duty. It demands of us as medical men and sanitarians to let the light of our knowledge shine and point out the way. Let us blot out the black pages of the last 2,000 years and take up the work that the ancient Babylonians, Jews and Egyptians so nobly began. It is for sanitarians to apply sanitary science to the affairs of civilization; the masses depend on sanitarians for leaders and teachers.

We know what the epidemics of the past have cost us. We know how much we have accomplished and how far we have advanced, but we are not left without a guide. It is true we do not have a Moses to lead us, but we have more in Hurty, Bracken, Evans, Dixon and their kind, great broad-minded men, unselfish, forceful and considerate of the humane advancement of sanitary propaganda. These men have taken the initiative in health work. Now let us have the hearty cooperation of every member of the American Medical Association—every person, it matters not his walk in life, interested in the progress of civilization, in securing for every state in the United States laws relative to the sanitary control of public eating- and drinking-places. It should therefore be our earnest endeavor and duty to make hygiene and sanitary science one of the basic principles of our civilization.

401 Fourth Avenue.

THE CONTROL OF CONTAGIOUS DISEASES IN A MUNICIPALITY *

GUY L. KIEFER, M.D., D.P.H.

Health Officer

DETROIT

Accepting the word "contagious" in its broadest sense, we have a subject before us which would make a better title for a book than for a discussion of this kind, and yet I desire at the start to say that I shall use the word "contagious" as synonymous with "infectious" and "communicable," and speak of contagious diseases as those diseases which are capable of transmitting infection from one person to another in one way or another.

If I had been asked ten years ago to give my opinion as to how to control contagious diseases in a municipality, I would have said "by immunization, isolation and disinfection"; but after more than ten years in this field of work, it would seem that the answer would be even more simple, namely, "by education." It is true to-day, as it was then, that some acute contagious diseases, principally small-pox and diphtheria, are controllable by immunization, the former by vaccination, the latter by the use of diphtheria antitoxin; but in order to get good results from these methods, it is necessary to have the people of a community so educated that they will submit to them readily and whenever the health officer finds it necessary for them to do so. Immunization is undoubtedly valuable in the control of some of the other diseases, among which may be mentioned typhoid fever, but it would be difficult to make any great use of this method in any municipality at the present time because of the lack of knowledge of this procedure on the part of the community. Isolation, the second method which has been in vogue for a number of years for the control of contagious diseases, is desirable and satisfactory when it can be employed, but it is necessary first to have knowledge of a case before it can be isolated. It was because

of the fact that so many cases of acute contagious diseases, particularly diphtheria, scarlet fever, measles, German measles and others of that nature were never reported and consequently escaped the attention of the public health officials and could not be isolated, that a system now known as medical inspection of school children was first introduced.

Medical inspection of schools, as it is better known, comprises at the present time not only the detection of contagious diseases among school children but also the detection and correction of physical defects and the study of mental defects; but it was originally planned for the purpose of detecting cases which otherwise escaped the attention of the authorities.

In considering the isolation of cases of contagious diseases, the question of hospitalization comes to our mind and with it the fact that many cases of contagious diseases cannot be properly isolated in private houses. I would not take the position that all cases of all contagious diseases, including typhoid and tuberculosis, should be hospitalized, but on the other hand, I think it is absolutely necessary for the success of the preventive measure known as isolation that in each municipality there should be a properly equipped and constructed municipal hospital for contagious diseases under the control of the board of health in which such patients as cannot properly be isolated in their own homes may be cared for. By having facilities for early reception of such patients, it will be possible to reduce not only the morbidity but also the mortality from contagious diseases.

Disinfection is the one method of the three that I have mentioned that has been bitterly attacked by some progressive sanitarians, among whom may be mentioned Dr. Charles V. Chapin, of Providence, R. I. In a paper¹ read before the American Public Health Association in 1910, Dr. Chapin took the position that "terminal disinfection," or disinfection of a room or house after a case of contagious disease has been terminated, really has no value, and he showed by a series of figures that in Providence, where "terminal disinfection" had been discontinued, the results obtained with regard to additional cases arising in the houses in which there had been an original case, were almost as good without "terminal disinfection" as when it had been performed. In spite of this opinion, and the opinion of other progressive men, the fact remains that "terminal disinfection," properly done, does disinfect; in other words, that formaldehyd used in sufficient quantities for sufficient lengths of time, in a room which has been properly prepared, does destroy such infection as may be within the room. Of course the method of disinfecting for the purpose of controlling the spread of contagious diseases should not be limited to terminal house disinfection by formaldehyd or sulphur, but should consist in a disinfection during the course of the disease of everything that has been known to have become infected. All materials which have no intrinsic value and which have become infected by contact with the patient during the course of the disease should be destroyed by fire, and whenever this procedure cannot be followed, we should resort to boiling, immersing in chemical solutions, or some other method equally satisfactory.

If it were possible to apply one or more of these methods, namely, immunization, isolation and disinfection, to all of the communicable diseases within a municipality, there can be no question but that the result

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Chapin, C. V.: The Value of Terminal Disinfection, Jour. Am. Pub. Health Assn., January, 1911.

would be favorable, and the number of cases of such diseases held under control; but considering the appalling ignorance on the part of the public of these diseases and the manner in which they are spread, we have before us, as I have said earlier in my discussion, a problem of education.

EDUCATION AS TO CONTACT INFECTION

It seems to me that the public health official who hopes to accomplish much in the future in the control of contagious diseases must be the one who will best educate the public in his community in the necessity for such control. In speaking of the need of education among the general public, we must not forget that the medical profession needs some instruction. While it is true that the majority of the profession are in the front rank of our work for the prevention of disease in all of its phases, it is equally true that a good-sized minority are absolutely indifferent and many of them ignorant in this respect.

In the campaign of education which it is necessary to conduct vigorously for the control of contagious diseases, we must first correct some erroneous ideas which have existed in the minds of the public and of some physicians for years. The theory of aerial convection of contagious diseases must be eliminated from their minds, and the fact that all of these diseases are transmitted by direct or indirect contact substituted in its place. So long as the people and many of the medical profession believe that these diseases are spread broadcast through the air, just so long will it be difficult, if not impossible, for us to make much headway in our fight against their spread. Not many years ago nearly all text-books on contagious diseases took the position that while all of these diseases are certainly transmitted by contact directly or indirectly, they may also be carried through the air for a shorter or longer distance. The most modern text-books deny that any of the acute contagious diseases are carried through the air except small-pox, and for some unaccountable reason nearly every author makes an exception when it comes to a consideration of this particular disease. As far as my experience goes, I am just as convinced that small-pox is not carried through the air as I am that scarlet fever, diphtheria, measles and other acute contagious diseases are not transmitted in that way. During the winter of 1902-1903 there were 1,023 cases of small-pox in Detroit, and the outbreak began in the Polish district of the city. The cases did not spread from one house to the next as might be expected had they been transmitted through the air, but they went from one family to the family of a friend or relative who lived, in some cases, a short distance, in others a considerable distance away, but had been in contact with the infected household. In this epidemic it was possible to trace the origin of nearly all the cases, and never did we fail to find direct or indirect contact as the cause of the transmission of the disease. According to the old theory, the "striking distance" of small-pox is several thousand feet. During the past ten years we have treated nearly 1,500 cases of this disease at the municipal small-pox hospital; at one time we had 104 patients confined there, and during all of these years we have had but three cases within the reputed "striking distance" of the hospital. These cases were contracted from other cases outside of the hospital with which the patients had, to my personal knowledge, been in contact.

The building which had been occupied in 1902-1903 by this large number of patients with small-pox has since

been remodeled and is being used as a tuberculosis sanatorium and hospital, and the small-pox patients are kept in a separate building, but located on the same grounds and not more than 500 feet away. Before this complete change was made, the small-pox patients were confined in one part of the large building and the tuberculosis patients in another part with an air-space of only 3 feet separating the two; during that time, and since then, no case of small-pox has developed on the grounds outside the small-pox hospital, without reference to the vaccination status of the patients admitted to the tuberculosis sanatorium.

It is my opinion that not only the acute contagious diseases, including small-pox, are transmitted by direct and indirect contact alone, but that this applies with almost equal force to such diseases as were formerly classed as infectious, of which typhoid fever and tuberculosis are the type. It is undoubtedly true that typhoid epidemics are traceable to infected water- and milk-supplies, but we have cities in which the water-supply and also the milk-supply, as a whole, at least, are beyond suspicion and in which we have every reason to suppose that they are safe as far as typhoid infection is concerned. I believe Detroit is such a city. There may be, and occasionally there are, cases traceable to infected milk from an infected dairy, and I have traced such cases; but as a whole, as I have said, the milk-supply is not infected or we would have many more cases. How, then, is the disease transmitted? In the very interesting and thorough investigation made of the cause of the transmission of typhoid in the United States Army during the time of the late war with Spain by a committee appointed by the government, of which Dr. V. C. Vaughan of the University of Michigan was chairman, the conclusions, as I remember them, were that the disease was spread in three ways, and in the order of frequency they were (1) personal contact, (2) flies, (3) water-supply. All the latest studies of the subject in Germany lean toward the side of direct personal contact rather than the indirect one of transmission by flies and infected water if, indeed, these modes of transmission may be considered "contact," as I would have you believe. Certain it is that no one nowadays adheres to the theory of air-convection as far as typhoid fever is concerned.

With tuberculosis, the proof of "contact infection" may seem even farther away to some than is the case with typhoid, and yet the more this disease is studied, the more evident its method of transmission becomes. Not many years ago it was believed that the disease was hereditary, but bacteriology turned on the light and dispelled this erroneous theory. Now we know that consumption is spread from infected persons, principally by the "droplet method," which certainly requires close proximity on the part of the victim, or by means of particles of dried, infected sputum gaining access to the mucous membranes of the mouth and throat of the susceptible individual. But is it not reasonable to believe that, in the great majority of cases this infected material may be brought to the lips and mouth of the victim by his own fingers which have become infected in one of the many ways in which this is possible? Or if a man, perchance, carry some infected material on the bottom of his trousers or even on his shoes, and then come into close proximity with these infected articles, is not that contact infection? If consumption were so universally carried through the air as has been supposed, would there not be more cases even than there are now? Certainly not so many of us are immune to the disease.

REPORTING VENEREAL DISEASES

The first step necessary in our campaign of education, then, is to teach the public something about contact infection; and in this instruction we must not forget to lay emphasis on the fact that contact resulting in the spread of the disease may be had not only with the patient himself, but with an infected person or thing; and under this head let us not forget the danger of the ever-present house-fly. The fly that has been in contact with the patient certainly becomes an infected "thing," and one which may be the cause of our taking the disease from which the patient is suffering. As we progress in our campaign of education, it is necessary for us constantly to add to our list diseases to which formerly little attention was paid. In scientific discussions of the past, a fine distinction can always be found between contagious and infectious diseases, and yet there is one class of diseases which is certainly contagious, which is dangerous to the public health, and which is perhaps more prevalent than any one of those which have received more attention at our hands and which, until recently, has been mentioned, if at all, only in a whisper. I refer now to the venereal diseases. The time has come when the public must be taught to lay aside false modesty and prudery and must learn something of the terrible results and of the immense mortality following attacks of gonorrhea and syphilis. Here again is an example in which the method of isolation, so highly recommended, has failed utterly in the past because of the fact that the cases are not known to the public health official whose duty it is to isolate them. Each municipality should have a properly equipped hospital for the reception of the most infectious cases of this kind.

In order that cases of venereal diseases may come under control of public health officials, they should be reported just the same as other contagious diseases, but a mere suggestion even to the medical profession that venereal diseases be reported to public health officials encounters disapproval. At a recent meeting of the Michigan Health Officers Association I had occasion to talk on this subject and made the suggestion that the association endeavor to secure legislation during the next year requiring the reporting to public health officials of cases of venereal diseases. The suggestion met vigorous opposition on the ground that physicians would not report such cases and could not be asked to do so. Ten years ago the same opposition was met when it was suggested that tuberculosis be reported. It was argued that the disease was not contagious in the same sense as is, for example, small-pox, that the board of health would isolate all cases and placard the houses, that a patient should not be told when he is suffering from tuberculosis and that the public should not be told about the affliction of the patient. All of these objections have been met and overcome and tuberculosis is now being reported, at least, in most cases. In the case of venereal diseases the objections could be even more easily met. The diseases are certainly contagious, as much so as any acute contagious disease that can be mentioned. It will not be necessary to isolate all cases and placard the houses; it is certainly wise and proper to tell a patient when he is suffering from either of these diseases, and as far as the publicity of the report is concerned, that can be overcome in the same way as has been done in laws requiring the reporting of cases of tuberculosis by providing for a protection of the records and making it a violation of the law for the health officer to divulge any

of the information contained in the report except for the purpose of enforcing the tuberculosis law itself.

CONTROL OF TUBERCULOSIS

The good results attending the campaign of education for the control of contagion in a municipality are perhaps best seen in the case of tuberculosis. A few years ago this problem looked so large that it seemed impossible to know how to take hold of it; but now the work has become systematized in most cities to such an extent that it is moving along as easily as the work for the prevention of any of the other diseases. In Detroit we had no knowledge of the whereabouts of our cases of tuberculosis until about six years ago. At that time an effort was made to do something in the way of control of this disease, and the first thing necessary was to locate some of the cases. Accordingly, a nurse undertook a house-to-house canvass for the purpose of educating members of the household in the prevalence and danger of tuberculosis and in the methods of its prevention, and incidentally for the purpose of locating some cases of this disease; at the same time a clinic was established in charge of a physician and nurse in the board of health building for the purpose of examining such applicants as might apply, and to give them medical advice and, if necessary, a proper diet. It was not long before a number of cases were located, and subsequently the Municipal Sanatorium was started for the reception of the most infectious cases. Now we have nearly 400 patients under the care of the board of health physicians and nurses outside of the sanatorium, and seventy-five constantly receiving sanatorium care. In the meantime and partly as a result of the work done in Detroit, a law was passed by the state legislature providing for the reporting of all cases of tuberculosis in Michigan, and while this law is not being universally obeyed, it has had the effect of adding a great many cases of tuberculosis to the statistics of the departments of health of the state and of the various municipalities, and has given the health officials an opportunity of having general supervision over all these cases.

REDUCTION OF INFANT MORTALITY

Again, the good effect of an educational campaign conducted by the department of public health can perhaps best be seen in the work that is being done all over the country for the reduction of the excessive infant mortality. In Detroit there was a reduction in the number of deaths under 1 year of age during the four summer months, June to September, 1911, as compared with 1910. This reduction was due to a great extent at least to the instructions given by the board of health nurses to mothers on infant hygiene, to the advice and medical attention given babies and mothers in the mothers' clinic at the board of health building, and to the careful supervision of the milk-supply by the milk inspection department. The instruction referred to was given by six nurses who visited the homes when babies were born and told the mothers how to keep the babies well. During the winter months the same nurses act as school nurses in our city; during those months, when it might be expected that it would be easier to reduce the infant mortality, the reduction in 1911 over 1910 was only very slight. During the four summer months there were 139 less deaths in 1911 than in 1910 and during the remaining eight months the total reduction was only ninety. This seems to indicate that what is necessary for the promotion of this sort of public health work is

instruction, and as far as possible, instruction by word of mouth from the public teacher to the community.

What has been said about the work for the prevention of tuberculosis and for the reduction of infant mortality applies equally well to the restriction of all contagious diseases. It is necessary for a progressive department of public health to have a large corps of competent trained visiting nurses, the larger the number and the more trained, the better. Each case should be promptly reported to the board of health and, after being properly recorded, it should be investigated by a nurse. In her investigation the nurse, besides giving instruction to the family in the prevention of the particular disease, could make a note of the housing condition of the family and in this way this most important branch of public health work would receive proper attention and this predisposing cause of contagious disease — insanitary housing — would be much improved.

In closing I desire to say, as I said in the beginning, that the control of contagious diseases in a municipality must be accomplished by education, and this education can best be given to the public by trained nurses in the employ of the board of health.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DUTTON AND KIEFER

DR. PAULINE M. TOWNSEND-HANSON, Marshalltown, Iowa: To my mind, the idea of reporting, quarantining and confessing about other diseases and not reporting the social diseases has been a farce for all these years. Who that understands would not rather have small-pox than have one of the venereal diseases? Dr. Dutton suggests laws requiring the cleanliness of patrons at a restaurant before eating their meals, and that all public eating-houses shall have provision made so that the diner may wash up before eating. This we all know would add to the cost of maintaining eating establishments and add to the final cost of the meal. Thousands of the well-fed do not realize the effect of 10-cent meals. If any physician of the American Medical Association had to live on 10-cent meals three times a day for a year, that physician would be very apt to feel sick and grievous, but there are thousands of men, women and children who cannot afford ten cents three times a day for a meal. It is a great deal more insanitary to be without a meal entirely than it is to eat a dirty meal. These people who cannot afford the ten or fifteen cents to pay for their meals go to the garbage barrels to find their food, and dirt on the hands is as nothing to the dirt that is found in the food thus gathered. All the dirt on hands which is conveyed to the mouth by the handling of food in eating is as nothing to the dirt that is found in the food during its manufacture from the original products; laws that merely require cleanliness of the things that are going on the table will not touch the problem until there is supervision of food from start of manufacture to eating-time. In connection with this problem, comes the problem of poverty. In this day of speedy processes of manufacture, of increased scientific knowledge and of rapid production, it is a disgrace that we have poverty existing in America, or anywhere else in the world. It is not at all necessary; it is one of the things we have to get rid of, and it is one of the problems for this section to take up. I do not see why we could not have a committee from this section to investigate into the matter of the speediest method of doing away with poverty in America just for sanitary reasons.

DR. OTTO P. GIEER, Cincinnati: Cincinnati is building a municipal hospital which will cost over two million dollars. It was with a great deal of difficulty that a few of us were able to impress on the hospital commissioners that it was safe to place the small-pox hospital near the group of contagious disease buildings. Every speaker this afternoon has emphasized the need of education. Dr. Kiefer speaks about the public teacher. Who is properly the public teacher? Dr. Kiefer says the public teacher should be the nurse. In this crusade

of preventive medicine we are gradually narrowing the field of the physician. Most of them are cooperating with the health officer in bringing about this lessening of their field; and it is to their credit. There is a minority who cannot cooperate because with them it is a matter of bread and butter. Possibly in discussing these questions we have overlooked the economic side. Should we not make the physician a part of the program of public educational work? It is said that the average income of the physician in the country to-day is a thousand dollars a year. I would like to suggest this question to Dr. Kiefer. Do we properly value the physician in this program of education? Are we replacing the work which we are taking away from him by preventive medicine? In this campaign of education we must, in self-defense, take care of the physician if we care to have this work progress to its ideal limit. If we do so, it will first bring into line that small minority who are fighting for their bread and butter and lastly, I think, it will bring a better recognition from the public itself; because, after all, free service is never appreciated.

MR. W. A. HOWE, Albany, N. Y.: It seems to me we ought to be willing to do more for the general practitioners. They are the men who are suffering most and who will continue to suffer most from this progressive wave of preventive medicine. If we are going to conduct a campaign of education along these lines let us utilize for that purpose the family physician that he may profit rather than suffer therefrom. Let him be the teacher, as he is so well fitted to be, the cooperator, the contributor to our success. Within the last three weeks we have placed in the hands of every member of the graduating class of every medical college of the state, a package of literature bearing on public health. This contains the Public Health Law, various leaflets published by the Department on Communicable diseases and much other material instructive and useful to them as prospective practitioners. We are endeavoring to acquaint them with the various resources of the department and to urge their more liberal employment by the medical profession. We are endeavoring to cultivate a closer cooperative plan between the medical profession and our department, believing that no department of health can be stronger than that which is measured by the willingness of the medical profession in its cooperation. We believe that just in proportion as we can interest the practitioner in our work so are we going to succeed, and that just in proportion as we embarrass the practitioner or discourage him so will success with us be impossible. So thoroughly convinced are we in New York of the necessity of this line of activity that steps have already been taken to introduce into the various medical colleges a uniform course of instruction in public health. This plan has already been approved by the deans of several of our leading medical colleges, and it is my expectation that it will receive their unanimous consent within the next fortnight. Our scheme includes lectures by representatives of the State Department of Health, field instruction to the medical students by the municipal health authorities, and instruction by members of the faculty of the several medical colleges. We also hope to perfect the plan in such a manner that one lecture will be given in each of the ten medical colleges by a representative from each of the other colleges on some subject pertaining to public health. This educational movement among the medical colleges we regard as highly important, believing that by successfully conducting it, within a few years we will secure a large number of medical men trained in at least the rudiments of sanitation, far better capable of making efficient health officers and more susceptible of interest in public health questions. This is one of the lines of practical public health instruction which I believe we as health workers must encourage and promote.

DR. SENECA EGBERT, Philadelphia: The question of popular education in public health work is an old one. As a matter of fact it seems to me that we must realize that the greatest field of work is among the laity. Under force and stress of public opinion we have moved our municipal hospital in Philadelphia miles away from the center of the city. It would be much better for Philadelphia if we could have a number of sec-

tional hospitals, each serving its own neighborhood. We might easily enough have these hospitals for infectious diseases if we could get rid of that bugbear in the minds of the people that if there is small-pox or scarlet fever on the other side of the street it is going to be dangerous for people who live on this side. We know that that is largely nonsense. I believe with Dr. Kiefer that the theory of the air transmission of small-pox is largely a fallacy to-day. We owe a great deal to Dr. Chapin of Providence for what he has taught us, although we may not agree with him entirely.

When we can impress on the people the importance of vermin, the fly, the bedbug, etc., and when we can get the public to realize that contagious diseases are transmitted by such agencies or by contact and not by germs floating through the air, then I think we can get people to appreciate what they must do in order to eradicate these diseases; and we can then get to the point where we can have the hospital in the vicinity of the home. One can scarcely blame a mother to-day for objecting to send her child with measles or scarlet fever to a hospital which is possibly a day's travel distant. I am not much in favor of compelling people to do things by law which they do not understand and which they do not want to do. I think we are teaching the people in Philadelphia how to take care of their babies. For instance, Dr. Neff's reports for certain wards show a considerable saving of infant life. It is because the people have been taught, and because many of our health inspectors have been brought into contact with the people and have been able to show them that their neighbors' children were doing the damage in spreading the disease and that they themselves could help in checking it. I know that this matter of popular education will appeal to people if we can put it in the right way. A great many of our social workers are doing splendid work; but we must not forget that not every person can go out and teach health matters without preliminary training; it takes considerable training before people are able not only to teach but to get those whom they are teaching to absorb and apply what is taught.

DR. MARY DUNNING ROSE, New York: Nurses will work for \$1,000 a year or less and give their entire time. If physicians were asked to do for \$1,000 a year the district work which these nurses are doing, and devote their time to it, I think that but few would respond to the call. Again, if the number of physicians who register in the United States continues to diminish—there were more than a thousand less in 1911 than in 1910—it seems as though it will not be many years before physicians will be able to obtain more than \$1,000 a year, even though preventive medicine is pushed forward as rapidly as possible.

DR. WALTON FOREST DUTTON, Carnegie, Pa.: I do not think the scope covered by my paper was at all too broad. The suggestions relative to the sanitary control of public eating- and drinking-places are appropriate to present-day conditions. If we will stop and consider just for a moment, we fully realize the necessity for such laws as I have advocated. Since this paper was written, four cases of gonorrheal ophthalmia have come under my service. The infection was directly traceable to a towel used in common by the men and boys employed in a certain part of a mill. Another patient employed in a downtown office gave about the same history.

Some days ago while drinking at a soda fountain, I saw the same glass and spoon which had been used by a person who had a chancre at the angle of the mouth, rinsed off hurriedly, not washed, and placed on the working board. Ten minutes later I saw the same glass, and spoon, filled and handed over to a little girl about 10 years of age. In the name of Him who said "Suffer the little children to come unto me," is there no help? Must we work and wait on the education of the masses and in the meantime sacrifice the lives of thousands of men, women and children to years of loathsome disease, suffering and death?

For the sake of the innocent mother, sister or child in your own home or that of your brother who must of necessity patronize public eating- and drinking-places, assist in enacting laws which will be an honor to yourself, to your neighbor and to your country.

DR. GUY L. KIEFER, Detroit: I agree with Dr. Howe in his statement that the principal thing necessary for the success of public health and work is the cooperation of physicians, and, of course, the cooperation of the people. There is no question about that. I desire to emphasize what I have said about employing nurses as teachers. In the first place, as Dr. Rose said, you cannot get many physicians to devote all of their time to the work for \$900 a year; in the second place, the more of this educational work there is done, the more successful your public health work and the more business you make for the physicians. There are always going to be people in every community who are going to employ the physician to do the very thing that the nurse is doing through the public health department. I agree absolutely that sanitary education is better than sanitary legislation. You cannot enforce legislation unless you have the education and the public sentiment back of your laws; but the way to give the people this education is by sending a nurse to the house, because, while the physician might in many cases be more able to give knowledge, people will not listen to him as they will to the nurse. The nurse goes to the home and talks to the mother, who will not listen to the physician. If physicians go around giving this education, the physicians at large will think that the former are getting into their families, and there is the question of professional jealousy.

PROCEDURE 'IN QUARANTINE PRACTICE

DESIRABILITY OF THE RECONSIDERATION OF PRESENT METHODS, ESPECIALLY IN RELATION TO THE "MINOR" INFECTIOUS DISEASES *

J. W. KERR, M.D.

Assistant Surgeon-General, United States Public Health Service
WASHINGTON, D. C.

Quarantine has been defined as "the adoption of restrictive measures to prevent the introduction of disease from one country or locality to another." In the broader sense, therefore, it includes many measures, following the notification of disease, to prevent the transmission of the infection from the sick to the well. Among these measures may be mentioned placarding of buildings, observation and surveillance of patients and contacts, prohibition of public funerals, disinfection, etc.

In recent times, inquiries have been frequently made to determine the degree of uniformity that prevails regarding restrictive measures and their manner of enforcement by health authorities to prevent the spread of diseases such as diphtheria and scarlet fever. These inquiries disclosed the facts that while placarding, isolation, disinfection and prohibition of public burials were in general insisted on, great differences existed in the provisions governing the character and duration of isolation, because of diversity of opinion with respect to the modes of infection and the period of infectivity.

The object of this paper is not to deal with such measures as placarding, disinfection, etc., in regard to which more or less uniformity exists, but to invite attention to those provisions relating to observation and surveillance of infected and exposed persons.

REASONABLE AND UNIFORM PROCEDURES

One of the principles governing the conduct of quarantine is that it should be reasonable and based on scientific knowledge respecting the period of infectivity and modes of transmission of communicable diseases. Quarantine of places, persons and things should extend

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.