splendid health education given in the schools, a little child shall lead them, the parents.

DR. L. J. SMITH, Wilson: I have been very much interested in the addresses of these ladies, and I believe that we, as health officers, can learn much from them. I have learned a great deal this afternoon

The two outstanding things which I have heard discussed are personal contact and visual education. These two things are our greatest weapons in the education of the public along health lines.

DR. L. B. McBRAYER: There is one subject which has been touched upon in the last address and in the majority of the papers presented this afternoon—*towit*, nutrition. It is possible that we may find out a little later that the nutrition of the child has more to do with the prevention of diseases contracted through infection than perhaps any other thing at our command outside the specific immunity that can be given. I think we are groping after the solution of the lack of nutrition and we are talking about it in children, and that is the place to begin to talk about it. If there were nothing else at stake except the economics of education, there would be a handsome profit in finding out the children in every school in North Carolina that are under-nourished and in seeing that they are properly nourished, because a very large per cent of the under-nourished children fail to make the grades. Certainly a very large per cent will be found to have physical defects that need correction. But a great many others are under-nourished for lack of the proper food at the proper time. The health crusade, which has been presented, is a splendid way to get children interested in preparing themselves in a hygienic, cleanly way for their meals, and in eating properly.

The thing which I am going to mention now is one thing that I am anxious everyone here should investigate very carefully, and that is the hot school lunch. The hot school lunch has become a fad, because, as I said in the beginning, we are groping after this very thing. We found that a certain number of children were under-nourished, and we supposed that a hot school lunch would wave the magic wand and relieve all that. It does relieve it to some extent, but, in my opinion, the hot school lunch does not cover the subject. It does not relieve the lack of nutrition, and I do not believe it is worth what it costs for the reason that it does not relieve the lack of nutrition in all the children and there must be something else done, and for the second reason that it possibly takes our mind away from the main point of the subject. That is, we are giving this hot school lunch and the community takes on a great deal about it and we all talk about it and think we have done a great deal, and we are liable to let the hot school lunch obscure the real thing that is the trouble. I am glad that we have one thing that is not confined to the poor, so that in this particular instance the person of small means cannot think that we are patronizing him because he is of small means. This under-nour-

ishment, as our President mentioned today, is found in the home of the banker as well as in the home of the tenant farmer, and those who have worked hard and studied longest on this subject find that it is necessary for some trained worker to go into the home and find out the reason why the banker's boy or girl is under-nourished. And when these good women go into the home and ingratiate themselves into the hearts and minds of the father and mother and children in that home, as they always do—and God knows we would be surprised if they did not—they will get that father and mother to feed those children the right things. I do not believe that anything else will accomplish the thing we are after—that is, to relieve the under-nourished child. It is a very simple matter of weighing each year, keeping an accurate tab and keeping the interest of the family at sufficiently high pitch to see that the child is properly fed.

As I said in the beginning, I am not prepared to say that the hot school lunch is not a proper thing, but it is my honest opinion that it is not, and it is in danger of obscuring the subject so that we do not get at the real cause. I hope that during the coming year every health officer and every nurse will get down to solving this problem, and come up next year and be able to tell us what is the matter, for this is one of the most important things to the citizens of North Carolina.

DR. N. B. ADAMS, Murphy: I am heartily interested in the public health nurse question. Living over in Cherokee County, the most western county of the State, some sixty miles east and west and twenty-five miles north and south, we can easily appreciate the value of a nurse.

In Cherokee County there are two nurses. In Andrews Miss Wilson has been working for over a year, and she has done a wonderful work. She is supported by the Red Cross Chapter of Andrews. The Chapter is supported in a measure by the men employed by the factories or manufacturing plants at that place, the sawmill, the acid plant, and the tannery. Some subscribe only ten cents a month. This is taken out of their wages and applied to the support of the nurse. Some give a dollar a month and some more. Suffice it to say that Miss Wilson has been enabled to stay in Andrews and carry on the work. The ladies of the town have built her a beautiful little home and have equipped an operating room there.

In Murphy, my home town, Miss Bradley is working.

It goes that way; each pays what he can. I just mentioned this in order that someone perhaps may get an idea from that one situation

there in our county. The nurse and the Woman's Club of Murphy are heartily in co-operation with the doctors, and the Red Cross Chapter and nurse at Andrews are heartily in co-operation, and we are getting great results.

DR. W. M. JONES, Greensboro: I have been particularly interested this afternoon in the discussions, and the bone of contention, or the point at issue, is education. We keep on harping about going to the schools with it. Let us keep on going until we knock the whole educational system down and break it up. The thing is wrong. We have made little change in our educational system in two hundred years. There is too much dross and chaff. That is the trouble with our educational system. The long hours in school for little folks I think have a great deal to do with malnutrition.

I was glad to hear Dr. McBrayer speak about the hot school lunch. Let us go a little slow and not dive into the thing. A few years ago we harped so much about the caloric value, and restaurants over the country gave the number of calories in each serving. But that did not mean a thing to my mind. As Dr. McBrayer has said, we are groping around this point of nutrition. I believe that is the subject now, but let us get it right. Let us not make a false start. I believe that we have to have so many calories, etc. I believe that milk is one of the best things, and that it is not expensive at any price. We may cut down on other things, but not on milk.

Mrs. Hargrave deplored the fact that politics enters into this question, but we have had it here since time began and I think we shall always have it.

As for the Health Crusade, that little button proposition is good. The Palmer writing system uses a similar little button, and when you take a big corporation and you see them use this idea, and see the delight of the little folks that get one of these Palmer buttons or Crusade buttons, why they would rather have it than nearly anything they get. When you have done that you have touched the foundation and you will get results.

DR. C. W. ARMSTRONG, Salisbury: I can not quite get Dr. McBrayer and Dr. Jones on the hot lunch proposition. We have hot lunches in all of our Salisbury schools, but it was never intended to be the whole thing. It is only one link of a chain. Even if we do not do anything else but give them a hot lunch I think it is a corking good thing, but I think we ought not to stop there; but go ahead. In Salisbury we are planning to put milk in all the schools. We are going to have some nutrition classes also.

MR. A. B. CAMERON, Supt. Moore County Schools: I am, I suppose, the only school man here, and I have listened with quite a good deal of interest to the discussions of these various phases of the work, and I just want to say that I am in hearty sympathy with the Health Crusade and with all the other work that is being done to give us stronger, better, and abler boys and girls, physically. Speaking of it strictly from an economic standpoint, educationally speaking, it is certainly a good investment to look after the physical side of the boys and girls. I have been for a long time of the opinion that we can not have successful work and that we can not develop good citizens unless at the same time we develop good animals. I believe that we must have good animals as a foundation for educational work. I believe, with the good brother who addressed you a few minutes ago, that a good thing, but I think we ought not to stop there, but go ahead. The time is too short to go into that, but nevertheless, I have been forcibly impressed with it for a number of years and since I have been Superintendent of Schools in this county, I have been convinced more and more every day as I go about among the schools and homes. There is so much evidence of the need of nutrition and of care of health and of those things which will put the body in condition to do efficient and effective work.

We have been so fortunate as to secure a whole time nurse in our county, Miss Craft. She came to me one day soon after she came into the county and wanted to know if I would be willing to co-operate with her just a little in the work she was undertaking to do. Well, I have not been so glad for a long time to see anyone as I was to see Miss Craft, because I recognized the need of her work and that she would help me in my work. I recognized the fact that if her work was not done, badly as it was needed, my work would be in large measure a failure. So Miss Craft and I have been working together all along. I have not been able to give her all the help I have wanted to give her, but I have done what I could, and I have preached this Health Crusade work wherever I have been. We are not accomplishing just yet all that we want to do. We are not by any means achieving the goal in its fulness, but we are doing something that I feel will mean a great deal to the boys and girls of Moore County. I just want to say these things that you may know that in Moore County the schools are co-operating and the people are interested.

I should be glad indeed if a suggestion given in one of the papers could be put into operation as early as practicable. I think that a good many of our teachers need a good bit of training along that line. A great many times they do not understand, and sometimes they are

hindered a great deal because public sentiment is not in favor of what should be done and they are timid. If the State Board of Health could go on record as having made part of a teacher's equipment for license I believe that it would be a fine thing.

Question:—Do you think, if the physicians and health officers should co-operate and try to get the State Board of Education to make physical training and training in sanitation and hygiene compulsory, that they would do it?

Answer:—I think that it will eventually come, not all at once, but gradually.

I just wanted to say these few words in order that you may know that in Moore County we appreciate what you are doing.

MISS ROSE M. EHRENFELD: I greatly appreciate the speaker's comment on Miss Craft's work. She was the first nurse to graduate a class of colored girls in the "Little Mothers' League." Moore County is the first county to put on a colored nurse for rural work. Miss Craft was the first county nurse to get the Modern Health Crusade in all the schools, and I think that the attitude of the last speaker toward health work helps to account for its success.

## EVENING SESSION

### BACKWARD AND DOWNWARD TREND OF THE HUMAN FAMILY IN AMERICA

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

One of the most, if not the most important, law passed by any congress or legislature in recent times, is the one making it necessary for parties contracting marriage, to show freedom from loathsome or specific disease. Here we strike at the foundation source of the present degeneracy of the human family. When a man, or woman, enters into this sacred union it should be absolutely imperative that he or she should be free from any infectious or specific disease, not only for the protection of the other contracting party, but for the safety of the innocents unborn. Science has established beyond question that such contaminating disease may be transmitted indefinitely, thus wrecking the happiness and usefulness of many thousands who are entirely blameless. Few people think seriously on this subject. They do not take the trouble to study statistics, which give indisputable

proof of the enormity of this crime against heredity. It must be agony unbearable for any parent to look upon the face of a child and see its expressionless eyes, or its little frame tortured by suffering, or twisted into repulsive deformity, and realize that this is but the result of his own mistake. "The sins of the father visited on the son"—an inexorable law of God. Or, keener still, the pain if this child should come in apparent safety, through its earlier years, only to develop, in maturer life, a disease which renders him miserable in a world which should be to him brimful of brightness, or useless in a period teeming with great and brilliant opportunities for service. The victim may realize all too late and well that he is indebted, for all this misery, to one who should have protected and saved him from all such horror. If this be true, the reproach, uttered or unexpressed, must fill the heart of the author of this woe with unspeakable remorse. The subdued voice of millions of earth's suffering ones demand to know why this condition has been allowed to exist for so many generations. It was understood long ago that the marrying and intermarrying of those who had contracted disease in their youth had caused the spread of contagious and hereditary disease throughout the world, yet governments and statesmen and institutions took no steps to crush this evil. The legislature of North Carolina, if they made no other law, passed one that will prove a blessing to humanity, and will reflect honor on itself. Good roads, public institutions, pensions for old soldiers, are all good enactments, but any law that will help secure safety for the future of the human race is of the greatest importance. To understand this fully we have but to note the number of imbeciles, mentally defective, and insane who fill our jails, asylums and county homes, close examination often revealing the fact of an old lingering taint of syphilis being responsible for such condition. How many inmates of our jails, penitentiaries, and actually our homes, have had their moral forces aborted by inherited disease? America, our country, is infested with mental and physical defectives, dragging their miserable existence through a world full of happiness and service, upon which they are forced to look with downcast eyes and dejected countenances—afraid—drawing back within themselves—as it were, alone. These unfortunates, if not bold, for want of human sentiment go slinking through life, the avoided ones by society. Yet it is a patent, blameable fact that governments and statesmen have shut their probing, investigating eyes to the existence of conditions that have brought about this state of things. A government, which has allowed and sanctioned the human family to go on marrying and inter-marrying, spreading and inflicting its people with disease, de-

formity, mental defective, half-men, has caused more suffering and death than all the wars of the world. During the last world war, when the selective draft boards were functioning all over our country, the writer had the opportunity thrust upon him of examining hundreds and hundreds of our young men who were called to service for their country, and it was distressing to find so many of them who could not qualify on account of some mental or physical weakness, the result of a taint transmitted from their parents. In fact, how few of the large number of them were 100% efficient-fit. Some writer has said that there are too many feeble-minded in our race—a fact. In our public schools in the United States, and especially in our larger cities, too many children are mentally below par, segregated into rooms where they grow up to become vagrants and criminals. The city of Boston had in her public schools 77 rooms devoted exclusively to the backward children. Their children, who will be legion, will be below par. What kind of a citizenship can we hope to obtain from these incompetents? If marriage is guarded from disease and its effects, precious few children are born with distinct inclinations for crime, but a sorry lot of them are born every day with too meagre brains to make a living in the path of virtue. Humphries says, or asks, how many come so far on the way to racial degeneracy without any attempt to check ourselves? Many, he thinks, because of a pious horror of interfering with the rights of parenthood. The place and way to protect and prevent these conditions, to save and husband our race and family, is at the marriage altar and our schools. Germany had the right idea many, many years ago, when she took the initiative in her preparation for her great war. She went with well equipped medical experts to the marriage altar and her public schools, discovered, prevented and corrected wrongs. Educated parents and children, especially the children, mentally and physically, especially the boys, and when the war broke out, she marshalled an army of athletes. The medical profession, backed by our statesmen, have made great and rapid strides towards the consummation of perfect health laws for our people, but two laws stand out on our statute books passed by two legislatures of North Carolina that reflect the wisdom of mind and interest of heart of its members, and will bless the families of North Carolina forever. The protection at the marriage altar and the medical examination of all public school children every three years is our work. Mr. Wells, writing in the *Saturday Evening Post*, states in one of his articles on the salvage of civilization, that one of the causes of the tumbling down of our civilization, and tumbling down fast, is the failure to control vice. In the handling of infectious

disease and the suppression of international criminals, we are proud that North Carolina stands abreast with all the interested workers along lines to protect, encourage and advance the good work of trying to purify, enlighten and physically make good the civilization of our great old North State.

Oh, the illiterates, the defectives of our race, the curse of it! The Selective Draft Board, in its work for the World War, while it showed such a large number of physical defectives and inefficiency, also showed nearly 700,000 men of draft age unable to read or write in the English or any other language. In fact, there are nearly 600,000 illiterates in this country who are twenty-one years of age, and 8,500,000 persons ten years of age or above who could not read or write the English language. Now, both of these conditions can be so easily prevented and corrected by standing up before the marriage altar and going into the public schools and saying, as our boys said in France, "They shall not pass." While the school child's mind and body are tender and impressionable, touch and handle them as clay in the potter's hands. There are so many ways and means in our hands and at our disposal by which we can improve our race, that we should beam with optimism and interest, take hold, and do the greatest work now before us. Give us pure-blooded horses, cows, sheep and dogs, but, above all, give us a good citizenship, manly men, womanly women, pure, intelligent of mind and perfect in form, or let us approximate it as nearly as possible. I believe that as a result of the World War we are keener to observe and bolder to speak of and try to discover, prevent and correct wrong. Years ago we were too modest and ashamed, and rather dreaded to "speak out in meeting." The mention of venereal disease in public was tabooed; it was spoken of with bated breath. The romance of marriage was heralded and acclaimed in polite society the world over, but as to there being any reason why these romantic or any other marriages should not be censured or the parties to the contract prevented from transmitting evil of mind and body, "Nothing doing." The improvement, betterment, and, in fact, the salvation of our race rests upon the shoulders of physicians, teachers and statesmen. We can have an intelligent and sturdy race if we will do the work before us. God created man in His own image, endowed him with knowledge, wisdom and love, and surrounded him with all the many facilities to enable us to approximate Him in these three attributes. In omniscience, omnipresence and divinity we are as nothing, for these three attributes are His altogether. It is our duty to develop and exercise our three God-given attributes, and to lead our race upward and onward.

DR. N. B. ADAMS, Murphy: Mr. President, I feel like I want to say something. I want to say in the beginning that I feel that the law that has been alluded to in this paper is one of the greatest strides forward that has been made legislatively along this line in the history of North Carolina. At the same time, there are some things that will have to be overcome. You know that it is almost impossible for us to get something done at one time that is perfect. Living in Cherokee County as I do, a border county in western North Carolina, bordering on Tennessee and Georgia, it is easy for a man who wants to marry, regardless of his condition, to step across the Georgia line, thirteen miles away from my town, Murphy, and marry in spite of the laws of North Carolina and come back in North Carolina and be a citizen there. That has happened in my experience within the last three or four weeks where a man could not get a certificate of marriage in Cherokee County, a certificate that he might marry in the State of North Carolina for that matter, and he promptly took himself down to Blue Ridge, Georgia, married his wife and came back. That is one thing.

Then, according to that law as passed, it states, if I am not mistaken, that the county physician shall make these examinations free of charge. If it is to be an examination, sir, that will prove that the man is non-syphilitic, or otherwise, in some of the western counties it will be necessary to take the blood test, and send that to Raleigh or Asheville where they are prepared to make that examination. This would require some seven days. A good many times the man and the woman will not wait seven days but will step across the line.

These are things that have come up and I just mention them, gentlemen, but I do want to go on record as endorsing that law with my whole soul. I believe it is one of the best steps forward that the medical profession has ever made in the history of North Carolina.

DR. L. J. SMITH, Wilson: I, for one, when this law was passed was a little bit skeptical, at least as to the expediency of such a law in North Carolina in her present educational development, but the need for such a law has always been unquestionable. I agree with the doctor that this is the greatest piece of legislation ever passed in North Carolina, not only for its immediate effect but for its moral effect upon the minds of the citizens of North Carolina. It is bringing to them in a forceful manner the dangers of two or three diseases that have never been brought to their minds in such a way as this is being brought about.

I have had the pleasure, or at least it was my privilege to turn down three men who said they didn't know they were infected and I think I saved three girls a life of misery.

In answer to the doctor's objection about passing from one State to another, I would just like to throw out this suggestion: I don't know whether it will work at all, but it strikes me if a man is going to get married and it is known the examination is necessary and he has good reason to believe he cannot pass the examination and he says to the girl, "Let's slip over into Virginia or Tennessee and get married," if she is the right kind of girl, what is she going to do? She is going to do some tall thinking and when she goes to thinking, something is going to happen. There are going to be some engagements broken. I think this will work to offset the evasion of the law. There will be such occasions as you mention but I believe the majority will never come to marriage.

DR. A. H. LINDORME, Wilkesboro: It is all right to pass a law, but you have to go behind the law, you have to have the moral support of the people behind the law. Educate your girls, let them know what they are going up against. Why is it for years, centuries, there has been a double standard, one for the girls and one for the men? Cut that out, require the man to be as pure at the altar as the woman. If you do that you won't need this marriage law. A boy can sow his wild oats, raise hell and then go back to Sunday School and he can marry any girl in the community he wants to. Let a girl make one false step and she is condemned always, even though she may do it unthinkingly. Require the same thing of the men, and let the girls be trained and understand it and let them require it of the men, and you will go further than any law that you can put on the statute book, or any law that any legislature on the face of the earth can make. Teach girls as well as the boys sex hygiene in a sensible, scientific way. Let them know that there is such a thing as venereal diseases. Teach them of its dangers to herself and her offspring. It is a matter of education and much can be done in this way.

DR. ALBERT ANDERSON, Superintendent State Hospital, Raleigh: I had the privilege of sitting with the committee that considered this law in the beginning of the Legislature. I was surprised to find out during the Legislature how many Legislators felt about the wisdom of passing a law of this kind at this time. To my surprise this law passed after some modifications in the woman's favor. She is not required to stand an examination for venereal infection, but only for



the mental test; the man is required to stand for both venereal and mental. While we cannot look for perfect results from an imperfect law, yet as someone suggested, it is a beginning and sets the people thinking. I think great results will come out of it. The examinations, of course, will be varied in their degree of efficiency, but as before stated, it will set people thinking along the line of high ideals for both sexes. Public Health workers are contributing much to the prevention of mental diseases. The revolution in the sentiment of the people has been wonderful in the last decade, certainly in two decades, along the lines of Public Health work. I would like to state that the prevention of every infectious disease carries with it a possible prevention of a mental trouble. It is well known that many cases of mental disease have their underlying basis on some physical trouble. The prevention of physical and mental diseases should run along parallel lines, which I have learned in my work for nearly ten years. The last Legislature considered the importance of mental sickness in a very encouraging way by making very satisfactory appropriations for the enlargement of our work. Nobody was disinterested enough or ignorant enough to say that the hospitals in North Carolina should not have all they needed. I was really gratified and a little surprised at the generous appropriation made for the solution of this important problem. We have lost much in the past by not solving this problem in making larger additions to our State hospitals for the mentally sick. As soon as we can get our appropriation into buildings, we will relieve the present embarrassing situation. It is almost enough to make a Superintendent go crazy by receiving applications every day that he cannot consider favorably. It is now and has been ever since I have been in the work, an acute situation every day. It is the most hurtful thing to have applications come to the hospital, maybe two or three a day, which we cannot take out of poorhouses, jails and places of confinement too horrible for description that should not be tolerated in our day. The great State of North Carolina has finally come to make an appropriation sufficient to properly care for the mentally sick. I am sorry that we cannot put into buildings our appropriation in a few months to relieve the present situation. The two great causes, venereal infection and alcoholism, are being lessened every year by the great crusade against these two giant evils. In the last American Medical Journal, Dr. Geo. H. Kirby of New York, gave us information about the fight against these two causes made in the great State of New York. Dr. Kirby is a son of an ex-superintendent of my Hospital, and it is my pleasure to state to this body that he is a man that we should all know and be proud of, because he has reached the highest

scientific position held in this country, that of being Director of the Psychiatric Institute of New York. Under his direction are more than 40,000 mental cases. He is an authority because of his ability and training. The statistics given on the decrease of alcoholic cases on the alcoholic ward of Bellevue Hospital are interesting; also those of mental cases from venereal trouble.

Let us stand behind this great movement that the Public Health men are doing, both for the prevention of venereal and mental diseases. We know the great need of this after making some inspection of county homes and jails in North Carolina. In the year of 1920 the feeble-minded and the mental cases certainly need a better chance.

DR. K. C. MOORE, Wilson: As I see it, the advantages of this law lies entirely with the doctors, and especially with the health officers, since the persons can get the examinations free of charge by going to them, and I believe that the best thing that the doctors in the State of North Carolina can do is to adopt some uniform examination, so that when they sign these certificates they will have exhausted everything within their power to say whether the applicant is free from venereal disease or tuberculosis or any mental disease. Unless we do that, the law is going to be absolutely useless, or if a few make an honest examination and a few shysters give the certificate for a dollar the law is no good.

As to the applicants going to another State, I agree with Dr. Smith; it is going to be a mighty sorry woman, when the people all over the State realize the importance of the law, that will run off with a man when he suggests that they run over to another State for marriage license.

DR. MALONE, closing the discussion: This law is all right but the carrying of it out. I was surprised that the Legislature did not put on some little extra attachments about how much examination they ought to submit the applicants to, but that law is all right if our statesmen and doctors will get together and discuss it, so we can carry it out. As I said this morning, we punish people for not carrying out laws, and the proper punishment should be inflicted on those who try in any way to evade this law, but they cannot get their license until they show a certificate of examination. That law is all right, but there is one thing I want to say: that law of examining school children is just about as good as the other, if not better. I think we ought to carry that out to its fullest extent because we have the children there in our hands and we can mold them, we can improve them.

A year or two ago I had 7,000 in my county down there. You know how it is done, I went around every morning at nine o'clock with my wife and went to four schools and examined the children, and after the examination we had them all brought into the largest hall and gave them a little talk, about ten minutes, about the teeth, instructions how to brush them, all that sort of thing, examined four schools. I would go home, find fifteen soldiers to be examined, and then work until one o'clock on the cards. Operated on 86 for adenoids, tonsils and did a good work all along this line.

I think the marriage law is all right and I think the school law is all right and can be carried out, and I am in for carrying it out.

### PURPOSES OF MILK STANDARDS

J. H. EPPERSON, M. D., DURHAM

Those of you who are engaged in Public Health Work are constantly confronted with various problems relative to the prevention and control of communicable disease. In this line of work, "Milk and Dairy Inspection" attracts no little attention from the average Department of Health. In this connection I am forced to say, that from the various reports I have had opportunity to see from time to time of milk inspection work in connection with Departments of Health, that I am right in using the words "little attention," especially to certain features of the work. I have gained the impression from certain reports I have had occasion to see that the work of milk inspection in certain communities in other States, as well as this, consists chiefly of regular routine visits to the site of production, with an occasional tuberculin test of the herd, etc., In other reports I see that the work consists of requiring the village milk peddler to report at the Health Office once each thirty days with a bottle of his specially produced lacteal fluid for his monthly bacteria count and butter fat test. I am not offering this argument as criticism, because I fully realize that in a good many Departments of Health it is only possible to do the work in a partial manner owing to the varied duties imposed on the official charged also with the duties of milk control.

In the seven years which I have been actively engaged in the work of milk and dairy inspection I have endeavored to follow a certain routine procedure in conducting the work as follows:

1. Realizing the possibility of certain diseases being transmitted by the milk route, I have endeavored to close and keep closed all the avenues of infection.

2. To realize and appreciate the difference between and unsightly and an insanitary condition at the sight of production, and to govern my actions accordingly.

3. To treat the producers in a respectful but positive manner and ever remembering that there is an economic side to dairying in which the producer is mainly interested.

4. To see that the product goes to the consumer containing all of its natural and normal constituents, and physically and bacteriologically safe.

5. To collect samples from the delivery wagons in the process of delivery and subject same to a chemical, physical and bacteriological examination; in order to determine if the principles of proper dairying are being practiced at the sight of production, and to transmit this information pertaining to the grades or standards to the person paying out his good, hard-earned money for the product.

6. Last but not least, to use good, common horse sense and plenty of it.

The fifth feature which I have enumerated here is the one which appeals to me most, and which I am bound to believe has the greatest to do with the quality of milk produced and dispensed in any given locality; therefore, I will now confine myself to the "Purposes of Milk Standards."

I have had the opportunity of testing out a great many systems of milk grading and I have always found that there are certain objectionable features which are hard to overcome. The Department of Health of the city of Durham, N. C., is using, and has been for the past two years, a system which I am led to believe is entirely practical. This system was instituted at my request by the Market Milk Division of the U. S. Department of Agriculture, and includes the grading of the product on the three main characteristics of milk, viz., bacteriological, chemical and physical. By the bacteriological examination, we arrive at the sanitary analysis of the product through the determination of the number of bacteria present per c.c. which is a general sanitary index milk character. The physical examination includes the examination of the product for visible dirt or sediment, flavor and odor, temperature at time of delivery and the manner in which the package is sealed. The chemical examination includes the examination of the product for adulteration, solids not fat, fat, etc.

In the score card used, a perfect score on bacteria count permits awarding 35 points out of a possible 100, flavor and odor 25, visible dirt, 10, fat, 10, solids not fat 10, temperature at the time of delivery 5, and bottle and cap 5. The final grade is arrived at by a graduated

scale by which the findings may be applied of the sample in question, and the correct result tabulated on the score card under respective headings, finally adding the total for the completed grade of the three main characteristics. From time to time the general character of the product of any one dairyman may be determined by using from three to five of his individual grades over a given period. This information may be dispensed to the public in various ways at the discretion of the officer in charge.

Proper milk standards are essential to efficient milk control by public health authorities. 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 infant diarrhoea, typhoid fever, scarlet fever, diphtheria and other infectious diseases. When we are reasonably sure that we are having pure, wholesome milk, free from any of the above infections dispensed to consumers, then it further becomes the duty of the Department of Health to encourage its use because, in my honest opinion, there have been more children die from the lack of it than ever died from the use of it.

The milk producer, as a general rule, is very much interested in the proper standards of milk, for the reason that these contribute to the well being and dignity of the milk industry itself. Proper standards rightly enforced distinguish between the good milk producer and the bad milk producer. It will enable the good producer to get properly paid for the quality of milk he produces and thus eventually put the industry upon a dependable basis.

The milk dealer finds the classification of milk resulting from milk standards to his financial advantage for the reason that it identifies clearly first-class milk from the product of a lower grade. Such a distinction gives to the seller of the highest grade product the commercial rewards which such milk deserves.

Milk standards are useless unless properly guarded and enforced. One of the main objections that is constantly being raised to a grading system for milk is the difficulty of insuring that milk labelled as of a certain grade is actually of that grade when sold to the consumer. By constant and repeated examinations of any given product this objection is being reduced to a minimum. The dairyman soon learns that by the proper application of certain principles in regards production and handling that his grade will remain fairly constant, and that negligence of these principles means reduction in grade and quality.

The thing which appeals to us most in the grading system hereto-

fore enumerated in the form of a score card is the 35 points which are allotted to bacteria present per c.c. Rightly this feature should be given the most attention for the reason that we, as Public Health Guardians, are directly interested in the sanitary analysis of the product, more so possibly, than the other features of the grading system. The Commission on "Milk Standards" of the New York Milk Committee, consisting of seven bacteriologists, eight health officers, and two agriculture experts, on completing their report, have said the following in relation of large numbers of bacteria to infant mortality: "The Commission believes that the number of bacteria in milk have a relation to the infant mortality for the following reasons: 1. Evidence furnished by clinical observations of groups of children fed on milk containing small numbers of bacteria shows a higher death rate in the latter than in the former. 2. In general, a reduction in infant mortality in cities results from a substitution of milk containing small numbers for milk containing large numbers of bacteria. 3. Bacteria causing no specific intestinal infection in adults may cause infant diarrhoea, and milk containing large numbers of bacteria more often contains species capable of setting up intestinal inflammation in infants than milk containing small numbers of bacteria." Then, if we accept the statement of this distinguished body, we must apply ourselves to producing milk with as low a count as possible if we would lessen infant mortality. The bacterial count has a further significance. It is an indicator of decency of milk character entirely apart from its significance as an indicator of the safety of milk. In determining the sanitary character of milk and the grade in which it belongs, decency must be considered as desirable for its own sake, entirely apart from the consideration of safety, because high counts indicate that milk is either warm, dirty or stale. Decency is important as a characteristic of foods and drinks because it gives pleasure to the consumption of foods, while the lack of decency means distaste, displeasure and even disgust. The bacterial count is a sufficiently accurate measure of decency to justify the health officer in excluding milk of high count because it is lacking in this characteristic.

The other features of the score card, viz., flavor and odor, sediment, fat, solids not fat, temperature and condition of package are all very important in determining milk character and should by no means be omitted from the routine examination in determining milk character.

At this point I desire to make mention of the significance of the bacteriological laboratory in the control of public milk supplies. It has been said by an eminent authority on the subject of milk inspection to be the "eyes of the milk control official" and without it, it is like a

story half told or a song half sung. Production and distribution cannot be accurately controlled unless we include in our program regular laboratory examinations of milk by bacteriological and chemical standards. The adoption and enforcement of milk standards will be more effective than any other one thing in improving the sanitary character of public milk supplies. In my opinion, it is of the utmost importance that standard methods should be adopted by all laboratories for comparing the bacterial, chemical and physical character of milks, since by this means only is it possible to grade and classify milks and properly enforce milk standards.

Pasteurization of milk is fast becoming popular in this State, and it is therefore necessary for milk control officials to deal with the situation intelligently and efficiently. One of the chief objections that you hear raised against pasteurization is the claim that it is frequently employed to cover filthy methods, the milk producer using less care in his methods if he knows his product is to be subsequently pasteurized. To meet this objection there should be standards for the raw milk, as well as standards for the finished product. Many of the cities and towns of this State are starting small pasteurizing stations, not solely for the purpose of improving the quality of milk sold, but for economic reasons. And certainly we, as public health officials, must necessarily be students of economics, as well as students of public health and welfare.

The first step in establishing milk standards for any given community is to take into consideration the necessary age of the milk, the distance it is hauled, and the methods employed in its handling, in addition to the sanitary conditions prevailing at the source of production. It will always be possible for a community having very few dairies, easily controlled, which consumes milk produced within its own limits, or within transportation of twelve hours or less from the source of supply, to insist upon and maintain a better and higher standard than can a community where the milk is hauled many miles into town, to be consumed within twenty-four hours after it is produced from many sources more difficult to control. The small city, for these reasons, can and should always maintain a higher standard than the larger city that depends on getting its milk from a distance.

The milk supply of the various cities of this State, I am informed, produce and distribute milk somewhat under similar conditions, and it has occurred to me that if a permanent Milk Commission could be established in this State, with their main purpose in view to establish uniform principles and practices in the art of grading the milk supplies of the various cities that are now doing milk control work, we

could put the business on a more dependable basis and avoid much local criticism. It is not uncommon to hear some dealer complain, when a low grade is given, that it is a pet scheme of grading of the local milk official. If the Milk Commission adopted uniform methods of grading, and all cities would co-operate, this undue criticism, in my opinion, would be avoided and milk supplies now at a low ebb would either improve or cease to exist.

In closing, I desire to express my appreciation for having had the opportunity of appearing before you and, if it should be your will and pleasure to appoint such a Commission in this all important matter, I would respectfully recommend that the Body shall consist of five health officers, five bacteriologists and one agricultural expert on milk from the State College of Agriculture.

DR. J. H. EPPERSON, Durham: We have with us tonight a man who I think could well discuss this paper, Mr. Lucius P. Brown, late director of the Bureau of Drugs of the City of New York and also late Director, Commissioner of Food and Drugs in Tennessee, and also late captain in the United States Army.

DR. CARLTON: We would be very glad to hear from Mr. Brown.

DR. LUCIUS P. BROWN, Franklin, Tenn.: Gentlemen, I thank you very much for this opportunity of coming before a North Carolina audience. Ever since one of my ancestors along with the Brevards and others stood on the Court House steps in Charlotte and told the British Government where to get off, I have had a high regard for the State of North Carolina, and now I feel as though I were coming back home.

One of the things which I thought most outstanding in the paper just read is the strong sense by which it is actuated. The suggestion that one of the largest parts of enforcement of law is common sense is one that those of us who have had long experience can all appreciate. Fortunately, as public health work goes on common sense is coming to be applied more and more and as we understand better the methods by which the milk-borne diseases can be easily prevented, they are becoming increasingly less. The essayist's suggestion of a commission is also particularly good, it seems to me. It is not necessary to secure governmental sanction for such a body. The New York Milk Committee of New York City is a body supported by public spirited people of New York City, and the expenses of this Commission on Milk Standards are paid by the endowment which the Milk

Committee has. It is hardly necessary for me to suggest the important service which that committee has rendered not only to the city of New York, but to the country at large, because its recommendations are recognized as national standards for milk work wherever milk work is being done. The essayist told me before he came into this room that he believed three States already had such a body. If that is true the precedent is ample, tho' I don't know whether North Carolina is a great respecter of precedent; but in any case where you have such a good thing as the suggestion made it seems to me it should be acted upon.

There are other considerations which are important and your State Agricultural Department will be very thankful, doubtless, if you will go ahead with such work. There is an increasing tendency among manufacturers and buyers of milk products to pay for milk on a basis of the bacterial content, not only for market milk supplies but for milk for manufactured products such as butter and cheese. If you can establish for the State of North Carolina, standards (which will, necessarily, conform to those of other bodies in the United States) they can be used by the farmers and dairy manufacturers in purchase and sale and will tend to stabilize prices. That point is worth considering as tending to get you more public support.

The speaker mentioned the question of milk standards for the raw milk. They are absolutely necessary in any bacteriological control of a pasteurized supply. That has been demonstrated by New York's experience. It put its system of pasteurization into effect in 1914. The results have amply justified the procedure. In the first year preceding 1914, there was an outbreak of typhoid fever, from one supply alone, of 1,300 cases. The next outbreak, one of the things which gave me one of the jars of my life, because it occurred just after I took hold, was an outbreak of about ninety cases, which is not very much for New York, but until I got it stopped, I had an uneasy quarter of an hour. Since then there has been only one outbreak, which itself was due to a direct evasion of the law. I do not mean to say there are not sporadic outbreaks, but there are no more pronounced epidemics. In New York, in addition to as close inspection as is possible to give, which is so necessary and fundamental a part of any market milk control, it is thought necessary to have systematic counting of the bacteria of the milk before pasteurization. A pasteurizing system cannot be put into effect without a thorough control of the raw milk supply, and as a matter of fact, the real design of pasteurization is not to furnish a bacteria free milk, but to insure its healthfulness.

The freedom from bacteria of all sorts is, of course, a very welcome and a very desirable consequence.

As to the matter of grading, if I may be allowed to make a suggestion, I should not entertain such a plan for any town of less than several hundred thousand or a million or two, and even for those I am free to confess my mind is open. It has been found in New York City that the separation of milk for drinking purposes into two grades, A and B, does not have and is not having the effect which it was thought it would have. It has rather allowed the distributors to furnish a little more carefully handled product for a considerably higher price, but the difference in quality between grades A and B is by no means commensurate with the difference in price. If in addition to a good milk supply for drinking, you wish to let down the bars for cooking purposes it may be done. But it should be done, I think, only with the idea that it is an experiment. Personally, I think one grade of milk for the average American town is sufficient, and that must be the best that can be had.

There is another question, the importance of which has not been appreciated until within the last two or three years, and that is the question of the nutritive qualities of the milk. In most milk supplies, standardizing is forbidden. There has been a tendency to allow standardization and I am not at all sure whether it ought not to be encouraged, but if it is to be allowed, some notification should be made to the public of the change in the ratio between the fats and non fats, and in the word "standardization" as applied to milks, we must include condensed and dry milks. Those are not subject to the same rigid control that the fluid is, and I speak entirely as to the nutritive qualities. A condensed milk may have its part of the cream extracted, and the ratio between the important proteins and the fat so materially altered that the physician prescribing such a product would meet unexpected conditions and results. There should be stated on the labels of all preserved milk products (the dry and condensed milks) the exact percentages of the fat and the solids not fat. It is necessary only to pay attention to the solids not fat, for the ratio between proteins, milk sugar and ash is not altered in any system of preservation now in use. Possibly the best method of doing this would be to state on the labels of these products the limits within which the fat and the solids not fat may vary. The matter is emphasized by the importance which nutrition experts generally have assigned of late years to the amount and quality of the milk supply. One never picks up a paper on the subject of nutrition but he finds reference to the desirability of using more milk, and as Dr. Jones has said, milk at any price is cheap.

These are thoughts which occurred to me as the speaker was delivering his most excellent paper. I am sorry I could not condense them a little more, but I hope you will realize that I like to talk about the milk proposition because I am one of those who believe that we are using only about one-fourth enough milk in America.

DR. J. P. MUNROE, Charlotte: I enjoyed what Dr. Brown said very much.

We all some time or other use these prepared milks in one form or another and I have been particularly interested of late in knowing a little something more about the method of preparation. Not that I want to go into the business, but that I want to know the amount of heat used, whether the amount of heat used affects the vitamins, particularly valuable in milk. We know if it is exposed to a very high heat they are very much diminished in quality.

DR. LUCIUS P. BROWN: I thank you for calling on me, but I dislike to trespass on your patience.

In the condensing of milk it is first run into a vacuum pan and condensed at a comparatively low temperature, something not over, if I remember correctly, 150 degrees, and usually considerably less than that. There are two kinds of condensed milk, one, the sweetened condensed, which contains about two fifths its weight of cane sugar, the other, a whole milk without any addition of an extraneous material. While the process of condensation and addition of sugar is that by which the sweetened condensed milk is prepared, the sugar really acts as the preservative. Sweetened condensed milk is not sterile. The condensed whole milk without sugar must be sterilized, and in order to effect that sterilization it is placed, after being put in the can, into a suitable sterilizer at about 240 degrees. This results in doing what we do when we boil an egg, i.e., the albumin is coagulated, and the albumen is about one-half the protein contents of the milk. The three vitamins—that is, the fat soluble A, or anti-rachitic, the water soluble B, or anti-neuritic, and in a much less degree, water soluble C, or anti-scorbutic, are all contained in milk. Of these three it is entirely probable that the fat-soluble is unaltered, the water soluble B may be more altered but not greatly. The anti-scorbutic is very heat labile. Frequently preserved milk does not contain any, in all probability. As a matter of fact the raw milk, at least that of cows, is poor in this ingredient. Indeed, with any supply subject even to pasteurization, an additional anti-scorbutic should be used for safety's sake, although the authorities differ on that. Some maintain that with pasteuriza-

tion, the danger of scurvy to children has been very greatly exaggerated, and it would seem that that, which is possibly the newest theory on the subject, is deserving of some consideration. So we may assume that in the condensed milk of both sorts, the vitamins, except the anti-scorbutic, are not materially altered.

In the making of the dry milks there are two chief processes. One is called the roller process and in that the milk is dried on a roller, which is heated by live steam. This roller may receive the milk from a tank above it, and it may be either pre-condensed or raw, or the roller may receive the milk by dipping into a trough beneath it, from which the roller takes up a film of milk. In both methods the film of dried milk is scraped off by a knife and ground for use. These rollers are heated up to a very considerable temperature, one very close to the temperature of boiling water and occasionally above it and any temperature above 153 or 154 will harden your albumen. The other process is the spray process. By it the bulk of the milk sold in the United States is made. There are two methods of spray-process dessication. One uses the raw milk and one uses milk after strong condensation. In both the milk is simply injected either along with a current of warm air, into a suitable receptacle, or it is injected through the wall of the chamber and in the center of a current of warm filtered air, because all air used ought to be filtered, so as to eliminate a certain number of bacteria from the air and also the dust. In each case the milk is not subjected to a very high temperature. While the current of air is heated quite high before it goes into the chamber, the milk in being sprayed is projected in minute droplets and the drying process immediately removes the water from the milk, cooling the whole mass. The process is almost instantaneous. One looks through the peep holes and it looks like a miniature snow storm. Milk-albumen is not coagulated by heat except in prolonged contact with water. That is, there must be an appreciable length of time for the action of the heat. In the spray-process the drying is so instantaneous that there is no effect on the lact albumen, the consequence of which is that in the spray-process this lact albumen is left soluble in water. As to the action on the vitamins, the fat-soluble is not affected, the anti-neuritic may be slightly affected and the same applies to the anti-scorbutic. These milks have been very largely used in Great Britain in infant feeding stations. I have a report which was published, I think, in 1919, in which a list of some 75 or 80 stations was given in which this milk was used. There are two reasons for that, one, very apparent, is that the British supply of fluid milk has been known among men who know market milk to be in very bad



sanitary condition. The dry milks, under these conditions, have undergone so much pasteurization in the course of manufacture that they contain practically no bacteria. The other reason for the use of the dry milks is their convenience and ready availability, and the ease with which they may be modified. It is the results obtained in these feeding stations in Great Britain which carry the most conviction regarding the good conditions of the vitamins and the efficacy of the dry milks in infant feeding.

DR. L. B. McBRAYER: I feel delighted that our good Secretary put this paper on the program. I have felt in times past that we paid entirely too little attention to this particular subject—I am talking about Health Departments in North Carolina, Health Officers. As an example, a Board of trade in a certain town, the name of which I will not give, in North Carolina had a survey made of health conditions in their town when the mercury was hanging around zero, and the report was not published. I happened to meet the secretary of that Board of Trade and he asked me if I would not like to go up in his office and read that report. I had been crazy to see it, to tell you the truth, and I went up in his office and read it, and the first thing he asked was, "Well, what do you think about our milk supply?" You will note the report says you must take into consideration these bacteria counts were taken when the mercury was around zero and therefore the transportation of the milk was made under properly cooled conditions. He said, "I noticed that." "Well," I said, "I think I can tell you what I think about this milk supply right quickly." I said, "They would not allow you to sell this milk in a certain other town in North Carolina the hottest summer day that ever came along. In other words, you haven't a drop of milk in your town that would be allowed to be sold in another town because of the high bacterial count." He didn't publish what I said about it, either. That means, of course, we are not saying anything about clean milk, and with a few exceptions that I could name very easily we are not doing anything about it. When we talk about exceptions I am looking right at Dr. Cheatham and his Health Department is one of them, and I am looking over this way. With very few exceptions we are doing nothing about it, and yet we all have to admit if we get down to the correction of these nutritive defects that we have been talking about here today, we have got to see that a great many of those children get milk, and it certainly ought to be clean milk. A bacteriologist said to me some time back they are not paying as much attention to the bacterial count as they used to. I could not understand it and I am quite sure now

I misunderstood him because of the paper we have heard this evening. This discussion of clean milk is applicable to the towns where milk is sold, that is, to the towns, the rural counties have their own counts. I think I made a mistake there. Some of the people who live in the country do not have a drop of milk. Dr. Jones, is that right or not? That ought not to be because as Dr. Jones said it is the cheapest food for two reasons, cost of the production, because it is cheap for children, particularly in price.

There is one thing Dr. Epperson did not go into as fully as he could have and that is clean milk does not always depend on paraphernalia. It is all right to have a nice barn, keep the cows clean and go through certain routine every day, and it is very wise to have that, but it gets down to a personal equation, and Dr. Brown could have told you of some experiments under the operation of the New York Committee where there were very dirty surroundings, barns, yards and stalls, and a very low bacterial count was produced and that was produced probably because the lower the count the higher the price of the milk. I know in the milk supply at Asheville at one time outside of the Vanderbilt estate, the next lowest bacterial count was in a small dairy, with very meagre equipment that was taken care of by a man and his wife, and they did the milking and everything else. They were intelligent people and they knew what cleanliness was and carried it out.

There are two other things I want to say: that is, with regard to the grading. I do not believe that the small amount of milk that we produce—we haven't any town with a million inhabitants in North Carolina, not even Charlotte—and I believe it is not necessary to make grades A, B and less milk in North Carolina, but I think there is a grading that works well and that is: we don't have so many dairies in Durham, I guess they don't have over twenty-five or thirty, maybe less, so if you publish in the daily papers or the monthly health bulletin, the bacterial count of those dairies and tell the folks what it means, the higher the bacterial count, the dirtier the milk, they will probably do the rest. I knew once a man who was selling milk and he was selling on a very prominent street in the town, had probably a dozen or twenty customers on that street, and one morning the milk wagon drove down the street and all but one told him he need not come back. He wanted to find out what the trouble was and they said, "You are selling the dirtiest milk in the city." They said, "Here is the health bulletin and you are down at the bottom." He made straight for the Health Department and said, "I want you to show me what to do." That grading, it seems to me, is a very satisfactory grading for North Carolina and produces the necessary results. It has been found diffi-

cult to get a higher price for the different grades. If the people get more and more educated on the subject it will be easy. It ought to bring a better price. I don't think quite a little difference would be too much.

The other thing I want to say is I am awful strong for this committee. I am not so particularly interested in the exact number or the places from which the personnel should be drawn, but I am awful strong for a committee, and I would suggest that a member of the State Board of Health or the Executive Staff should be on that committee. I am thinking of Dr. Shore just at this moment. It seems to me there ought to be somebody connected with the State Board of Health on that committee. I am strongly in favor of the committee and I suppose it would be in order, Mr. President, to make a motion for a committee. Then, I would move you, sir, that the Chair appoint a committee, taking into consideration the suggestions of the essayist, to take such action on this matter as may seem proper and report back to this Health Officers' Association.

Motion seconded by Dr. W. M. Jones; carried.

DR. EPPERSON: I am thoroughly in accord with what Dr. McBrayer has said. He made mention of prices paid for the various grades of milk. My personal experience in this matter is that where milk grading systems are used regularly and efficiently that the lower grades cease to exist to a certain extent by pressure brought to bear on the producer of the low grade product by the consumer.

I will give you some statistics with reference to what I have been able to accomplish through a systematic grading system. Out of the last 67 samples of market milk collected for laboratory examinations, I found that 28 samples run a count of 5,000 or less, 13 samples had a count ranging from 5,000 to 10,000, 12 samples had a count ranging from 10,000 to 20,000, 10 samples had a count ranging from 20,000 to 50,000 and 2 samples ranging from 50,000 to 100,000.

I am further in accord with what Dr. McBrayer has said with reference to the part that certain regulation equipment plays in the production of clean, wholesome milk. I am of the opinion that good milk can be produced from sources that are lacking in beauty. But dirty and unwholesome milk may be produced with fine equipment and a thirty-cent dairyman.

DR. G. M. COOPER, Raleigh: I think we have thoroughly discussed everything that could possibly be of interest to a health officer or any allied service today except one thing and that is the reports from

health officers. I think most of you will agree we have had incomparably the best meeting we have had since we have started the system of reading reports from counties. I took the liberty of discontinuing that practice without asking the Program Committee's advice or consent and instead of asking for reports for this meeting, I thought it best for us to have our program and then leave a place for informal discussion in which anybody that had anything of special interest to any health officer could offer it at this time, but I think the field has been thoroughly covered, and if you will allow me, I will make a motion that these reports for this year and in the future be mailed to the Secretary by the health officer of each county and city within thirty days after the annual meeting. These reports make valuable records, published in the Transactions show the progress in the different counties, and in the future will constitute a valuable series of histories. Therefore, I move they be sent to the Secretary and that he tabulate them and have them published in whatever form the Transactions are published.

Motion seconded by Dr. N. B. Adams; carried.

DR. L. J. SMITH, Wilson: May I ask Dr. Cooper if he intends that this report shall include from April to April or our annual reports from the first of January?

DR. COOPER: From the first of April to the first of April, the year ending the first of April.

DR. SMITH: That is a rather awkward position to put a health officer in. You make out your report to submit to the Board of Health and Town Commissioners or County Commissioners, then you have to go back and figure so many months in that year and this year and you get tangled up and you don't know heads from tails. It has been, it seems to me, an abominable practice, and I was hoping we could submit an annual report, a condensation of the annual report we make to the Commissioners. I feel like that ought to be done some way or other.

DR. R. L. CARLTON, Winston-Salem: If I may be permitted to express myself, I feel I agree with you. It certainly works a hardship on the city health officers. They make the reports invariably for the calendar year. If we make a report for the comparison with other cities it must be with the calendar year. Therefore, we will be up against two reports. It seems to me if we could combine these two into one it would be very much better.

DR. L. J. SMITH: We would get the same information by adopting the annual report by the calendar year. I want to make a motion if it is not contrary to the motion already passed, that we adopt that as our regular report.

Motion that motion be reconsidered; motion carried.

Motion that annual report from January to January is the report to be submitted to the Secretary of the State Health Officers Association.

DR. E. F. LONG, Raleigh: Owing to the fact that our reports are necessarily voluminous I am wondering if it would not be wise to submit some questionnaire. If we want to reach into a narrative description of each county it will require a volume we would not be able to publish.

DR. SMITH: That has already been adopted and settled.  
Motion seconded and carried.

## REPORTS OF COMMITTEES

### REPORT OF AUDITING COMMITTEE

Mr. President: We, your committee, appointed to audit the books of the Secretary-Treasurer, beg leave to submit the following:

Having no personal knowledge of any possible source from which funds might have been obtained, no assessments having been called for, and no collections taken, agree to accept the said report as read, that he has no funds.

We recommend, therefore, that his bondsmen be discharged from further financial responsibility.

Further, that the title of Secretary-Treasurer is a misnomer and that hereafter the name of the office be changed by dropping the word treasurer. This, however, with the distinct understanding that the present salary be continued as heretofore, without curtailment.

Committee:

WM. M. JONES,  
A. CHEATHAM,  
MILLARD KNOWLTON.

(Seconded and adopted.)

Motion that report be adopted; seconded.

DR. CARLTON: As I understand it, this resolution carries a change of name from North Carolina Health Officers' Association, to North Carolina Public Health Association. In order to do that there will have to be a revision of the By-laws and Constitution, because that name is written into that document so it will be necessary to appoint a committee to revise the Constitution and By-laws.

DR. LONG: I move that the committee just reporting be continued.  
Motion seconded and carried.

The President named the following committee to confer with the State Board of Health regarding the establishment of county prenatal clinics and outlining the plan for such work: Dr. J. B. Sidbury, Miss Rose M. Ehrenfeld, Dr. A. S. Root, Dr. L. J. Smith, Miss Ross of Tarboro.

Also committee to formulate plan by which milk standards may be established in North Carolina: Dr. J. H. Epperson, Dr. L. B. McBrayer, Dr. W. A. McPhaul.

## ELECTION OF OFFICERS

DR. W. M. JONES: I know of no reason why we should not follow the precedent that has for years been established, as I have heard nothing and know no reason why our present Vice-President should not succeed to the Presidency. I therefore place in nomination Dr. Smith for President of this Association.

Motion seconded; carried by acclamation.

DR. L. J. SMITH: Gentlemen, I am rather proud of this honor, and I am not unmindful of the responsibilities that go with it. It has been my fate ever since I was a child to play second fiddle up until this time. When I was a kid I played the second violin with my father in a little home orchestra. Later in life when made a Mason I was elected to the Senior Warden's station, never becoming Master. Later in life I joined a civic organization, the Kiwanis Club, and was elected Vice-President and never became President, last year you elected me Vice-President of this Association and tonight, President; tonight it is one of my great pleasures to say to you I sincerely appreciate this honor. Thank you.

DR. J. R. McCracken, Waynesville: Up in the mountain section of North Carolina there are about six counties west of the Balsam mountains that have never been represented in any way in the State

Society or the Health Officers' Association. We have a man from the extreme west, who has travelled 500 miles to get here. Not only for the reason that that part of the State has never been represented, but because he is the man I know him to be, I wish to nominate N. B. Adams, of Murphy.

Nomination seconded.

DR. C. W. ARMSTRONG, Salisbury: I want to nominate a man for the Vice-Presidency of our Association who has been identified with Public Health work in North Carolina for a number of years, a man who has demonstrated his ability, and who, I think, is due some recognition from this association. I nominate Dr. A. C. Bulla, of Forsyth County.

Nomination seconded; Dr. Bulla was elected Vice-President.

DR. A. C. BULLA, Winston-Salem: Gentlemen, I thank you very much for electing me Vice-President of this Association. I haven't a speech. Being elected over my friend, Dr. Adams, I feel it a great honor. Dr. Adams is a fine fellow, and I would have liked very much to have seen him made Vice-President.

DR. ARCH CHEATHAM, Durham: I rise to nominate for Secretary of this Association, Dr. F. M. Register, of Raleigh. He would make us a good man, and I wish to thank Dr. Cooper for the faithful service of so many years that he has given us.

DR. W. M. JONES: I want to second the nomination, and I hope that Dr. Register will live to serve us as long as Dr. Cooper has done.

Motion that nominations be closed, made unanimous; seconded and carried.

DR. REGISTER: I rather object to this now that they have taken the treasuryship from me.

DR. L. J. SMITH: I want to say, as a member of this organization, that Dr. Cooper has served us faithfully and so far as I know, religiously, for a good many years, and it was not any intention, I think, on the part of the men to put Dr. Cooper out, but merely that we might distribute the burden on the different men in the organization.

DR. LONG: In view of the splendid, faithful service that Dr. Cooper has rendered to the Health Officers' Association, I move that we give a rising vote of thanks to him for that service.

DR. ARMSTRONG: I would like to make a motion that we extend the same rising vote of thanks for the retiring officers for the past year.

Motion seconded and carried.

Adjourned.