

out the County with him and visited the schools and saw his inspection of the children. A year after his first visit he inspected the schools a second time and checked up his findings with the previous record. Shortly after the second inspection I received a telegram asking me to join him in a plea to his County Board for a follow-up nurse. I was there at the time appointed, and as a basis for my plea for the nurse I went to his files and took the first records that I came to—twenty cards of children who had been inspected twice. I took these cards before the County Board and showed that the suggestions of the Health Officer as to medical attention had been followed in only two cases, and in two others Nature had corrected the defects. Upon that record of failure upon the part of their health machinery I made my plea for a follow-up nurse. I told them that they had a good team, but it was a one-horse team, while they needed a two-horse team. In the midst of my plea the Superintendent of Schools, who was a member of the Board, said to me: "I can not hear you any longer; I must go to feed my chickens." I came near losing my temper just there. I wanted to say, "We are pleading for the children, while you are thinking of chickens." I mastered my anger, however, reinforced my argument and got the promise of two thousand dollars for a nurse and a car to carry her over the county. They said they would get a runabout, but I insisted that they get a touring car so she could take the children and the mother with the children and carry them to town for medical attention if necessary. I am glad to say that they have the nurse now and that she is doing the work and meeting with universal favor.

*Dr. John J. McKenna, Philadelphia, Pa.*—I was more than pleased that the essayist gave Pennsylvania credit for its advancement in this matter of looking after the welfare of school children. I can express the views of one who has seen the method carried to almost the point of completion in my own city, and to the defects of the system. It has been more or less elementary for some time, but they are gradually getting it to the point of perfection and each year adds to the experience. We are better able now to carry the thing on in a more intelligent manner. I think the first steps were taken in regard to the vision of school children, which was certainly a very important matter. Thousands of children had their vision corrected, and of the benefits derived from this it is unnecessary to speak. We have seen it demonstrated time and again. The number of cases of adenoids and diseased tonsils have really been tremendous. The children have been examined carefully by the school physicians, who have taken the proper interest in the work—and by the way, that is a very important matter in taking up this question, the taking of interest; but we insisted on having men appointed to these positions who would conscientiously carry out the work properly. Political influence enters into these appointments frequently, and men are appointed who are not equipped for the work and the children suffer thereby. It is a matter of education, and it takes time to educate the parents to the necessity

for these measures; but once they become really acquainted with the scope of the work, they fall in with it and their assistance becomes invaluable.

The Health Board in Philadelphia has taken up particularly the question of the chest condition of the children. They are endeavoring to get open-air schools for the prevention of active tuberculosis. They select children who give evidence of tuberculous conditions, possibly incipient tuberculosis of the lungs, and are establishing these open-air schools and already showing the necessity for these places, for they are accomplishing splendid results.

*Dr. Cooper (closing).*—I would like to emphasize two points in our system. Of course, we have many features that are far from perfect, but we hope to eliminate the more objectionable as time goes on. The first thing is the freedom from political influence in the appointment of these men. The County Board of Education is required to appoint the School Inspector subject to approval by the State Board of Health and the State Department of Education, and in that way I think we have a system about as far removed from political influence as it possibly could be. In the next place, the way selected to do the "follow-up" work when nurses are employed as in some counties—we allow women's clubs and civic organizations composed of men and women to designate these nurses. Then the other feature is the personal contact between the doctor in his office and the parent out in the county. When he brings the child in for examination the medical inspectors in this way have an opportunity to see improvements that can be made and present them at a time when something can be done, because the parent is made to understand the reason for it.

## MEDICAL SUPERVISION OF EMPLOYEES IN LARGE INDUSTRIES\*

BY J. A. GENTRY, M.D.,

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In the past our laboratories have devoted nearly all of their time to perfecting and standardizing the ordinary materials used in production, and it is only in recent years that much thought has been devoted to the bigger problem, the human material. It is now realized that the success of any industry depends in large measure upon the loyalty and efficiency of its employees, and for this reason a se-

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ries of benefits have been put in operation which might be included under the general term "Welfare Work." It matters not how this work is divided or what the various departments handling it are called, its various features are so intimately connected that they can not be entirely separated, nor can any one of them be omitted.

The time allowed to this paper will not permit me to go into much detail in regard to the work of the other departments engaged in handling the human material, and I shall mention them only very briefly and pass on to the department with which we are most concerned.

First are the employment supervisors, who are concerned with the mental and manual qualifications of the applicant in regard to the work he is expected to perform. The employment supervisors should be familiar with working conditions and standards, and it is the duty of this department to provide instructors whose business it shall be to teach the new employee how to do this work safely and efficiently.

There is a Committee on Safety, whose duty it is to see that machinery, apparatus, buildings and other conditions are made safe; that accidents are analyzed in order that preventative measures and safeguards may be considered and installed and that the employees are educated and drilled along these lines in order that their cooperation may be secured.

Some organizations have a plan whereby they loan money in small sums to deserving employees in times of stress brought on by unforeseen circumstances who are unable to obtain loans through the ordinary commercial channels. Some organizations also have a plan to award employees for useful suggestions to be applied by the company in its operation. This supplies a constant stream of useful ideas along all lines of endeavor, the value of which no one can estimate.

In many ways working conditions are made pleasant by due consideration of the question of ventilation, light, lockers, laboratories; and lunch rooms, rest rooms, etc., have been provided.

Through the various employees' societies the opportunity is afforded to get to-

gether and become better acquainted with one another. Athletic activities are encouraged, so that employees will spend as much of their recreation in the open air as possible. Educational courses are conducted along domestic, literary and commercial lines, offering occasion for self-improvement and advancement.

Employees' benefit funds have been established to provide insurance against death, disability and old age. This policy has been inaugurated by industries not only in appreciation of the services rendered by their employees, but as a measure for further increasing the efficiency of their forces.

In any plan for securing a healthy and desirable class of employees and for maintaining the health and happiness of employees, it is very necessary that there be some form of medical supervision working in cooperation with the other agencies enumerated. Medical supervision begins with the examination of the applicant in order to determine if the individual is physically suited for the work he is expected to do, and to guard the present employees from injury by reason of admitting into the force the physically unsuited. A medical examination also brings to light many impaired conditions of which the applicant is oftentimes unaware and gives him a chance to secure the proper medical treatment. It is evident that any system that succeeds in bringing together the public and scientific medicine, provided the co-operation of the one examined can be secured in seeking competent medical advice, will result in the improvement of health and efficiency and in the prolongation of life.

With arrangements made to secure a reasonable standard of physical fitness in the applicant, it is still necessary, if the personnel of the force is to be efficient and happy, to provide further measures for maintaining the health of employees. In a large industry where employees are grouped together in one place, the problem of medical supervision is simplified to some extent. With its hospital and dispensary, its staff of doctors and nurses, the injured can be cared for promptly, and medical treatment supervised very closely. However, when the employees are dis-

tributed in small groups over a large territory, the problem is much more difficult. The medical director of a company having supervision over these cases is located at headquarters and has to depend in a large measure upon the reports furnished him by the local physicians, and this is sometimes at a point at great distance. In this case it is not always so easy to fix the actual period of disability, nor to determine if the employee is actually disabled and is having the proper medical attention, nor to see that worthy employees are not deprived of benefits to which they are justly entitled. As a majority of these cases are treated by the family physician, it is necessary in a large measure to depend upon the co-operation of the doctor. A few doctors, under present conditions, seem to act on the theory that their interests and those of the patient are opposed to those of the company, and where conditions of this kind exist it is difficult to accomplish the greatest good.

The importance of the supervision of the health of the employees centers chiefly in the early detection of disease, and in prompt and skillful treatment. This gives the patient a better and quicker chance for recovery, and it is also a benefit to the employer, in that the convalescence is shorter and the patient is able to return to his work at an earlier period.

When employees realize the importance of these factors, and the harm that results from neglect of what might seem to them trivial conditions and of depending too long upon home remedies before calling in a doctor, the work of medical supervision will be made very much easier. An employer can only be commended for strongly urging a condition of treatment which secures for the patient prompt and proper care.

In order that medical supervision may be effective, it is necessary that arrangements be made with physicians of high standing to make thorough examination of all employees referred to them by the company, the understanding to be that these examinations are for the purpose of diagnosis only.

Much good can be accomplished through the supervising forces, who can be readily instructed as to the observation of the

employees under their care for such symptoms as loss of weight, continued cough, impaired health, etc. When an employee appears in any way to be in failing health, he can be instructed to go to one of the designated physicians for a thorough physical examination. If the examination develops any condition requiring treatment, the physician who made the examination should refer the case, with his diagnosis, to the employee's physician for treatment at the employee's expense. It is clear that the examining physician must be in sympathy with the company's desire to improve the physical condition of its employees without taking the matter of treatment out of the hands of the employee's family physician. In this way a great deal of good will result through disclosure of many impairments in their incipency, when many of them can be treated with greater success than later, and without so much loss of time on the part of the employee.

There are many cases of neurasthenia, anemia and other indefinite troubles which are frequently symptoms of organic disease, or the result of faulty living conditions or habits. These conditions do not occur immediately, and it is proper and highly desirable that the physician representing the company satisfy himself by examination of the employee or by communicating with the employee's physician that the diagnosis given is a complete statement of the case; that the disability is such that rest and relief from work are desirable; that a definite plan to secure the needed rest and treatment will be followed. This measure is desirable to insure a thorough diagnosis so as to discover diseases in their early and curable stages.

Another very important measure in the early detection of disease and arrangements for prompt and proper treatment is the visitation of employees reported absent on account of sickness. It is quite evident that the person assigned to this work should possess certain qualifications, one of which is the ability to judge of the physical condition and needs of the employee, such as is presumably gained through training as a nurse. Many classes of people do not send for a physician when

ill unless they regard the symptoms as particularly urgent or dangerous, but depend largely on household remedies for treatment. Many a case of appendicitis has been treated as a simple stomach trouble and allowed to go on to suppuration and death, and many a case of diphtheria has progressed to an advanced stage, when prompt treatment would have saved the life. The purpose of this visit is to show the interest of the superior in the employee, to make certain that the employee has secured medical attention, and that conditions are such that proper care is possible. The usefulness of a visit of this kind is especially evident in the case of employees who are living in boarding houses. It is in this work that a trained nurse can be of great service.

At present there is a very active crusade throughout the world against tuberculosis, and the lines of public protection are being more closely drawn by health authorities in regard to the detection of this disease. It is only by taking advantage of every opportunity to examine physically every individual that this disease can be detected in its early stages.

Suppose now by the various methods of medical supervision we are able to discover tuberculosis in its early stages, and can supervise the arrested cases after they have returned to work. The great problem, and the one with which the public should be concerned, is the provision for the proper care and treatment of these cases until they are arrested or otherwise terminated. We have found that the mere payment of benefits is not sufficient, as, without guidance, such payment is not always used in a way to bring permanent benefit to the employee. The experience in a great many cases is that valuable time is lost and the benefit paid nearly exhausted before the employee can make or has made a definite plan as to the proper course to pursue in his endeavor to recover his health.

Recently I have visited the various institutions in the territory occupied by our employees, not only to ascertain the facilities in each locality for the care of tuberculosis, but in order that I might know personally the management of these institutions and be in better position to advise

our employees as to the best treatment they can secure under the circumstances. The fact is that there are very few localities where the present facilities are sufficient, and the general condition is that the existing institutions where treatment is offered at moderate cost are overcrowded and have long waiting lists.

Practical sanatoriums fully appreciate that in the future the public health must be maintained chiefly by the prevention of disease rather than by its treatment, and it is principally through the co-operation of the public, more particularly those who have under their direction large numbers of employees, that this important end is to be accomplished. The health officers in the various states would do well to avail themselves of the machinery of all large organizations, particularly those with a chief medical advisor, in campaigns conducted for the improvement of health. I am sure they will find the majority of them willing and anxious to co-operate in every way, either in the distribution of literature to its employees and their families, or by urging them to enter into "clean-up" campaigns.

#### DISCUSSION

*Dr. Martin E. Taber, Dallas, Tex.*—We have been working for a number of years, and I want to say to you that the American Bell Telephone Company is doing nothing more nor less through its medical work than that which you have been driving at. We have been wishing for a number of years that we could get the ear of some company which would apply this principle, and now we have the ear of this Company. They are listening to us. They have set us a definite, successful plan for caring for their employees, and they have done that by the sound sense we have presented to them, and they are trying to apply it. We have the same thing in the Telephone Company that we have in trying to administer lines of public health matters. No one knows better than Dr. Dowling that we have difficulty in getting employees to take advice in reference to appendicitis, ovarian abscesses and many other things, but through a campaign of education it is the purpose of the individual medical advisor, who becomes the mouthpiece of the organization, to speak to the employees respecting that which is best in the profession. It is a fine opportunity for you to do noble work, and that is to apply the results of our evolution to safeguarding the public health. Good, honest medical service is what they are trying to get, and I think the Company is offering one of the best opportunities. The Telephone Company in my section has been at the disposal of every state and county health official.

Speaking of tuberculosis, I have had considerable experience in observing the early inception of tuberculosis—and what has been accomplished? You can give them money, and they take our money and go to work down in basements, in sweat shops, while we were giving them money to get well. What we want is to know that when we give them money they will go to the right place and get a square deal in that place. We want them to get honest service, that for which Southern and Northern physicians everywhere stand; that is, the best that scientific medicine can give a sick human and give it now, not when it is too late.

*Dr. Charles L. Minor, Asheville, N. C.*—In view of the many times I have "cussed" "central" since I first had my telephone installed, I wish to pay tribute to the work that Dr. Gentry has done. I think very few of our big corporations have as helpful a policy toward their employees as this Company has. I have a chance to know something of it, and I can forgive the sins of your "centrals" in view of the very great virtues of your headquarters.

*Dr. Gentry (closing).*—I do not think there is anything I care to add to the discussion. However, I want to thank you for this opportunity for meeting with this Section of the Southern Medical Association. It is a great pleasure to know the men who are doing so much good work for the public health in the South. I am glad to meet again Dr. Brayer, Dr. Minor and Dr. Dunn and the other noted physicians who are devoting their best efforts to the study of tuberculosis, as they are doing so much to help us solve the problem of caring for these cases.

#### AUTHORS' ABSTRACTS

##### *Tropical Diseases and Public Health*

*The Soil Pollution Problem.* Victor G. Heiser. New York, N. Y. Medical Insurance and Health Conservation, Vol. XXVI, No. 2, August, 1917, p. 442.

Soil pollution, due to the deposit of body discharges on the ground or other exposed places, is an important link in transmitting pathogenic organisms from one person to another. Typhoid fever, dysentery, the diarrheas, cholera nostras, and intestinal parasitism, including hookworm infection, are directly due to this cause. Our great enemy, typhoid fever, is mainly conveyed in this way. Hookworm infection, counting more than 100,000,000 victims throughout the world, is largely due to soil pollution. In the Southern states typhoid rates are particularly high and in many areas one-third of the population has hookworm disease. Thus, soil pollution presents a sanitary problem of first importance.

Methods of sewage disposal differ widely in various parts of the world. In Europe and America the collection of night soil is responsible for large public expenditure; in the Orient it is the source of huge income. Shanghai derives from it an annual revenue of \$72,000. Having commercial value, every particle of the excrement is carefully collected and transferred with the minimum of leakage to the selling point in

the agricultural districts. On the farms, however, the night soil is used in a fresh state and causes widespread infection.

An economic solution of the soil pollution problem would be to combine the better features of the Oriental and Occidental systems: make the process of disposal a paying business proposition, but render the excrement innocuous so that it could not transmit disease. Treatment with a cheap chemical that would destroy pathogenic organisms without preventing subsequent inoculation and growth of bacteria necessary to conserve fertilizing value, might accomplish this result.

*Some Ancient Health Laws of the Jews.* Joseph H. Marcus, Atlantic City, N. J. Medical Record, Vol. 92, No. 12, September 22, 1917, p. 503.

Preservation of physical well-being was a religious command in Judaism. "To live through them but not die through them" was the principle applied to the Biblical laws, and the neglect of one's health was sinful. There was no distinct health department; but circumcision and communal well-being were delegated to a physician. The rabbis enforced dietary laws, such as eating slowly and not overeating, early breakfasts and no conversation when eating. They recommended fat meats, wheat bread, old wine, salt, and soups. Regarding domestic sanitation, all excreta from man and beast were covered with earth and deposited in a special place. Cemeteries, tanneries and flour mills were situated fifty cubits from the city limits, and all offal was burnt outside the city. When leprosy dominated quarantine was imposed. Laws were constructed, referable to things clean and unclean, divided into two classes: (1) those governing cases of impurity created in the body of a person, e. g., leprosy, menstruation; and (2) those dealing with contact of unclean objects, e. g., dead bodies. A system of baths and ablutions were enforced to prevent the propagation of infections, and ritual laws were secondary when health was endangered. Forbidden as food are: meat of a poisoned animal, meat and fish together, water that was uncovered overnight. Perspiration was dangerous, and coins were kept out of the mouth. The hands were washed before and after relieving Nature, and prior to eating. Heavy meals before retiring were warned against, and people were told to lie first on the right side and then on the left. Regulations pertaining to sexual intercourse were advised. Laws were also framed to prevent injury to one's self, also to others, for life was considered as belonging to God and not to man. Defiance of the law was punishable with stripes.