TRANSACTIONS

OF THE

NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

NINETEENTH ANNUAL SESSION

GREENSBORO, N. C., MONDAY, APRIL 15, 1929

The North Carolina Public Health Association met in the auditorium of the Pilot Life Insurance Company, Sedgefield, Greensboro, at 10:30 A. M., and was called to order by the President, Dr. C. C. Hudson, Greensboro.

The invocation was said by the Reverend Charles F. Myers, of Greensboro.

PRESIDENT HUDSON: We are meeting here today as guests of the Pilot Life Insurance Company. As you know, there are several life insurance companies that are of great help to us in our work. There are several organizations which are particularly helpful—the Metropolitan Life Insurance Company and others. The Pilot Life Insurance Company is the only one in the South that is doing this work. At this time I wish to introduce Dr. L. A. Riser, of the Pilot Life Insurance Company, who will give us a word of welcome.

DR. L. A. RISER, Director of Health Conservation, Pilot Life Insurance Company: I think it is particularly fitting that the North Carolina Public Health Association should have its meeting in the auditorium of the Pilot Life Insurance Company, because the Pilot Life Insurance Company is a pioneer in health work. About twenty years ago the Pilot Life Insurance Company started having periodic examinations of its policyholders. Mr. McAlister was the father of the idea. Our building itself carries out the idea of public health work. It has lots of windows to admit light and air, and other things which are the idea of Mr. McAlister to preserve the health of our employees. These Mr. McAlister will tell you about, and I now present Mr. McAlister.

A WORD OF WELCOME TO THE NORTH CAROLINA PUBLIC HEALTH ASSOCIATION

By A. W. MCALISTER

President Pilot Life Insurance Company

Speaking in behalf of the executives and the staff of the Pilot Life Insurance Company, we consider it a privilege to have the North Carolina Public Health Association meet with us, and it is a pleasure to us to have

the information used in this paper, and also Dr. Clyde M. Gilmore, Greensboro, for assistance which he rendered in supplying certain information.

ANNUAL REPORT OF SECRETARY

By F. M. REGISTER, M.D., Raleigh

The eighteenth annual session of the North Carolina Public Health Association met in Pinehurst at the Carolina Hotel, April 30, 1928.

Dr. John H. Hamilton, President, Wilmington.

Dr. C. C. Hudson, Vice-President, Greensboro.

Dr. F. M. Register, Secretary, Raleigh.

The following committees were appointed:

On President's Address—Dr. L. J. Smith, Dr. R. L. Carlton, and Dr. L. J. Corbett.

On Visitors and New Members—Dr. R. L. Carlton, Dr. J. A. Morris, and Dr. R. E. Broadway.

On Resolutions—Dr. A. C. Bulla, Dr. E. R. Hardin, and Dr. J. H. Woodcock.

Program Committee—Dr. A. C. Bulla, Dr. J. R. Hege, Dr. Chas. O'H. Laughinghouse, Dr. L. J. Smith, Dr. C. C. Hudson, and Dr. F. M. Register.

After a most interesting meeting, at which many valuable papers were read and discussed, the following officers were elected:

President, Dr. C. C. Hudson, Greensboro.

Vice-President, Dr. J. R. Hege, Winston-Salem.

Secretary, Dr. F. M. Register, Raleigh.

The North Carolina Public Health Association adjourned to meet in Greensboro, April 15, 1929.

F. M. REGISTER, M.D.,
Secretary.

APPOINTMENT OF COMMITTEES

The following committees were appointed:

Committee on the President's Address: Dr. J. H. Epperson, Durham; Dr. C. N. Sisk, Raleigh; and Dr. J. H. Hamilton, Wilmington.

Committee on Visitors and New Members: Dr. R. L. Carton, Winston-Salem; Dr. E. R. Hardin, Lumberton; and Dr. D. E. Ford.

Resolutions: Dr. L. J. Smith, Wilson; Dr. C. W. Armstrong, Salisbury; and Dr. R. S. McGeachy, Kinston.

PLACE OF THE PUBLIC HEALTH NURSE IN MATERNITY AND INFANCY WORK

By MISS HULDA COX, Durham

In formulating a program of public health work in any community, ways and means must necessarily be devised for contact with the home.

this opportunity to express our appreciation of the great public service you are rendering in the prosecution of your work. There is a vast significance and importance in the task to which you have set yourselves, and the contribution you are making to the increase of the assets of human living is beyond computation.

You may be interested to know that the Pilot Life Insurance Company is also engaged in public health service and has been engaged in this service for many years, the Pilot Life being the first company in the world, so far as we know, to provide physical examination for its policyholders by a medical representative of the Home Office. This service has proved to be of great value to the policyholders and in some instances of value that it would be difficult to estimate. It has also proved valuable to the company as a builder of good will and by way of education in those things which tend to prolong life.

You may be interested to know also that the Pilot Life Insurance Company is engaged in a health service for the members of its staff. One of the foremost considerations in the planning of the offices which we now occupy was the health of the workers who occupy these offices. The window glass in every office is an especially made glass, known as Vita Glass, which transmits the vital ultra-violet rays of the sun. A ventilating system forces into every working space of the plant in continuous volume the outside, untreated air, producing an interior atmosphere which seems to be almost the equivalent of the outside. The water that is used for drinking purposes comes from a bored well through solid rock for the most part at a depth of 339 feet and is safeguarded so as to be practically immune to contamination. Thus we have at their best these three essentials of good health—sunlight, pure air, and pure water.

We moved from the city of Greensboro into these buildings about the middle of September, 1928. The improvement in the health of our staff has been so marked that it can not escape the most casual observer. It is reflected in the very countenances of the people who work here; in their complexion and in their general appearance of well-being. It is also reflected in actual figures. Excluding absences on account of influenza during the past winter, the number of people absent during the first six months of the occupancy of these buildings as compared with the corresponding six months of the previous year showed a reduction from 87 to 67, being equivalent to a reduction of 23 per cent; and the number of days of absence for the same period showed a reduction from 350 to 157, being equivalent to a reduction of 55 per cent. We have some statistics which, on account of the limited time, may not be conclusive but yet are impressive. There has been observation of 81 persons, practically all underweight. Of this number 70 have gained weight, 7 have remained stationary, and only 4 have lost weight, the average gain being 3.42 pounds per person. The oldest member of the staff, who has always been underweight, has shown an average gain of two pounds per month.

We believe that the people who work for us are entitled to the best working conditions from a health standpoint that can be provided, and we are convinced further that whatever we invest in this direction yields actual dividends in clear-headedness and effectiveness which amply justify the investment.

In conclusion, may I express again our pleasure in your presence and the hope that you will make yourselves at home?

ADDRESS OF WELCOME

By Hon. E. B. Jeffress
Mayor of Greensboro

We are mighty glad to have this gathering of health workers meet in Greensboro and in Guilford County. I say the county because we have come to view things in Greensboro and in our section here not by mere city boundaries but by the territory of which we are common owners, so far as the local government is concerned.

We have done many things in this section in a public health way that I think will prove interesting to you. Mr. McAlister has just told you of the reasons why he desired to come out to this beautiful spot, in this wide expanse, and build this splendid home for his insurance company. We are looking to health considerations in all things. I think Guilford County has been very notable for its advances in public health. To reminisce for a moment, I believe it was in 1913 that Guilford established the first all-time health officer in the State of North Carolina. We have believed here that there is a very vital connection between our duty as citizens and our duty in a governmental way to preserve the public health. This is exemplified by the advanced work that we are doing in our city and in our county schools. We are financing our health work here by the city schools and the city of Greensboro jointly contributing toward the maintenance of this health department, and perhaps the most effective work that our department is doing is in the schools. We realize that an able body is the first requisite before you can have an active mind in a child; consequently we have gone a long way in removing tonsils and adenoids and having a full-time dentist and other work in connection with our schools. We think the work has paid. The city and county contribute toward tonsil operations when it is not possible for these operations to be performed otherwise. I want to say that the physicians of Greensboro and Guilford County have cooperated with us wonderfully in this sort of work, and I think they have no cause for complaining that the government is interfering with their private practice. As a matter of fact, I believe the number of physicians in Greensboro has vastly increased, and I think all of them are keeping pretty busy. It is getting the public to understand the value of caring for themselves in all respects that is really not only making a healthier community but making more business for those engaged in teaching us how to keep healthy, because we get the public aroused.

One of the notable things in the history of health work in this community is the establishment of our county tuberculosis sanatorium. It is doing very notable work under the direction of Dr. Spruill, and I know Dr. Spruill and the county health officer will be glad to have you visit it before you leave.

I do not believe it is worth while this morning for me to give an oration about the glories of Greensboro and Guilford county. They are here to speak for themselves. But the reason that we have been able to accomplish so many things for the public good is that we have a united public spirit which has made it possible for us to find out what our proper relations are, and when we find out that then we start to find out the answer.

We speak of our roads and speak of our schools and all those things you can see with your eyes, but the full story of the glory of public health work in North Carolina has yet to be written. It is because of you men daily on the firing line throughout this state, fighting contagious diseases, eliminating impure water supplies, curtailing typhoid, inspecting the dairies, inspecting our food products, and doing other things too numerous to mention—it is because, as I say, of the activities of the public health men of North Carolina that this State has truly become a great place in which to live, not only in the mountains, not only in the piedmont, but in eastern Carolina, where we have learned how to control malaria and other devitalizing diseases that are preventable. So, gentlemen, the real story of North Carolina, when it is written, must have a great chapter and a wonderful tribute to the men of the health service. You deserve a share in the glories of this new North Carolina. It is because of the public health men that we have been able with safety to invite people to settle in any part of our state with the assurance that their health will be protected. I believe the other day Governor Gardner said if he had any criticism to make of the legislature of North Carolina it was because too many of the representatives look at matters from a county-wide viewpoint only. I tell you we have never accomplished anything in this State that was really worth while unless we have gone at it with a broad vision and on a statewide basis, and I want to see public health work grow and expand; I want to see us keep on with the splendid work that we have started (because we have just scratched the surface) until we build here a state superior to any anywhere.

Gentlemen, I want to extend to you in behalf of the citizens of Greensboro and Guilford County a hearty welcome and to tell you that we are mighty glad to have you come here. I believe there are a number of things that you will find of interest. We have done noteworthy work in the dairying line. Let me pause just to tell you that we have found real agricultural relief in Guilford County by enforcing our dairying regulations. We went on the standard ordinance about four years ago. At that time there was real opposition to it on the part of the farmers, and at that time the per capita milk consumption was very low in this territory.

People did not have confidence in it. But we have adopted our ordinances and enforced them, and that has meant that every dairy had to come up to a certain standard. When they did that, they created public confidence in our milk supply, and now our dairies can hardly produce enough milk, even though they are on a greatly enlarged basis, to supply the demand. Every farmer that has gone into this dairying business on the right sort of basis is making money and is improving his land and is proving that these red hills up here are as productive as any soil anywhere. In that way you are solving the farm problem when you are creating cities large enough to consume the products of the land around them, and that is the only basis, I believe, on which the problem will be solved.

Gentlemen, we are glad to have you here with us this morning. I assure you I shall do all I can and I am sure Dr. Hudson will do all he can to make your meeting pleasant and profitable. I wish you, in conclusion, Godspeed in the noble work you are doing for this State.

PELLAGRA—WHAT CAN WE DO ABOUT IT?

By C. C. Hudson, M.D., Greensboro

Pellagra which had been causing many deaths in North Carolina prior to 1918 declined rapidly in the era of high wages and prosperous living conditions which followed the World War and one of the scourges of this State seemed well on the road to extinction. The death rate gradually declined from the peak of 35.0 per 100,000 population in 1915 to less than one-fourth of this death rate—8.3 per 100,000 population in 1923. Since 1923, however, the death rate from this cause has been steadily climbing until in 1928 the rate was 28.8 per 100,000, the highest death, rate, with the exception of 1915, which has been recorded.

DEATHS AND DEATH RATES FROM PELLAGRA IN NORTH CAROLINA

Year	Deaths	Rate per 100,000
1914	551	23.5
1915	831	35.0
1916	467	19.4
1917	605	24.8
1918	634	25.7
1919	381	15.2
1920	297	11.6
1921	331	12.6
1922	306	11.5
1923	224	8.3
1924	273	10.0
1925	398	14.1
1926	459	16.0
1927	688	23.7
1928	847	28.8

If we study the admissions to our State insane hospitals as a result of pellagra we can also note a very decided increase. The colored hospital at

Goldsboro reports an increase from 27 to 59 patients admitted last year as a result of this disease. The deaths at Dix Hill showed an increase from 4 during the two-year period, 1924-26, to 18 for the last biennium, and undoubtedly Morganton would show the same result.

The United States Public Health Service estimates that there are about 33 cases of pellagra for each death. If this estimate be true, there must have been about 28,000 cases of pellagra in North Carolina during the last year. If there were this many active cases, there must have been many other individuals whose vitality was considerably lowered, but on account of the absence of sufficient pellagra preventive substance in their diet, who did not show active symptoms of the disease.

Pellagra deaths occur in all months in the year but are least prevalent during the winter and spring months. July showed most deaths last year—122 having occurred in that month while only 29 occurred in February, which showed the fewest deaths. About 65 per cent of all deaths occurred during the months from June to November, inclusive. This is about what we would expect from a chronic wasting disease, such as pellagra, which shows a big increase in cases during April and May when we have more sunshine.

Of the total deaths reported last year 53 per cent were white and 47 per cent colored. The death rate among negroes was therefore much higher than among white people, as negroes only constitute about 29 per cent of our total population.

From the standpoint of sex it was found that 72 per cent of all deaths were females. The preponderance of colored females over males was somewhat larger than whites, being 77 per cent of all deaths among negroes while 68 per cent of all deaths among whites were females.

It was found that males die from pellagra at a much later period in life than females; 29.5 per cent of all white males to die in North Carolina last year of pellagra were under 50 years of age while 55.4 per cent of all white females who died from this cause were below 50. As would be expected, negroes were found to die at an earlier age than white people. 48.3 per cent of colored males to die from pellagra were below 50 years of age while 77.6 per cent of negro women to die of pellagra were below 50 years of age. The youngest age at which any one died from pellagra last year was 2 months and 5 days. There were 15 deaths of children under 10 years of age and 33 deaths of persons between the ages of 10 and 19, most of these being negro females from 15 to 20 years of age. It can thus be seen that pellagra is taking its heaviest toll at the most productive period of life—between the ages of 15 and 50 years.

Nearly one-half of all those who died from pellagra last year gave housework as their chief occupation. Farming was the next occupation in importance. Nearly one-fifth of all who died had no occupation. Thirty-three gave common labor as the principal occupation. From the investigation of the United States Public Health Service among factory employees we would have expected more deaths than were reported among people so

employed. Only 15 deaths were reported by persons employed in the textile trade, while 8 people who were employed in tobacco factories died from this cause. A number of other occupations were represented among those who died from pellagra, from one to three persons having died among carpenters, brick layers, ministers, teachers, fishermen and others.

In studying the distribution of pellagra it is interesting to note that there are six counties in the State that had no deaths from this cause last year, while 21 counties had only one death each from pellagra and seven others had only two deaths. The death rate from pellagra was very much above the average for the State in Cumberland, Durham, Henderson, Mecklenburg, Gaston, Union, Warren and Hoke counties. As a whole the Seaboard counties have comparatively low death rates, while two of the mountain counties—Watauga and Ashe—had no deaths from this cause. It would be interesting to find out just why a county like Pitt, with a large population, should have only five deaths, while Durham county, with a population very slightly, if any larger, should have six times as many. Further studies are certainly indicated along this line.

Due to the wonderful research work carried on by Dr. Goldberger and others of the United States Public Health Service we now know the cause of pellagra and how it may be prevented. We know that it is a disease due to a deficiency of a certain food element which Goldberger and his associates have designated as a pellagra preventive substance. The absence of this element in the food is also responsible for blacktongue in dogs. This discovery has enabled research workers to conduct much more careful experimental work. It has been found that this element is most abundant in lean meat, liver and salmon. Dried yeast is exceedingly rich in this substance. The protein of milk carries a fair amount of it. A small quantity is also found in eggs, tomatoes, cow peas, whole wheat flour, rutabagas, and a little in butter. The amount is very small, or absent, in corn meal, white flour, fat meats, sweets and sweet potatoes. Many other foods have not been given careful, complete tests to determine just how much of this substance they contain. Further research is certainly needed along this line and I sincerely trust that the United States Public Health Service will continue the very careful investigation which it has been making along this line.

Knowing the cause of pellagra, its prevalence in certain areas and among certain groups of people, what can we do about it? The answer to this question is more difficult, as it involves many changes in economic conditions and dietetic habits of a large class of our people who are most difficult to reach. It would seem, however, that with proper coordination of our work much could be accomplished for the reduction of the prevalence of this horrible disease. As pellagra is so closely associated with our general meat and protein supply and eating habits, it would seem that any campaign for its eradication should be carried on by the State Health Department, medical profession, the State Department of Agriculture, through its agents, and our public schools, through the home economics

teachers. Through these various agencies the following measures, a part of which have already been started and partly completed, should be carried on:

First, a continued investigation by the United States Public Health Service of the research work which it has been doing into the etiology, prevalence and the pellagra preventive action of our foods.

Second, investigation by our State Health Department into the reasons why pellagra is more prevalent in certain counties and parts of the State than in others. It should also head a campaign through the medical profession, the local health authorities, the State Department of Agriculture, the home economics teachers and others for the education of the public in this State as the means for the prevention of pellagra. A campaign of this kind, based upon our present knowledge of etiology and cause of pellagra must take certain trends:

(a) More lean meat, fish, liver, milk, and other animal foods in the diet of our people, especially among the laboring class and our farmers. Every means to stimulate the production of milk, livestock, and chickens on the farms should be used. More diversified farming in certain areas of the State would seem to be one of the things which should be encouraged.

(b) As many of our deaths from pellagra are among people over 50 years of age, it is especially important that all older people should be given regular annual examinations by physicians and their diets properly supervised.

(c) As it is well known that there is a tendency to relapse in cases of pellagra, due to the fact that they soon return to their diets which caused the first attack, all cases of this disease should be reported to Health Departments for follow-up instructions from nurses and dietetic workers in the home. Most of the cases are among people who will not return to the physician unless urged by some one to do so. These cases should all be followed up during the winter when they are most apt to return to their old diets.

(d) A careful watch should be kept on our school children during the late spring and summer months so as to discover any children showing symptoms of the disease so that these families may be gotten under the care of a physician before the disease has progressed too far for a cure.

(e) The public should be educated in every way possible to see a physician upon the least indication of pellagra. Many of our cases go on for years before going to a physician when if taken early the disease could very easily have been cured.

Pellagra is a preventable and a curable disease. It behooves us all to do all possible to eradicate it.

I desire to acknowledge the kind assistance rendered by Dr. F. M. Register, our State Registrar of Vital Statistics, in supplying a part of

Health organizations have long since recognized the value of the public health nurse in performing this major item of service and have therefore allotted the proper proportion of available funds of the health budget to the nursing service unit of the Dealth Department. It is not my purpose or intention to discuss the advisability or the inadvisability of the arrangement of the nursing program with respect to whether or not the nursing personnel should operate on the specialized or district plan for this is a matter to be determined by the health officer. I shall discuss, however, that portion of the nursing program which has to do with the problems of maternity and infancy work and some of the methods which I have adopted in promoting the service and obtaining the best end results.

The place of the Maternity and Infancy Nurse in the public health program, or probably I should say the place of the Public Health Nurse in maternity and infancy work is one which is not by any means easily filled. Her objective is a definite one with respect to the reduction of infant mortality, contact with the expectant mother and supervision of the practicing midwife. To accomplish these objectives the nurse must necessarily adopt a demeanor which will make her visit to the home a welcome one, her contact with the family physician a pleasant one, and her relations with the midwife command respect. To do these things requires patience and forethought. To fail to do them to a reasonable degree of perfection means confusion, dissatisfaction and ultimate failure in accomplishing the desired results.

The nurse's contact with the mother on the initial visit to the home should be planned with extreme care. First impressions many times are lasting impressions and it is therefore imperative that the nurse should exercise due care and judgment in beginning her attempt to rearrange the home routine with respect to the proper care of the infant. Many young mothers have learned the fundamental principles of infant hygiene from grandmothers and aunts who were presumed to be well versed in the use of asafetida, mole's feet and breast milk in the eyes of the newborn. These superstitious practices cannot be overcome in a day but on the other hand require patience and perseverance on the part of the nurse. Nefarious practices with respect to diet, depriving the infant of nature's own sunshine and fresh air, and failure on the part of parents to consult a physician when in need of such services, require considerable diplomatic dealing on the part of the nurse handling the case. These conditions can be and are being remedied every day in our State where a nursing service properly designed is in effect. Now, on the other hand, we meet with the young mother who is not illiterate but who, by reason of her lack of experience in infant care, and lack of the proper instruction and training on the part of her forbears, needs instruction and advice. Yes, of course, she has consulted the family physician frequently and is doing her best to follow his instruction, but she needs assistance. The nurse, has, in a case of this type, a golden opportunity to render a distinct service by showing her the way and thereby making motherhood a pleasure for her instead

of a burden and a thing to be feared. Nurses who have followed the maternity and infancy nursing program for long periods of time recognize the home conference service as the one important item not to overlook, for in this branch of the work the seeds are sown which are to be reaped in end results. Where baby clinics are conducted, it is through the home conference visit that the nurse is able to select her cases to visit the clinic centers in keeping with the fixed policies of the department in which she is employed. Through the home conference service she is able to assist the physician in seeing that his orders are effectively put into practice. Where a physician is in attendance and the case is scheduled for clinic service she is afforded the opportunity of following up the case to the end that the clinic physician has not labored in vain. And last but by no means least she can in many instances render a specific service to the prenatal case by making certain observations for the physician and reporting at periodic intervals the results of the laboratory examination of urine specimens.

It has been found in most communities that the practice of midwifery is tolerated and that a considerable per cent of the births, both white and colored, are attended by this type of practitioner. It has come to my attention in many instances that babies delivered by midwives are not frequently seen by a physician with the exception of where a critical illness is in evidence. In view of this fact clinic centers perform a humanitarian service because a means is provided whereby the nurse may have these babies observed at periodic intervals and a routine program of infant care established on the part of the mother which will increase the baby's chance of escaping the many pitfalls of infancy. The mere establishment of the clinic centers is only a beginning of the nurse's part in the success of the undertaking. She must necessarily know of the prospective clinic cases in the community adjacent to the center. She must see to it that mother and baby are present at the appointed time. She must be in position to follow the pre-clinic routine without loss of time in order that the clinic physician may conduct his examinations without undue delay. The record files should be at the designated place, the examining room should be equipped with scales, table and the necessary number of chairs. Waiting room for mothers and babies should be provided separate from the examining room if possible to do so as most physicians prefer this arrangement. These matters are purely incidental to a successful clinic center and are merely mentioned for the sake of showing the nurses part in the actual operation of this branch of the service. The real part the nurse is to play with these cases usually comes in connection with the home conference service, for it matters not how much instruction the mother has been given at the clinic center in regard to the proper care of the infant and the regulation of its diet, if this instruction is not put into effect little or no good will be accomplished. It is therefore imperative that the nurse should follow up the clinic service and for a while at least make periodic visits to the home.

Case finding is usually not a problem with the nurse for in most instances the Health Department in which she is employed has in effect an effective system of birth registration whereby the new cases may be obtained daily. The problem then resolves itself into one of conforming with the policies of the Department with respect to visits and return visits and clinic appointments. The nurse has an opportunity in connection with this part of the program to make inquiry in the communities where she visits as to whether or not prenatal cases exist or whether families have recently moved in from other counties with new babies whose births have been registered elsewhere. The finding of the prenatal cases is of course quite a bit more difficult than the infant case. This information is best obtained by working out a cooperative agreement with physicians and midwives whereby same will be reported in order that the nurse may make certain observations in the interest of the physician and to supervise those who expect to be attended by a midwife.

The midwife problem in most communities is one which is deserving of considerable attention both from the standpoint of the health officer and the field service nurses. This practice is and should be governed by drastic but not unreasonable legislation. The nurse must necessarily be acquainted with the legislation which governs this type of practitioner, for it is she who is usually expected to keep in touch with the individual midwife in the proper handling of her cases.

At this point I think something should be said about the training of the midwife and the nurse's part in this procedure. In my work as a maternity and infancy nurse I have found it highly desirable at periodic intervals to bring the midwives together for a definite course of instruction. The type of instruction which seems to be of the greatest value is that which is given to the midwife by demonstration rather than by lecture. The use of the doll manikin is frequently used with excellent results by way of demonstrating the procedure incident to delivery. The demonstration is made effective by the nurse first going through the routine procedure and then in turn requiring each individual midwife to perform the same routine under the scrutiny of the nurse in charge. The entire routine procedure of delivery and immediate care of the infant after birth may be easily demonstrated by the use of the manikin and done in such a manner as to make a lasting impression on the student midwife. Where the practice of midwifery is well regulated it appears feasible and advisable for each midwife to have in her possession uniform equipment and kept in the proper manner for instant use when called on a case. A bag of sufficient size constructed of heavy material, the opening of which is closed with a draw string, is practical and serviceable for carrying all equipment and supplies. Such a bag can be made for a very small cost and answers the purpose for which it is intended unusually well. The contents of the bag should consist of the following: 1. Hand brush to scrub hands. 2. Knife or pointed stick to clean nails. 3. Soap. 4. Good pair of scissors. 5. Lysol or bichloride of mercury. 6. Boric acid.

7. Several ampoules of silver nitrate. 8. Tape to tie cord. 9. Clean boiled dress and apron. 10. Six ounces castor oil. 11. Package of salts. 12. Six ounces of cascara.

In the course of instruction the nurse should be amply satisfied that the applicant for a license to practice midwifery not only has the required equipment and has sufficient knowledge and intelligence to use it properly but she should be aqually as well satisfied that the midwife has ample knowledge of the following: 1. When to refuse a case. 2. What medicinal preparations can she give, if any. 3. When she shall send for a physician during pregnancy. 4. When shall she send for a physician during labor. 5. When to send for the physician after labor. 6. When to send for the physician for the infant. Finally, when the nurse is satisfied that the applicant midwife has attained the required knowledge, she should be recommended to the health officer for a probationery permit to practice and after due time the regulation midwife license to be issued.

In the maternity and infancy program the nurse should not in any instance overlook the opportunity for the correction of defects and to encourage the giving of prophylactic treatment in the infant and preschool child. Nurses with more territory assigned than can be effectively covered quite often are prone to overlook this important item of service because of the major problems with which they are constantly confronted. This important item of service should be allotted a place in the program and given as much attention as time will permit. It is indeed unfortunate that up to the present time not as much nursing time has been allotted to the child between birth and six years as is given to the grammar school child. However it is pleasing to note the change which is rapidly taking place in most health organizations with respect to the nursing and preschool clinic service which is gaining ground and growing more popular year by year.

In conclusion I would like to emphasize one more point which is an effective weapon against ignorance, indifference and false propaganda. A limited amount of literature from authoritative sources is desirable to replace almanacs, patient medicine pamphlets and quack medical books. The average mother will be inclined to read something concerning the care of her offspring, so why not place in her hands a publication which teaches in a non-technical manner the fundamental principles of infant care? By so doing she may enlighten herself at spare moments and thereby assist the nurse in developing intelligent motherhood.

DISCUSSION

DR. GEORGE COLLINS, (State Board of Health, Raleigh): This paper, I think lends itself very nicely to a discussion of a specialized versus a generalized program of nursing service. That is an old, old question, it is true; but it is one, I think, that can be very appropriately discussed in any meeting of this kind. The paper that has just been read I happen to know represents a department in which they have a very adequate and very

admirable specialized system of nursing service—the program in force in Durham County under Dr. Epperson. I should like at this time to bring out a very adequate program but one which is generalized rather than specialized, and I shall take the liberty of calling on Dr. Hege at this time to bring out this point in the program.

DR J. ROY HEGE, (Winston-Salem): Two years ago we adopted this generalized plan, after having tried the specialized plan for two years. I suppose the reason we did it was that we had quite a bunch of nurses in proportion to our population; we had seven nurses with somewhere about 40,000 people. In the county of Forsyth we have somewhere in the neighborhood of 900 births annually—somewhat over 100 or 125 births per nurse. The county is divided into districts. Each nurse has her district and does all of the various activities in that district. So she supervises the prenatal and infant care of the 125 children in her district. I think she can do that better in a rural community than any one nurse could look after the whole number in the county. She not only has the 125 infants, but she has about 500 pre-school children and about the same number of school children. The number of school children, perhaps, runs higher than that; we have about 6,000 or 6,500 school children in the county, which gives us in the neighborhood of 1,000 school children per nurse. This maternity and infancy work it seems to me is about half of the public health work. I am sure any nurse could put in half of her time in any community in doing maternity and infancy work perhaps to greater advantage than in doing school work; you are just doing the work before the child goes to school instead of waiting until that time. I think if we go on and do more maternity and infancy work and more pre-school work we shall require less school work.

The midwife control is interesting. We got really ambitious about that and put our midwives under a course of instruction and supervision. The board of health passed a regulation that no midwife should deliver a primipara. That went along right nicely until we had a widower who married a girl, and she had a baby. The man had not paid his previous doctor bill, and we could not get a doctor, and the health officer had to go out there and deliver her. So it was a hardship along that line.

In Forsyth County I am quite sure that the generalized plan of nursing is better than we could possibly have if we specialized. In fact, we thought that when we changed it, and we have never regretted it.

DR. A. J. CROWELL, (President State Board of Health, Charlotte): I should like to comment on this paper. I think the suggested outline in the paper as regards the work of the public health nurse is very fine. There is just one thing mentioned as regards the examination of urine and finding of albumin in the urine. Miss Cox did not (or at least I did not hear her) recommend that if the urine continues to contain albumin the patients be advised to call in a physician to look after the patient. Certainly she should let her know the importance of having the services of a physician in the delivery.

Another thing; Miss Cox spoke of demonstrating to these midwives manipulations on the manikin in teaching them how to take care of these cases of labor. Of course, there are some midwives who are capable of manipulating, but I believe it is a rather dangerous thing to advise them to do any manipulation at all. If the labor is prolonged I think that she should leave off the manipulation and call in a physician to take charge of the case.

Dr. J. Symington, (Carthage): I would go a step further. I think every midwife should be advised wherever possible to call in a physician. My brother is rather a specialist in this, and he maintains that there should be two physicians at every birth, besides a trained nurse. If the labor cases are going to be left to midwives we are not going to have great success in this line, so I think in every case possible the midwife should be advised to send for a physician.

Miss Cox, closing the discussion: Referring to the point of teaching the midwives, in our instruction it is always the nursing side that we take up, with a maternity and infancy nurse in charge. The nurse is careful in instructing the midwife what not to do and to be sure to call in a physician in any case of prolonged labor, headache, and things of that sort. The main idea is showing them how to prepare the patient as to cleanliness. They do not even know how to wash their hands and clean their nails and fix the patient properly. Most of their work is among their own class —the colored people. The main part is in finding that mother in our home visits and teaching her never to trust herself to a midwife. If the husband is present I always make it a point to talk to him and show him that he throws away enough in nine months to pay the doctor. Many times I have gone back and found that the husband has called a doctor. We try to teach the people never to trust themselves to these ignorant old negro midwives. There are some white midwives, of course, but in our county most of them are colored. What we try to teach the midwives is to clean their hands and prepare the patient, have a clean bed, etc., and it is in that teaching that we use the doll manikin.

DIPHTHERIA IMMUNIZATION

By C. A. Shore, M.D.
Director State Laboratory of Hygiene, Raleigh

No one doubts now the efficacy of immunization by toxin-antitoxin and other measures. Of course, no physician promises absolute immunity, but the people have gained the impression that it will confer absolute immunity, and if a child does unfortunately come down with diphtheria they are apt to blame the physician.

In all our discussions of immunization we come back to Dr. Park, and it is necessary to mention his name. A greater number of children have been injected in New York City under his direction than at any other point; he has kept very careful statistics; and he has had greater experi-

ence in the injection than anyone else. It was in his laboratory that the practice was introduced of injecting horses with small initial doses of antitoxin; it was found that they would produce much larger amounts of antitoxin than if started on the toxin alone. I think it was a German who first actually used it—Von Behre; but, as I have already stated, it has been used to a larger extent by Dr. Park than anyone else.

Questions are often asked as to the theoretical nature of the immunity which is produced by the antitoxin. The question is asked why such an artificial injection produces an immunity whereas an attack of diphtheria itself does not; at least, we all used to be taught that. I think, however, it is a mistaken presumption. We all know by experience and by the use of the Schick test that the percentage of immunity to diphtheria increases with age. In infants and young children it is almost one hundred per cent, and from that time it increases up to a certain age and in adult life we have almost 100 per cent immunity. I believe those persons who are immune have been infected with the diphtheria bacillus, either by an actual attack of the disease or by the presence of diphtheria bacilli in the throat not sufficient to produce the disease.

There are several preparations of diphtheria antitoxin used for the artificial immunization of persons. The one chiefly used in the United States, and so far as I know, altogether used in North Carolina is the toxin-antitoxin mixture. As at present prepared, there is present only a very small amount of free toxin. But there are other preparations in other countries. In France almost exclusively they use the anatoxin; that is, a toxin which has been detoxified by a moderate amount of heat and by the addition of formalin. In England they use a toxin which has been only partially detoxified by a lower degree of heat and by a small amount of formalin. It is called a toxoid. In the state of Minnesota and some other parts of this country a toxin is used which has been detoxified by the use of castor oil, as advocated by Dr. Larsen. Dr. Ramona attacks the antitoxin on two grounds; first, that it is a very difficult preparation, and, again, that accidents are likely to occur. Dr. Park tells me that he has prepared both and he sees not the slightest difference in the difficulty of preparation and that, like other biological preparations, an accident or an error is likely to be fatal but that there is no more difficulty in the preparation of anatoxin than in the preparation of the toxin-antitoxin. The other objection is that the continued use of toxin-antitoxin is likely to cause and will cause sensitization on the part of the person immunized. It would seem that this is very improbable, on account of the small amount of horse serum used in the preparation. It seems quite unlikely, also, because diphtheria antitoxin has been used in desensitizing persons subject to horse asthma. It may occur, however, but I know of no fatal results. Dr. Park says he has never known this to occur, but he is beginning to use a preparation of toxin-antitoxin made by preparing the antitoxin from the blood of goats instead of from the blood of horses. I had a letter from him a day or two ago, and he said if he definitely makes this

change it will be a change from expectancy only and not from any real danger. In our laboratory we have had some of the antitoxin made from the blood of goats and have distributed some of it. We have not made wide announcement because we do not know that we shall be able to supply it. We have advised some of the health officers but have not had a single special request for it. Whether it will be expedient to make a change I do not know. It has been claimed that the goat antitoxin does cause a larger local reaction; I do not know; enough statistics have not been collected to be of any value. But if it is advisable to use goat serum instead of horse serum it will be easy to make the change.

In an article in the Journal of the American Medical Association several months ago a case was reported in which the patient had received several previous doses of toxin-antitoxin, and the author assumed that the fatal result was due to the use of toxin-antitoxin. The use of horse serum in diphtheria antitoxin and tetanus antitoxin has now become so widespread that it is difficult to find a person who has not had an injection at some time during his or her life, and the tendency is to make such a person slightly more subject to reaction. I believe it is true that no fatal results have followed immunization with toxin-antitoxin. All the fatal cases have been following an initial dose in those persons subject to horse asthma and who were sensitized against the horse.

We know that three injections of one c.c. each of toxin-antitoxin will immunize something like 75 to 90 per cent, and we also know that five injections will immunize about 95 per cent. The question as to the number of doses is one which I can not settle; the health officer must settle the question as to the number of doses which he shall give. If he is prepared to make the Schick test about three months after the third injection, possibly that is the best method. But I do think that the parents should be carefully told that no absolute immunity is promised even by five doses and certainly not by three.

The preparation of the Schick test outfit involves such a minute quantity of toxin that it is very difficult to make. I believe that some of the men who make it at our laboratory have evolved a very excellent way of measuring this toxin, and our method has been copied in a number of laboratories. The National Canadian Laboratory sent a man down here to learn the method of measuring. I think you can be absolutely sure that that small amount of toxin which is sent out does contain the proper quantity of toxin. The difficulty is of getting it all into solution. There are other methods of preparing it; it can be prepared in a capillary tube; but they are all open to some slight objection.

In New York City they have recently evolved another test; that is, the estimation of susceptibility by observation of the reaction to the initial dose of toxin-antitoxin. I have had no experience, but I believe it is given inside the arm just above the elbow. At the sixth or seventh day it is observed. It is given subcutaneously, just beneath the skin, I understand being careful not to get into the deeper tissues. It is observed on the sixth

or seventh day, and if there is no reaction Dr. Park and his associates feel safe in assuming that the patient is already immunized. This method of testing can not be used for retesting a patient after the three injections have been given; I think the only method for testing immunity at that time is by the use of the Schick test.

DISCUSSION

DR. A. C. BULLA, (Raleigh): When I was asked to discuss this paper I consented to do it because I knew at the time that when Dr. Shore was through there would be nothing else to be said, and I think that still holds true. However, I should like to say a few things about diphtheria immunization, the Schick test, and what we are doing to control diphtheria.

The other day I saw a report from the Detroit Health Department, 1928. It had recently checked 159,802 children under eleven years of age who had been given the toxin-antitoxin six months or more. Out of that number there had occurred 154 cases of diphtheria. This gave a rate of .96 per 1,000 population. It also checked 121,453 children of the same age group who had never had toxin-antitoxin and found that 1,183 cases of diphtheria had developed among that number of children, or a rate of 9.73. I think this is sufficient evidence that toxin-antitoxin is still good and that there is no doubt that it does render children immune.

In 1925, Dr. Kellog from one of the western states condemned the use of the Schick test for the following reasons: (1) protein sensitiveness (2) deterioration of material (3) poor technique and (4) interpretation of reaction. I will admit that these reasons are good ones, but on the other hand there are reasons just as good if not better why we should give the Schick test. To abandon it, I think, would be a step backwards. We are giving it and are going to continue to give it.

We are giving toxin-antitoxin to all children from eight months to six years of age without the Schick test. We also recommend that three to five doses be given to children under six years of age; after six years of age we recommend three doses. I suggest that the Schick test be used in children above this age.

I should like to defend Dr. Shore's Schick test material. We probably have felt that his material at times has not measured up to our expectations. That was my impression once, but I have found I was at fault and not Dr. Shore. You know these bottles have a rather large stopper and the quantity in the bottle is rather small. If you are not careful in removing that stopper, you are going to take all your toxin out, and when you put in the normal salt solution you are putting it into an empty bottle; there is no toxin in there to make the mixture, and you simply inject normal salt solution. I found when I was more careful in making my mixtures I got the number of positives that I would expect. So I think the fault is ours and not Dr. Shore's.

The other day I saw a report from Dr. Selwyn D. Collins of the United States Public Health Service who gave these most interesting

figures in regard to the maximum incidence of case age rate for communicable diseases: Diphtheria 3, measles 3½, whooping cough 4, chicken pox 4, and scarlet fever 5. The maximum death rate at specific ages for certain diseases are: Diphtheria 2 to 3, measles 1 to 2, whooping cough under 1, scarlet fever between 2 and 3. He admits there is a second rise in case rates about the age of 6, but that the greatest number of cases occur at the ages given and that the greatest number of deaths occur at the ages given. It is also interesting to note that about 88 per cent of children have measles before the age of 12, and about 90 per cent at the age of 22; whooping cough 75 per cent at the age of 12, and 77 per cent at the age of 22; chicken pox 50 per cent at the age of 12, and 52 per cent at the age of 22; scarlet fever 10 per cent at the age of 12; and 11½ per cent at the age of 22; diphtheria 8½ per cent at the age of 12, and 10 per cent at the age of 22. I do not think that the figures for diphtheria will hold true in North Carolina, neither will those for scarlet fever. We have more diphtheria in North Carolina than we have recognized.

Dr. F. R. Harris, (Henderson): I should like to ask one question of Dr. Shore. If the injection of toxin-antitoxin does not produce total immunity, does it lessen the severity of the attack?

Dr. J. H. Hamilton, (Wilmington): I am sure all of us have heard before today and I am sure we have heard today that it is important to give toxin-antitoxin to children under five years of age. I know I have heard that statement a great number of times, but a great many of us need to be told the same thing a great number of times before we realize it. I happened to hear a paper by Dr. Hayne, State Health Officer of South Carolina, in which he analyzed one hundred deaths from diphtheria in the state of South Carolina. In that paper he conveyed the very definite idea that about 85 per cent of all deaths from diphtheria are in children under five years of age. It brought the thought to my mind that we should direct more and more of our attention towards immunizing the child under five years of age.

Dr. Shore, closing the discussion: I have no statistics on the question asked by Dr. Harris, and I have not seen any published discussion of it, but I think it would be reasonable to expect that it could have a modifying effect provided an attack of diphtheria does occur. In other words, you could give partial immunization, not enough to entirely prevent the disease but enough to modify it. I think we ought always to remember that immunization is always a relative term; it is probable we never absolutely immunize anyone. We might think we do so, but probably in those cases an overpowering dose of bacteria would still produce the disease. That is certainly true in most diseases.

President Hudson announced that the privileges of the floor would be extended to the visitors present, Dr. John T. Burrus, former president of the State Medical Society; Dr. Wilburt C. Davison, Dean Duke University Medical School; Dr. Hart, of Duke University; Dr. W. F. Walker, of the American Public Health Association, and others.

WHAT CAN OUTSIDE AGENCIES DO IN COOPERATING WITH HEALTH DEPARTMENTS?

By R. L. CARLTON, M.D., Winston-Salem

In the beginning allow me to say the speaker did not select this subject. Before I am through I suspect you will agree with that statement.

If this subject had been "What should be the relations between voluntary and official health agencies?" the discussion might have been clearer from the onset—but since the very broad question as to what "outside agencies" can do in cooperating with health departments is asked there is a field of almost unlimited possibilities.

Outside agencies is interpreted to include all private or voluntary health organizations, any other organizations which might directly or indirectly have any influence on the health situation, any person or parent or any group of persons interested or who ought to be interested in health and any other official agency not having directly to do with health but which nevertheless is interested and has an indirect influence—such, for example, as departments of agriculture, home economics, schools, etc. "Health Department" is understood to refer solely to the official governmental agency.

Personal Health is not entirely an indiyidual matter. There must be group action on the part of the citizens of the community or the health of individuals will suffer in spite of unusual personal care.

The individual, for instance, cannot control the quality of the milk supplied to him. The community as a whole must prescribe and enforce laws requiring the sanitary production and handling of milk or the individual consumer is helpless and must take what is available.

The individual cannot personally control the quality of the water supplied to him. He may think he can and may provide his own well or spring but even then he does not have a water supply of unquestioned purity.

Usually he must accept the water that comes from the faucet. So it is community action as a whole that safeguards the public water supply.

The individual cannot personally control the action of his neighbors who are ill with communicable disease. Again, community action is necessary to enforce protection. The control of the individual's environment is a governmental function.

Because of these and other obligations which a community owes to its individual members governmental health activities have been inaugurated.

It will be remembered that health departments were first organized to suppress epidemics; and as knowledge of disease became more definite their efforts were directed to the prevention of other diseases which were not communicable.

As public health work adyanced the old-time epidemic disappeared—typhoid fever is a vanishing disease; yellow fever is almost extinct;

malaria and hookworm are being controlled; so are smallpox, diphtheria, rabies and other diseases. It will be remembered that in the fight against communicable diseases official health departments employ means which cannot be used by other agencies as, for example, police power. It is therefore no longer a source of wonder that health departments have been provided, that their activities have been increased and extended from time to time, that as medical science has advanced new methods for fighting disease and promoting health have developed and it is found that not only have epidemics largely disappeared, but that general death rates have been reduced, progress has been made in prolonging life and in reducing a number of specific death rates. Better economic conditions, better medical treatment, the entrance of many new agencies into the health field, have, along with health departments shared in this great work.

All this does not mean, however, that health departments wherever established have developed into a state of perfection nor that every needy community is well on the way of providing such an organization. There are yet many places where organized official health work is badly needed; there are still other communities where health departments are not as energetic as they should be; and many departments that do not have the equipment they sorely need. Many outside or unofficial agencies have come to the aid of such health departments.

Public health in the 20th century is characterized by the development of unofficial agencies to combat specific diseases or to promote personal health. In many instances these agencies have been of great assistance by stirring public sentiment to demand new and better standards of health. This has been done while working closely with the official health agencies —by hearty cooperation with them. Almost invariably the voluntary agency has conceived its function to be one of *investigation*, the *inauguration* of a new activity, the *demonstration* of its usefulness, *transferring* the activity to the health department or discontinuing it.

For example, let us consider *tuberculosis work* since this is one of the best known of the outside agencies. No community is having too much anti-tuberculosis work carried on in it, and with this disease occupying so high a place among the principal causes of death every health department readily welcomes additional activities which tend toward the prevention of the disease. A *survey* to determine how many cases of tuberculosis are in the community is undertaken. This *investigation* is made with the knowledge and assistance of the health department. Every health officer is familiar with the method of making such studies. A worker consults various records and visits hospitals and physicians and possibly many homes in the community—the result usually being that there are found to be far more cases of tuberculosis in the community than is suspected by doctors or health officer. Perhaps it is then suggested by the tuberculosis organization that the health department establish a clinic, or dispensary, or that a special hospital be provided for tuberculosis, or that one or more field nurses be provided to do tuberculosis work. Whichever

of these activities is agreed upon is recommended to the local board of health or appropriating body for that city or county usually to be told that there are no available funds and the activity cannot be provided. Then perhaps the tuberculosis organization establishes a clinic for the diagnosis of tuberculosis and the supervision of tuberculous persons, the details of its organization and conduct being worked out with the knowledge and advice of the health officer and is maintained for several years.

In one North Carolina city just that kind of program has been going on. A clinic was established; a nurse who did only tuberculosis work was provided; an extension of health work with babies through baby health stations was made possible; a specially trained health teacher in the schools was provided; a campaign of education regarding tuberculosis was carried on through newspapers, bulletins and leaflets mailed and distributed, by posters in schools and industrial plants, by talks to civic clubs, women's clubs, church societies and others, by a wide distribution of tuberculosis Christmas seals and by other means. All these activities were first made possible by the voluntary agency whose every effort was dovetailed with the program of the health department. The result has been viz: the health department has taken over the clinic; all the baby health station work has been transferred to the official department; the school authorities have been convinced of the wisdom of good health teaching and now all teachers are teaching health regularly without special supervision; two nurses are still employed by the volunteer agency and one of these will no doubt be transferred to the health department during this year; the educational end of this particular piece of work was sufficiently effective to cause the citizens of that community to vote a bond issue of one quarter of a million dollars for a tuberculosis hospital which is now being constructed. The activities carried on and the results accomplished, in the city mentioned, by the cooperative efforts of outside agency and health department have been repeated many times over throughout this country.

Here is the point of value, I think: Health departments cannot get proper support until public opinion is educated and this is where the volunteer organization, the "outside agency" if you will, comes in. Such an organization can make possible the carrying on of certain demonstrations of work; and when those demonstrations have been made so clearly that all the world can see public opinion will be educated to the point where it will give health departments the necessary support.

In this matter of education it may be suggested that health departments should take the lead in educating their communities. This contention is worthy and we hasten to remind that this has always been one of their most important duties. A powerful influence has been wielded by health departments through bulletins, posters, lectures, newspaper articles and other means; and it may be remarked in passing that sometimes these local efforts may accomplish more than more elaborate material from a distant source. Still, there are extremely few health departments with

sufficient funds in their budgets for publicity and education to allow adequate programs to be carried on—therefore we must turn to outside agencies for help.

In the health department which the speaker represents we draw very freely upon the literature of several large insurance companies, several of the national volunteer health agencies, a number of industrial companies, the great foundations and other sources. The educational resources of these great agencies are largely ours for the asking—health departments would be derelict in their duty did they not use these helps.

There are still other means of strengthening health departments than the demonstration and establishment of new activities and the proper education of public opinion. May I enumerate some of them?

An outside agency interested in child welfare may come into the community and, with the knowledge and consent of the health officer, carry on a *birth registration campaign,* thereby assisting health departments in improving their human bookkeeping. We all admit that this is of prime importance for how are we to know why babies are lost unless we know how many are lost as a starting point in baby welfare work.

The study, report and distribution of *infant mortality statistics* as made by one of the child health organizations is a national challenge to every health department for better work. It is obvious that studies of this kind could be made only by some central, outside agency.

One volunteer organization has paid some attention to the *midwife situation* which has, from time immemorial, been a bugbear of contention, especially in southern communities. It has been studied and surveyed with the result that programs of control and supervision have been worked out and are actually in use, accomplishing splendid results in more than one North Carolina county.

One of the national volunteer organizations has helped to discover whereby *health education* can be made a part of general education and to stimulate public appreciation and understanding of health education. It has done this by *research* and *demonstration,* by *scholarships* to encourage specialized training, by promoting facilities to train teachers in health education, by advisory service and publications.

Just a word about *additional training for health workers* and teachers. An important means of assisting and cooperating with health departments is in the provision of scholarships for health officers and for teachers of health. This has been done for a number of health workers in North Carolina with the unquestioned result that interest in health education has been increased, administrative procedures of health departments have been improved and the positions of official agencies as leaders in health movements have been strengthened.

Outside agencies have helped to inaugurate several community *Child Health Demonstrations* which had for their object the awakening of communities to their responsibility toward the health of children and to work out effective, practical programs.

Perhaps these demonstrations have not been in your community nor in mine but nevertheless our health departments have been benefited by them because we have had free access to a knowledge of their methods used and results achieved. If we have not profited by the use of this material the fault is with our own department, not with the voluntary agency.

The "Survey of 86 Cities," conducted by a voluntary agency has been of valuable assistance in that out of it has grown the appraisal form which serves to score and grade in comparable terms public health activities.

A voluntary agency is now inquiring into health teaching and health results in the schools of the country. This *School Health Study* has for its object to find out: By what visible aspects can health in children be determined? To what extent is health related to certain school health activities? How can schools measure the progress of health work? What kind of school activities give results in healthy children? This study has been going on for some 2 or 3 years. Hundreds of children in many schools in different sections of the country have been tested by experts. Health activities, health instruction, home and community conditions are being studied and general school curricula are being sampled and measured. This study is trying to discover whether some of the things the schools are doing are worth doing. To find out how education can be made healthy and how health can be made educational is the aim of this study. When the relationship between what is done in the school to promote health and what results from it is revealed it will lead to the reconstruction of school health programs on a much more efficient basis. Which one of our official health agencies or departments of health could hope to undertake such a study? Yet what department is there which will hesitate to make use of the results of such a survey and thereby benefit both department and community?

May I mention *May Day?* With the nation-wide publicity for child health carried on by the American Child Health Association in cooperation with official agencies health is made contagious in the minds of children and public opinion is stimulated and encouraged to provide a year round health program. No health department can afford to ignore the splendid opportunity that has been opened up by this voluntary organization to inaugurate a worthwhile health movement on May Day, capitalizing the health publicity thus secured to the good and lasting advantage of the community. The value of the May Day program which is purely a cooperative one cannot be questioned.

May I mention in this connection a bit of cooperation between the health department and two daily newspapers in my city? On May Day for two years—this year will make three—these papers have issued a special child health magazine section. All the material in this section is health material supplied by the local health department. Besides regular editions several thousand copies of the magazine section are given the

department for distribution. No cost is attached. This is an opportunity not to be overlooked of placing in the hands of many parents health educational material.

The speaker wishes just here to pay tribute to the newspapers of his city for another bit of assistance which they have been rendering the babies of the community through the health department. These papers have for a number of years freely allowed the use of their columns for health educational material, being particularly interested in all matters pertaining to babies, and they have in addition annually conducted a campaign for the raising of funds to provide milk and ice for needy babies and children. The need for such a fund was discovered through work of the baby health stations. The sum raised each year has grown from a few hundred to more than two thousand dollars last year. This is turned over to the health department with no restrictions to be distributed by nurses and baby health stations. Such work is greatly appreciated and often can only be carried on successfully by an outside agency working with the health department.

There are many other outside agencies which can be of decided and lasting help to health departments if their interest be properly enlisted. The length of this paper will not allow a discussion of such agencies but it would be too incomplete to leave off at least mention of some of them.

The *Parent-Teacher Associations* with their campaigns to send to school children 100 per cent free from remediable defects are bringing together at the best time the child, parent, teacher and doctor. Every health department can use such efforts to advantage.

The National Safety Council should have a place in every community health organization. The prevention of accidents has become a serious concern and the Council is prepared to work with schools and other agencies to develop an educational program.

No health department can hope to do the work it should do without the help of public health nurses—which brings us to think immediately of the *National Organization for Public Health Nursing,* which is always interested in promoting better public health nursing. In this connection health departments should make use not only of the public health nurses in the community but also of the services of private duty, institutional and even student nurses who are practically always willing to assist at clinics, in various surveys and in other ways share in the health program.

The Society for the Prevention of Blindness is rendering valuable service in the conservation of vision of school children. It has for distribution most interesting and valuable literature and has available expert personnel for demonstrating various procedures—especially important and appropriate of which at this time is the testing of the eyes of pre-school children.

All over the country parents and professional workers are forming themselves into groups for child study—trying to arrive at the best methods of feeding and caring for children and protecting them from

disease. Many of these groups form what is known as *Nursery Schools* the work of which is important from a health standpoint. Here for the first time it is possible to watch the continuous development of children. Activity, eating and sleeping habits are under control. The physician along with social worker and psychologist has a part in this. Wherever there are nursery schools health departments should deem it a privilege to work closely with them.

Young Men's Christian Association, the Young Women's Christian Association, the Boy Scouts of America, the Playground and Recreation Association of America and many other organizations have health programs as a part of their aims and ideals, and the services of such groups can always be enlisted in some phase of the community health program if proper contact is made.

Many *great industrial concerns* and likewise many of the *leading life insurance companies* are doing much to foster better health and better living and practically all of them are both willing and anxious to cooperate with health departments. No agency takes a more positive stand for periodic health examinations than does the health department yet life insurance companies have probably done more real work toward popularizing that activity than have official agencies. Their health literature, films, exhibits, popularization of public health service, cooperation in campaigns for clean up, street safety, recreation and child welfare are all of great value and can be freely used by any health department. Only a few days ago one of these great life insurance companies sent the department with which the speaker is connected several thousand copies of a leaflet on "colds" and a great quantity of another booklet on "Early discovery, early recovery." These will be distributed to groups of negroes during "Negro Health Week." Another instance of their cooperation is in the carrying on of special campaigns. The field staff of agents and managers have been taught to be messengers of health and stand ready at all times to assist local health departments in promoting campaigns against tuberculosis, diphtheria, typhoid, malaria, etc. They gladly distribute health department literature, they help arrange for public health meetings, they cooperate better than most groups in having their own families protected against various diseases and so on. Again, when efforts are being made to provide certain sanatoria or hospitals by bond issue or when there are proposed appropriations for health departments, etc., the insurance companies and their agents invariably lend their influence for the advancement of the health measure.

There is another group whose activities should be influenced by the health department and which in turn can be of immense assistance—reference is made to the civic clubs—Lions, Civitan, Kiwanis, Rotary, American Legion, and others. If these clubs should do nothing more than permit the health officer to come before them occasionally with a message pertaining to some phase of health it would be worth while for their membership is made up of the outstanding citizens of the community and

their activities can be used to splendid advantage. But if there is real leadership in the health department the civic clubs will do more than merely listen to a health talk. If a clinic for crippled children is needed the Kiwanians provide it; if there are underprivileged boys who need guidance the Rotarians will look after them; if the clubs are shown the need for a tuberculosis hospital they all get behind it and the hospital is provided; if an extra boost is needed for the milk fund or for the sale of tuberculosis Christmas seals or for support of some health activity of the Community Chest, first sell the idea to the civic clubs and success is practically assured. In efforts to educate public sentiment to the proper support of health programs in the community health departments cannot afford to ignore the value of the civic clubs and their cooperation.

So, the conclusion is reached that several agencies—social, civic, industrial and health whether official or voluntary have an influence on the general health and welfare of the community. We also arrive at the conclusion that a health department needs the help of all these agencies and that if the department is lucky and has the right leadership it will get their cooperation. There are many ways in which this assistance may be manifested—and whether as surveys, demonstrations, research, assistance in various campaigns, education of the citizenship or what not the various activities should be properly directed and coördinated—remembering that after all the aim of all true health departments is to render service and the great majority of misunderstandings in this world are not misunderstandings at all, but simply a lack of understanding which is very different.

DISCUSSION

DR. E. E. FORD, (New Bern): In the presence of all these distinguished gentlemen whom the president has mentioned, representing organizations that cooperate in public health work, I have very little to say.

Our public health work depends entirely upon outside agencies. The first thing they do is to give us the money. Then if those who give us the money would leave us alone for a while and watch the results that would give us a better chance to show what public health work can do. Outside organizations are the ones that influence boards of county commissioners and boards of aldermen to appropriate the money.

Dr. Carlton only partially covered the question. If he had had more time he could have gone further and further. What I should like to see is a dictionary or perhaps an encyclopedia listing all those organizations that want to assist and are shouting for a chance to assist in the public health work. With a list of all of those and a list of the personnel and what they can do, each one of us could pick out the individual program and adapt it to his individual work. One difficulty is that there are so many organizations that we do not know how to use them. Some of those not mentioned will give us for the asking or send us large quantities of stuff without asking; the makers of Klim and all the various baby foods,

of mercurochrome, even getting down to cigarettes, will send us large quantities of stuff to use in public health work.

As to our local organizations, parent-teacher associations, women's clubs, Kiwanis clubs, Rotary clubs, etc., how can we use these and adapt them to our own program? And, of course, the newspapers. What we want to do is to use them, but we do not want to get them in and have them start running the work so it goes at an angle we can not control but get them in and steer the work so that it will assist the local program. Every organization—the Shrine, the Kiwanis club, the Elks—has its leaders, its men who are interested, its men who actually do something. Any work that is done is always done, of course, in the name of the organization, but you will find that of the men appointed on committees it is always one or two that do the actual work. They do not always want the publicity, of course, but if you have any piece of work you want to do locally the thing to do is to pick out one or two men and the rest will follow. The work will be done in the name of the organization; perhaps the man appointed at the head of the committee may get some glory; but one or two on the back seats will be doing the whole thing. The thing you want to do is to find the man who is interested and help him steer the thing. Then whoever gets the glory makes no difference; the work is done. There are so many of these organizations working all over the United States that it is difficult to pick, and sometimes it is difficult to avoid.

Dr. W. F. Walker, (American Public Health Association, New York City): Being one of the outsiders, I feel that I can talk to this question in a way that Dr. Carlton possibly had a little hesitancy in doing. The American Public Health Association is very much interested in supporting and promoting the activities of the official health agencies over the country. We have for the last several years been working very closely with a number of national lay organizations which are not primarily interested in public health in trying to develop their interest and their technic of work so that it will fit in with the local health officer's program. It is our conception, and we are trying to write this into the program of all these organizations, that the leadership ought to be in the health department. That leadership can be discussed later. The three items we try to put in are (1) study of health conditions in the local community; (2) preparation of a program to meet those conditions, which has been well thought out with the official local agency and probably the state department of health; and (3) that the general direction of it shall be, at least under cover, in the hands of the health officer. This matter of who takes the glory is an important consideration, and it wants to be approached rather subtly; but the health officer, as a rule, does not care about the glory so long as he gets the job done, and that is as it should be.

Two organizations are interested in this work all over this country. They are the General Federation of Women's Clubs, which for the last three years has had a very definite and concrete program, and, secondly, chambers of commerce, under the leadership of the Chamber of Commerce

of the United States, which is undertaking now a health program which you will find of immense value to you. It is to be guided in part by the American Public Health Association and will have these three elements: First, study of conditions; second, formation of a definite program; and, third, leadership under the official agency.

DR. CHAS. O'H. LAUGHINGHOUSE, (State Health Officer, Raleigh): Under this particular heading it gives me a great deal of pleasure to announce something which is probably familiar to all of you, but lest it be not familiar to everybody I want to state that the North Carolina Federation of Women's Clubs got the first prize in 1928 for doing the best health study in the United States as done by a state federation of women's clubs. The prize, as awarded them, was the privilege of a survey of some county, decided upon by themselves, in the state of North Carolina; and Dr. Walker was given the responsibility of making that survey. The survey itself, to my mind, is a most superb thing; and I am undertaking to get from Dr. Walker a sufficient number of copies of this survey to put it in the hands of every county health department in the state for its careful study and analysis.

But the real thing that prompted me to say something about the work of the women's clubs was to make a motion that the North Carolina Public Health Association express its thanks to the North Carolina Federation of Women's Clubs for the splendid work they did last year and for acquiring a prize which is considered about the most coveted prize which any federation of women's clubs can acquire.

This motion was seconded and was carried unanimously. President Hudson requested the Secretary to write to the Secretary of the North Carolina Federation of Women's Club to express the appreciation of the North Carolina Public Health Association and to advise the Federation of this vote of thanks.

THE NEWER TRENDS OF HEALTH EDUCATION IN THE PUBLIC SCHOOLS

By REBA F. HARRIS

Associate Professor of Hygiene, N. C. C. W., Greensboro

The medical profession discovered some ten or more years ago that the parents, the schools, the communities, and even members of its own profession were neglecting the health of the nation's children. Through medical examinations of the school children a startling discovery was made that many remediable physical defects were retarding the growth and mental development of thousands of these children. A challenge was sounded far and wide to solve the problem of giving the child greater opportunities to make his way in life unhampered by physical health defects. In answer to this call, public health nurses, physicians, and health

organizations seemed to spring into existence as if by magic; and with the spirit of all pioneers, they fought through bitter obstinancy, ignorance and disbelief.

In the beginning the major emphasis in the solution of this stupendous problem was the finding and removing of the remediable physical defects, but the work had not progressed very far until the workers with a vision began to see that this was not sufficient unto itself; that in addition the child must be taught to form desirable health habits which might aid in the prevention of certain health defects and build up the body's resistance to disease. So the practice of simple health rules was made into a game and there appeared that delightful device of the Modern Health Crusade with its attendant songs, rhymes, stories, plays and posters and an avalanche of pins, buttons, medals, and blue ribbons as incentives or rewards for healthful living. Children were paraded on the streets and at county, State and local fairs, carrying health posters and slogans. Parents and the community were invited to health plays and clowns and jesters were added to the role of entertainers to make health teaching attractive. All methods used were of a spectacular nature—they had to be in order to disturb the complacency of children, parents, school communities, and even members of the medical profession who had been neglecting this phase of daily living we call health.

In the midst of these many games and devices to make health habits attractive to children, the public health nurses, the health officers and the health organizations discovered the part of the class room teacher and the school administrators in directing the health training of children. "The classroom teacher holds the key to the situation, and the training of children in the ways of healthful living is the responsibility of the public schools" was echoed throughout the nation. Into the normal schools, colleges and universities went the fearless health workers to ask that the new teachers be given training in methods of teaching health to children. So the health games, the rhymes, the stories and the jingles were added to the equipment of the new teacher as well as the teacher already in service.

SOME OF THE OUTSTANDING RESULTS

Now that a decade has passed public health workers should stop and survey their handiwork. To what significant results may we point, and what are some of the outcomes?

Without quoting exact statistical figures we may point to a great increase in the number of public health nurses, public health officials, other health workers, county health units, voluntary health organizations and a growing interest on the part of the practicing physician and the medical profession as a whole. This great expansion in personnel and the changed attitude of the physicians have been due largely to the development of activities centered around the health of the school age child, although within this time much of the public health work has been extended to the pre-school child and to adult health. Within this period of

development millions of school children have been examined, and many thousands of remediable physical defects corrected. It is doubtful if one could find a very large number of the nation's school population who are not familiar with the tongue-depressor, the stethiscope, the eye charts and the scales. Today in almost every school there are health posters, results of health contests, and many other evidences of children's practicing the health rules.

Courses in Health Education have been added in the normal schools, colleges and universities for the training of the prospective teacher and the teacher in service. While we can not say that these courses are meeting the present needs and that all teachers are receiving the training, we may, nevertheless, point to growth in this phase of the work.

Perhaps one of the most significant results of the school health program —together with all other phases of public health work, is the changed attitude of the parents and the communities in regard to the health needs of the school child. In the beginning public health nurses spent much time in an effort to persuade the mothers to bring their children to the clinics or to have the discovered physical defects corrected. Now we can enumerate communities where the parents are demanding that the health officials establish clinical services, and where more parents are taking their children to the physician upon the receipt of the first notice from the health officer of any physical defects. Today through the nation-wide program of the Summer Round-up, sponsored by the parent-teacher organizations, "getting the child ready for school" means more than buying books and pencils and making new clothes. In addition it means, is the child physically fit to enter school? Throughout the nation we find scores of health examinations and the correction of physical defects of the pre-school child as well as the school age group. Many homes have accepted the health teachings of the schools, and as a result many home practices are now conforming to better and more healthful ways of living.

Another basic result of this school health program which was started by the public health workers, is, that the schools are fast accepting the responsibility for the health instruction of its pupils, for today almost every school system has some form of health teaching. The State Departments of Education are adding State Supervisors of Health and Physical Education and are enacting laws requiring the teaching of these subjects in all schools. At present there are 21 states having such supervisors, eleven of which are Southern states. Every State has some health education law, or requirement for health education in its State Course of Study. It is interesting to note that at least three-fourths of these early state courses of study were written or planned by the public health workers. City and county systems also are adding supervisors of health education.

It should be of particular interest to the public health workers of North Carolina to know that our own state educational system has made recently a very forward step in accepting the responsibility for health education in the public schools. In January of this year the Department

of Supervision of the State Department of Education called together all of the county supervisors of schools in a series of three meetings in different parts of the State to discuss ways and means of promoting the growth and development of the rural school child. These conferences covered three main points—the present program of health education in the schools of each county represented; the evaluation of the instructional phase of this program in terms of sound educational practices; and steps for future plans of procedure. The most significant outcome of these meetings was that the supervisors and the State's Department of Education agreed to place special emphasis on the health of the school child for the next five years in an effort to make a state-wide study and analysis of existing conditions and needs, and to evolve methods for effective health teaching as an integral part of the public school system.

SOME OF THE NEWER TRENDS IN SCHOOL HEALTH EDUCATION

Now that the educators are fast accepting the responsibility for the health training of its children it should be of interest to all public health workers to know just how these educators are coping with this very important phase of education. Are they continuing to use the old spectacular methods started by the health workers or are they finding new ways for inculcating health habits, impressing health knowledge, and building desirable health attitudes?

In most school systems the work is largely in a transition period but we may point to at least two outstanding trends toward which the program is developing. The stories, songs, rhymes, dramatic and health crusades are gradually fading away as relics of the past, for it has been found that while these devices have served a very valuable purpose, they no longer fit into the more progressive scheme of education. Second: health education procedures are being adapted to the newer and progressive methods of education. It is the aim of this type of education that a healthy child shall be a by-product or an outcome of education; that the ways of healthful living shall be gained through educational practices.

That we may more clearly understand some of the newer trends of health education let us enumerate a few of the basic practices of progressive education:

1. Progressive education is focusing its attention on the child—not text books, grades and subject matter as such. We are now speaking of the "child centered school."

2. Progressive education is not so concerned with what a child must do to be normal, but is striving to find out what he can do comfortably and well with his native ability and the environment in which he is found.

3. Progressive education is considering the child as a unit, with mental, emotional, social and physical life inter-related—not just mental training as was once thought to be the function of the school.

4. Progressive education is gaining the knowledge through its study of children that a child unfolds and develops in all of his capacities

according to basic scientific laws—that there are specific stages in this process of unfolding just as in the growth of plants and trees; that this unfolding is influenced—either retarded or promoted—by the environmental forces and factors which surround him. In the light of this knowledge, progressive education is providing opportunities, and utilizing natural situations in which the child's capacites may best unfold. He is given more freedom to develop naturally.

5. Progressive education is concerned with the scientific study of pupil development—what are the contributing causes for the lack of best unfolding? What factors are causing the child's mental, emotional, social and physical retardation? For such scientific studies a battery of tests are being used that all phases of child life may be studied. Included in this battery of tests are intelligence tests; educational tests in all subjects; tests on habits of study and work; tests on teacher-pupil relationships; motor ability tests; results of physical and medical examinations; school-home-community relationships; and teacher opinion. A combination of the finding of all these tests make for a more complete analysis of study of the needs of the individual child.

6. Progressive education is then adapting its program to the individual needs of the child as revealed by the complete analysis made. It is providing opportunities and utilizing situations for big unit teaching. Interest is the motive of all work.

7. Progressive education has a closer unity and understanding with the home and the community to meet the needs of child life. Parents and the community are visiting and taking an interest in the school, and teachers are visiting in the homes and taking an active part in the community life as never before.

It can not be said that one will find all of these practices in any one school, nor that all of the newer phases of education have been stated, but certainly the practices given are some of the trends in the most progressive schools of today. In view of these methods and practices of education one can see the path of health education as it takes its rightful place in the broader educational scheme. Through this program the school is not content to find the physical defects and train the child in the formation of physical health habits. In addition to this it is building desirable health attitudes, and impressing scientific health knowledge. It is developing the mental, emotional and social health of the child as well as the physical. That all phases of healthful living may function not only in child life, but through adult life the school is providing opportunities for the practice of healthful living throughout all natural situations of the school day and is making an effort to extend these practices into the home and the community. The school environment is being improved, and the necessary equipment added.

THE PLACE OF PUBLIC HEALTH WORKERS IN THIS NEWER SCHOOL HEALTH PROGRAM

With a knowledge of the basic educational principles and the trends of the school health program as it is being developed by the educators all public health workers who come in contact with the public schools should stop to ask the questions, "What is the place of the public health nurse, the public health officials and the health organizations in this newer scheme of health education?" "While all schools have not yet reached the goals set, nor accepted fully the responsibility for the health training of the child, shall the old methods used in the early beginning be continued?" A satisfactory answer to fit all situations can not be given to these questions. Certainly there is still a very vital part in this program for all trained public health workers. While the educators are making a conscious effort to solve the problem which you have been able to make them see, they do not wish to assume the duties for which your training and experience especially fit you, and for which they have not been trained. Having been connected for several years with the field of public health, and later with the education system, may the speaker point out or suggest the part which members of the public health profession may best take in the newer school health education program:

1. Public health officials and nurses should remain advisers to the teachers and school administrators in matters of child health. To do this effectively, and to meet the needs of the schools there should be a better understanding of the basic methods and practices of education. The public schools of today are rapidly changing to meet the demands of the developing world.

2. Public health physicians and nurses should remain the technical experts in medical examination and diagnosis. While the teacher may, with proper training, find the gross visible defects, she can not take the place of the trained physician and nurse. The teacher should, however, be able to interpret the findings from the medical records; for this she needs special training.

3. Public health physicians and nurses should make more accurate diagnosis and keep better records of the examinations if the teacher is to use the findings in her scientific study of the child and his needs. In order to make more accurate diagnosis there must be more time devoted to the examinations and to the compilation of readable records.

4. Public health representatives must provide opportunities for the corrections of the defects discovered. We have had too many examinations and not enough corrections. Too often the goal seems to be great numbers of examinations to include in the monthly report or newspaper publicity. The speaker does not wish to infer that public health departments should actually make the corrections, but that they are in the position to work more closely with the practicing physicians and the home, and should

devise opportunities which are economically and educationally sound for all parties concerned.

5. When working with the children in the school public health workers should make their methods of work educationally sound and more scientifically accurate. In as far as possible your program should be adjusted to that of the school. The class room teacher should be given a medal for her patience in allowing her program of school work to be interrupted at any and all times by the public health workers. Now that the teacher is working more and more with scientific tests it often means that a whole day's work—or perhaps a year's work—is ruined by having an interruption in the midst of this testing program. The so-called "health talks" given by nurses or health officers to the children in the classroom are too often a waste of time for all concerned. Perhaps the teacher has already given the children this information in a very much more natural situation and on an age-grade-level of the child. Such information which public health workers wish to convey to the children should, in most cases, be given to the teacher who in turn would interpret it to the child in a language which he understands.

6. Public health representatives should know more about the basic laws of child growth and development, that they may see the child not only physically, but also mentally, emotionally, and socially.

7. And finally, although not last in importance, the public health representatives should be the vital connecting link between the school and the home and between the home and the practicing physician.

The school health program in its newer trends seems to throw out a challenge to all public health workers. Here is a work which was born of your wisdom—your vision, your desire for greater service to humanity through the little child. A work which has stirred the whole world—and work in which there is much yet to be done—will you grow with it that you may continue to serve as its counselor and adviser?

DISCUSSION

DR. L. B. MCBRAYER, (Managing Director, North Carolina Tuberculosis Association, Southern Pines): Sometimes it is just as important to know when not to talk as to know when to talk; and I think at this time we shall probably be better off if we just think over what this intelligent, highly up-to-date educator has brought us, so I shall ask you to excuse me; and I shall have something to say this afternoon.

HOW TO SELL PUBLIC HEALTH

By DR. L. JACK SMITH, Health Officer, Wilson

To the slogan, "Public Health is Purchasable," may be added another slogan, "Public Health is Salable." The burden of this paper, therefore, will be to show WHY and HOW to sell public health.

St. Elmo Lewis, a nationally known advertising expert, is author of the following statement: "It is a fallacy that the public knows what it wants. It has to be taught its desires and needs, except the most elementary ones." If this be true, and I think it is, then it is our job to create the right desires and point out the needs of our people in matters of health. To prove that we must be diligent in the matter of creating desires and showing needs, again listen to the same author: "It is a fallacy that the public will demand over any great length of time what it is not constantly reminded of." Again we quote from this author: "It is a fallacy that the public will automatically reward enterprise and service. The public must be TOLD and SOLD before it will extend rewards." To say then if we as health workers "deliver the goods and the idea of good health is sold" is true only in part. We must do something more.

We would not minimize the value of work well done because it is the foundation on which we build for future success of our public health program. To illustrate, if we protect by vaccination our community against smallpox or typhoid fever we are given due credit by the people for this effective service, but it does not necessarily follow that this community will keep up this protection in the future unless we again stimulate their desires and needs, but it does make it easier to sell public health in the future in this community. Neither are they going to ask for or accept the benefits that science offers for the protection of health. We would venture the assertion that not over fifty per cent of the scientific knowledge available today is being used for the protection of health. Why? Because we have not yet "told and sold" the idea to the public as a whole. We need, therefore, to extend more of the benefits of disease prevention to as nearly all the people as possible. This will not be done in one year—no, not even in ten years, and I doubt if we ever reach one hundred per cent perfection. It is a matter of education of the public mind, and education is a slow process at best with no idea of ever learning all there is to know. After eleven years of continuous experience in public health service in Wilson county and city I am persuaded that this job of selling public health has no end and must be continually hammered into the minds of the public if we expect to gain any headway.

The head of the Welfare Division of one of the largest insurance companies in America stated in one of their recent publications in connection with their public health program, "We have found that teaching health shows tangible results." He further states, "It is very gratifying for us to realize that the expectation of life among industrial policyholders has increased nearly ten years, as compared with an increase of a little over six years in the general population." This and other insurance companies are leading the way, so let us follow in their footsteps.

Now that we have discussed some of the reasons WHY, let us turn our attention to answering that other eternal question, HOW?

Certain general principles of salesmanship should govern as in the sale of any other commodity. The salesman himself must lead a clean,

honorable and industrious life. He must be SOLD and thoroughly imbued with the idea himself. Anything short of these personal traits invites failure before beginning. Know your goods thoroughly, so that you may be prepared to answer any intelligent inquiry. Never make extravagant claims, but be strictly honest with yourself and the public. To tell parents that three or four doses of toxin antitoxin will absolutely in every case protect their children against diphtheria is not honest and will eventually react against you and the whole program of public health, not only in your community, but also in adjoining communities.

Many avenues are open for the dissemination of the gospel of good health and all of them should be used at the opportune time.

First, we must sell public health to our official boards—County Commissioners, Town Commissioners, and County Board of Health. Concise and intelligent monthly reports of all activities of the health department should be made, read and explained by the health officer. All moneys received and expended should be itemized and thoroughly understood by each member of the boards so that nothing will be left to the imagination. This will avoid future criticism and create confidence in your work. All new features of your program should be submitted to, discussed and approved by the Board of Health before submitting it to the people as a whole. Care should be taken by the Health Officer never to advocate or recommend untried features in a health program. The adverse reaction to such programs often causes a loss of confidence in the tried features of our program.

Newspaper publicity is today considered by nearly all large businesses as the strong arm of the selling agency. It is true also in selling health. Newspapers mould public opinion as no other agency. We need favorable public opinion. Well prepared articles on timely subjects bring good results. This method of publicity has a distinct advantage over the prepared pamphlets by our State Department of Health and insurance companies, in that the information given is usually of special interest to the public at the time of publication. The bulletin form of publicity, however, has a very distinct place in our public health educational program. In the preparation of this material great care has been used to avoid exaggerated or untrue statements. It is couched in the very simplest words, so that the message might be understood by the average mind. In addition it is well illustrated, making an appeal to the eye.

The health moving pictures add greatly to our salesmanship powers. Visual education is especially beneficial in teaching children. Let us not lose sight of the fact that action, sound and colors make an impression that the printed page cannot convey. The commercial world recognizes this principle in the manufacture of toys for children. The public demand for rich colors is reflected in the dress of both men and women, and in the beautiful colors displayed in the modern automobile. A bright, highly colored health poster carries the message of health much more effectively than the drab, dull poster in black and white.

Set speeches from the public platform are becoming less effective each year, but a timely talk on a timely subject when delivered in a snappy and attractive manner is still one of our most useful methods of getting a message across to the public. It is far better to be too brief than to be tedious.

A health message incorporated in a good story and told by an artist to a selected group of children is one of the most effective means of getting across a definite health message to children of pre-school age and of the elementary schools.

I have been struck with the advantages and effectiveness of personal conferences in matters pertaining to health. The intimate personal contact may be used to great advantage by the health officer and nurse in the quiet office and the home. For instance, the kindly word spoken to the school child about cleaning his teeth, etc., as he is being examined by the health officer. His contact with boy scouts has unlimited possibilities for teaching in the most effective way. The Scouts are tremendously interested in winning merit badges, and in order to receive these awards they must have a knowledge of "Public Health," "Personal Health," and "First Aid." The nurse's visits in the home as a means of teaching health, stands second to none. The opportunity for intimate personal contact with the mother and children of the home creates a wholesome relationship which leads to appreciated service and lasting lessons in all matters of health. Again the nurse has and will continue to wield a great influence in the better education of our young girls who are to be the mothers of the future generation, in teaching the course in "Home Hygiene and Care of the Sick." These little things carry great weight and the good done will not stop with the individual, but may cause him to go out and teach the same things to others in like manner as he has been taught.

Then there is the opportunity to teach and preach by radio broadcasting. This method is not very personal and intimate, but it does have the advantage of reaching thousands of hearers over wide areas at the same time, on subjects of immediate interest to the public. This method of selling health is part of our program here tonight, and we trust that the people of North Carolina will "tune in," listen and benefit by the excellent messages to be delivered. The radio being the latest invention for teaching, selling and spreading news, I am ending my little message of selling public health up-to-date.

DISCUSSION

DR. E. R. HARDIN, (Lumberton): Dr. Smith has given us a practical and comprehensive paper on selling health to the public. As he has pointed out, the health salesman must live health, think health, and talk health. He must practice what he preaches, in order to win the confidence of the public. The indifference and apathy of the public are often exasperating, but the health salesman must not show his annoyance. Nor can he say, "I have shown you the way; take it or leave it." The health salesman must

honorable and industrious life. He must be SOLD and thoroughly imbued with the idea himself. Anything short of these personal traits invites failure before beginning. Know your goods thoroughly, so that you may be prepared to answer any intelligent inquiry. Never make extravagant claims, but be strictly honest with yourself and the public. To tell parents that three or four doses of toxin antitoxin will absolutely in every case protect their children against diphtheria is not honest and will eventually react against you and the whole program of public health, not only in your community, but also in adjoining communities.

Many avenues are open for the dissemination of the gospel of good health and all of them should be used at the opportune time.

First, we must sell public health to our official boards—County Commissioners, Town Commissioners, and County Board of Health. Concise and intelligent monthly reports of all activities of the health department should be made, read and explained by the health officer. All moneys received and expended should be itemized and thoroughly understood by each member of the boards so that nothing will be left to the imagination. This will avoid future criticism and create confidence in your work. All new features of your program should be submitted to, discussed and approved by the Board of Health before submitting it to the people as a whole. Care should be taken by the Health Officer never to advocate or recommend untried features in a health program. The adverse reaction to such programs often causes a loss of confidence in the tried features of our program.

Newspaper publicity is today considered by nearly all large businesses as the strong arm of the selling agency. It is true also in selling health. Newspapers mould public opinion as no other agency. We need favorable public opinion. Well prepared articles on timely subjects bring good results. This method of publicity has a distinct advantage over the prepared pamphlets by our State Department of Health and insurance companies, in that the information given is usually of special interest to the public at the time of publication. The bulletin form of publicity, however, has a very distinct place in our public health educational program. In the preparation of this material great care has been used to avoid exaggerated or untrue statements. It is couched in the very simplest words, so that the message might be understood by the average mind. In addition it is well illustrated, making an appeal to the eye.

The health moving pictures add greatly to our salesmanship powers. Visual education is especially beneficial in teaching children. Let us not lose sight of the fact that action, sound and colors make an impression that the printed page cannot convey. The commercial world recognizes this principle in the manufacture of toys for children. The public demand for rich colors is reflected in the dress of both men and women, and in the beautiful colors displayed in the modern automobile. A bright, highly colored health poster carries the message of health much more effectively

Set speeches from the public platform are becoming less effective each year, but a timely talk on a timely subject when delivered in a snappy and attractive manner is still one of our most useful methods of getting a message across to the public. It is far better to be too brief than to be tedious.

A health message incorporated in a good story and told by an artist to a selected group of children is one of the most effective means of getting across a definite health message to children of pre-school age and of the elementary schools.

I have been struck with the advantages and effectiveness of personal conferences in matters pertaining to health. The intimate personal contact may be used to great advantage by the health officer and nurse in the quiet office and the home. For instance, the kindly word spoken to the school child about cleaning his teeth, etc., as he is being examined by the health officer. His contact with boy scouts has unlimited possibilities for teaching in the most effective way. The Scouts are tremendously interested in winning merit badges, and in order to receive these awards they must have a knowledge of "Public Health," "Personal Health," and "First Aid." The nurse's visits in the home as a means of teaching health, stands second to none. The opportunity for intimate personal contact with the mother and children of the home creates a wholesome relationship which leads to appreciated service and lasting lessons in all matters of health. Again the nurse has and will continue to wield a great influence in the better education of our young girls who are to be the mothers of the future generation, in teaching the course in "Home Hygiene and Care of the Sick." These little things carry great weight and the good done will not stop with the individual, but may cause him to go out and teach the same things to others in like manner as he has been taught.

Then there is the opportunity to teach and preach by radio broadcasting. This method is not very personal and intimate, but it does have the advantage of reaching thousands of hearers over wide areas at the same time, on subjects of immediate interest to the public. This method of selling health is part of our program here tonight, and we trust that the people of North Carolina will "tune in," listen and benefit by the excellent messages to be delivered. The radio being the latest invention for teaching, selling and spreading news, I am ending my little message of selling public health up-to-date.

DISCUSSION

DR. E. R. HARDIN, (Lumberton): Dr. Smith has given us a practical and comprehensive paper on selling health to the public. As he has pointed out, the health salesman must live health, think health, and talk health. He must practice what he preaches, in order to win the confidence of the public. The indifference and apathy of the public are often exasperating, but the health salesman must not show his annoyance. Nor can he say, "I have shown ou the wa · take it or leave it." The health salesman must

be enthusiastic but must not let his enthusiasm lead him astray, so that those who come after him will have difficulty in keeping up with him. Reason alone is not effective, and enlistment in the campaign for better health must come through other ways. Most people would rather be a sick millionaire than a healthy clerk, and we must show them that the sick clerk will not become a millionaire and that health is not an end in itself but that it is a means of attaining happiness and comfort.

Newspaper publicity is one of our greatest selling forces. Health publicity should be practical and should meet the requirements of a newspaper expert. Most of us unfortunately have not the time and training for this sort of work. My own experience is that writing something to be released for publication is the hardest sort of work.

If we are to sell public health we must use all available methods; that is, use everything that the voluntary agencies and other organizations have to offer us. Personaly, I find a mimeograph machine to be indispensable. The various letters and articles run on a mimeograph machine may be illustrated with appropriate drawings.

I believe that one of the greatest factors in selling health in most of our counties has been the work in the schools. Probably in no other way does the health officer make so many important contacts. It is said that 85 per cent of our knowledge comes to us through the eye. Health is a subject that lends itself to thinking in pictures; therefore the health salesman should use every opportunity to present this subject by the use of pictures, particularly moving pictures.

The health salesman has the opportunity to talk to groups of people from all walks of life. He should use these opportunities to present briefly and forcefully some message in regard to the local work.

We should realize that, while health is salable, selling it is a gradual and slow process; and we should never lose heart. We should learn a lesson from the experience of the Church, which has been telling men for centuries about the Ten Commandments, which nevertheless are broken daily.

HEALTH SURVEY OF PITT COUNTY

By W. E. Futrelle, M.D., Greenville

The survey of health services in Pitt County made in November and December of 1928 was at the invitation of the North Carolina Federation of Woman's Clubs. This survey came as a prize to North Carolina from the American Federation of Woman's Clubs; the prize being offered to the state in which the greatest number of individual Woman's Clubs had undertaken during the past year some sort of health activity. This prize consisted in the services of Dr. W. F. Walker, field director on administrative practice from the American Public Health Association, and Miss Anne Whitney, acting director of Health Education from the American Child Health Association, Pitt County being the locality selected in the State for making the survey.

This survey was made in accordance with the appraisal form for rural health work as put out by the American Public Health Association. The report is very comprehensive and lengthy and I shall only give you a brief outline of it. Pitt County lies in the eastern part of North Carolina, within the coastal plain. The population at present is around 53,000. Approximately half the population is rural and half urban, and approximately half white and half colored. The population is increasing at around 1,000 each year. 44.8 per cent of the population is under 16 years of age. In North Carolina as a whole 42.5 per cent is under 16 and in the United States as a whole 33.4 per cent.

The total assessed valuation of property in the county in 1928 amounted to $44,818,701.00. The annual income is estimated at $14,000,000.00.

There are in the county 35 physicians, 9 dentists, one hospital, and a county health department.

The staff of the public health service consists of a full-time health officer, two nurses, one clerk-stenographer, one part-time sanitary inspector employed by the town of Ayden and two part-time sanitary inspectors employed by the town of Greenville. A considerable part of the health officer's time is taken up with medical service for the sick at the county home and county prisoners in jail and at the convict camp. A comment in the report says that this is a service which is not at all related to public health and should in no wise be a responsibility of the county health officer.

The appropriations for public health work in the county during the present year amount to $13,350.00 of which $7,500.00 is from the county; $3,750.00 from the state; $1,500.00 from the city of Greenville, spent on part-time sanitary and milk inspection, and $600.00 from the city of Ayden for milk and meat inspection. These services in sanitation in Greenville and Ayden are not directly under the jurisdiction of the County Health Officer and are not carried in the county budget. It is recommended that all sanitary and food inspectors should be employed by the county and be under the direct supervision of the County Health Officer. The total expenditures amount to 25.2 cents per capita for the population of the county, and it is apparent that this is a very modest expenditure for this essential service.

A study of the vital statistics of the county shows that during the year 1927 there were 31.4 live births per 1,000 population. The ratio of births to deaths in 1927 was 3.2 to 1 as contrasted to 2.4 to 1 for the state. There has been some decrease in birth, some decline in death rate, together with some decline in infant mortality within the past few years. In the report of the survey recommendation was made that vital statistics be filed directly with the health department instead of with the register of deeds, as is now done. In this way vital statistics will be available to the Health Officer and used as a guide for direction of health activities.