

matters to be considered by each board of health separately.

We beg to advise that there are other matters that are being considered by the committee, such as the conditions under which examinations should be made, that is, for example, blood cultures, the time of collecting with regard to the different diseases, etc.

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HEALTH INSURANCE: ITS RELATION TO THE MEDICAL PROFESSION*

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The people in the United States are paying a price sufficient to obtain an adequate medical and surgical service. The amount, however, is spent in such a haphazard manner that the service is not only often inadequate or worthless, but at times actually harmful. For the single item of drugs the United States spends \$500,000,000 a year.¹ This amount alone, if properly expended, would pay for all necessary drugs and add \$2,000 a year to the income of the 145,000 licensed practitioners. This sum, together with the estimated average income of \$1,000 already paid to the doctors, would make an average annual income of \$3,000, or an amount which should obtain the very best physicians and surgeons if properly distributed throughout the country. Making an allowance of one specialist to every 5,000 of the 100,000,000 population, each one of the remaining 125,000 doctors would not have to attend the calls of more than 800 persons if the practice is equally distributed.

When it is stated that the people are not receiving adequate medical and surgi-

cal treatment, the question under consideration is not the qualifications of these 145,000 doctors nor the quality of service they render. But the intention is to point out the fact that a very considerable proportion of the people are unable to pay for adequate medical and surgical services. And what is more to the point, a not inconsiderable proportion are unable to avail themselves of such service even though it may be free, because they can not afford to stop work. If they did, those dependent upon them would suffer.

Leaving out of consideration that this group of the population is sick oftener than the well-to-do, leaving out of consideration the vicious circle of poverty and disease, and leaving out of consideration the fact that this group can only obtain medical and surgical relief by applying to free or charity institutions, there still remains the great middle class of employed persons who are unable to pay the price of what is now considered adequate service.

In the old days when diagnoses were made by looking at a patient's tongue and feeling his pulse and possibly taking his temperature, the great group of people living in country or town far from medical centres did not feel that they were so badly off. But now with the progress made in medicine and surgery, not only the doctors but the people realize what it means not to have the equipment and personnel found in our modern hospitals. Even for those living in the medical centres, where the services of specialists are to be had, the cost is prohibitive for a large majority of the population. The general practitioner is familiar with the experience of the bank president who spends a thousand dollars to go to a hospital for a gallstone operation and returns cured, while his farmer brother must suffer and die without such relief or accept it as a charity. Even the bank president must leave home and family and often travel long distances to reach these modern hospitals.

For the general practitioner the question of rendering his best service is becoming more onerous. The examination which he is now equipped for carrying out requires so much time and patience that it becomes a question of increasing his

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charges to where the cost is prohibitive for the man of ordinary income or doing the increased service at the old rate of pay and finding that he is not able to earn a decent living for his family.

The doctor, when he faces this dilemma, must decide to confine his practice to the well-to-do, or drop back into the old method of a hurried and inadequate treatment for a large clientele, or render his best service to all, contenting himself in his poverty with the knowledge that his life is worth while.

Before leaving this discussion of the present inadequacy of the medical and surgical service, an important underlying cause of the inadequacy should be pointed out. At present the income of the physician is dependent upon the misfortune of his friends. When his friends are not sick the doctor's income stops. In other words, when his friends are without income they have the further burden of a doctor's bill. This is, to say the least, economically unsound. If the practice of medicine is to be on a sound economic basis the cost of sickness should be met during the period of employment when there is an income. The problem, then, is to furnish an adequate medical and surgical service to the country, the cost to be met during the period of employment. To guarantee that it be within the reach of all, provision must be made for the continuance of a substantial part of the income during sickness, else many will not be able to stop work even when sick.

These conditions, it will be found upon investigation, are met by a properly planned system of health insurance.

"Health insurance, as usually operated under governmental systems, provides that all employed persons in certain occupations, and all persons in other occupations earning less than a specified annual income, be entitled in case of illness to certain benefits.

"Benefits.—The benefits ordinarily provided are:

"(a) Cash payment for a limited period (usually 26 weeks in any 12 months) of a proportion of the wage, or of a fixed sum, to employees, when disabled by sickness or non-industrial accident. (Industrial accidents are provided for under workmen's compensation laws.)

"(b) Medical benefits, which include adequate medical and surgical care, medicine and appliances in home, hospital, sanitarium or physician's office to employees disabled on account of

sickness or non-industrial accident during a limited period (26 weeks in any 12 months).

"(c) Maternity benefits, which include cash payment of a small sum in case of confinements of employees or wives of employees.

"(d) Cash payment for deaths of insured persons due to sickness or non-industrial accidents of an amount calculated to cover funeral expenses.

"Funds.—The funds are usually provided by payments from employees, employers and Government appropriations. In Germany, the employee pays two-thirds, employer one-third, and the Government pays for certain expenses of supervision. Under the English national insurance act the employee pays four-ninths, the employer three-ninths, and Parliament appropriates two-ninths. In the case of women and persons employed at certain low levels of wages the payment of employer and Parliament are increased and the proportion paid by employee is decreased.

"Administration.—The administration, both central and local, is usually according to some form of representative government. In the local government, in addition to governmental bodies created for the purpose, unions, industrial establishments and certain societies are utilized for purposes of the local administration of the funds."²

Properly organized under such provisions, the physicians should receive adequate pay for adequate services rendered.

There have been several methods proposed for providing medical and surgical services for the beneficiaries. The bill drafted by the American Association for Labor Legislation provides that medical aid shall be furnished by the carriers (local administrative bodies) by means of one of the following methods:

"1. A panel of physicians to which all legally qualified physicians shall have the right to belong, and from among whom the patients shall have free choice of physicians, subject to the physician's right to refuse patients on grounds specified in regulations made under this act; provided, however, that no physician on the panel shall have on his list of insured patients more than 500 insured families nor more than 1,000 insured individuals.

"2. Salaried physicians in the employ of the carriers among which physicians the insured persons shall have reasonably free choice.

"3. District medical officers, engaged for the treatment of insured persons in prescribed areas.

"4. Combination of above methods."

Provision is also made in this bill for adequate hospital and sanitarium treatment and for medical and surgical supplies. Further, provision is made for the employment of medical officers by the carriers for the purpose of certifying to the

disability of insured persons claiming benefits and for the further duty of supervising the character of the medical service in the interest of insured person, physician and carriers.

With adequate pay it is believed that the panel system which provides for free choice among all registered physicians will probably be the most satisfactory of all plans, as it will not disturb the old relation of family physician and will not force upon any person a physician not of his own selection. The methods of payment in this system may be on a capitation basis, or a fee system so much per visit or a combination. Objection has been raised to the panel system paid on a capitation basis on the ground that it is nothing more than "lodge practice." But with a reasonable limitation on the number selecting any one physician and a reasonable capitation fee there would be no comparison between it and the old "lodge practice" or "contract practice" so condemned by the medical profession.

Referring to "contract practice," the *New York State Journal of Medicine* has this to say:

"All medical service is really a contract, and many physicians under salaries, such as those with insurance companies or railroads, are not condemned, nor do they lose caste by accepting such contracts. But any contract which carries with it an unreasonable amount of work by the doctor, which in turn forces neglectful, hurried service to the patients, is always condemned."

With a reasonable capitation fee the physician would not have to take on more patients than he could give adequate service in order to make a living. And, furthermore, with proper limitations as to the number permitted to choose one physician, he will not be permitted to carry on his list more insured persons than he can give adequate service to in order to swell his income.

This method of capitation payment has the advantage over the fee system per visit in that it places an increased value on the healthy patient, whereas on a visit basis the increased value is placed on the unhealthy patient. Surely it is sound practice to make it to the doctor's advantage to keep his patients well.

Some objection has been made to this method on the ground that the sickly persons would be refused by the panel physi-

cians. This objection could be met by allotting these "leftovers" equally among all the physicians, or, if the number is sufficiently large to warrant the expense, a salaried physician could be employed to take charge of those refused by the panel physicians.

The provision for medical aid by salaried physicians has the objection that it limits free choice of physician to the number employed on this basis. Furthermore, it has been stated that the salaried physician will not be so anxious to please his patients as he would be if they had the privilege of changing physicians every twelve months. It must be admitted, however, that this method has its advantage where the guarantee of a fixed income must be offered to get doctors to locate in certain districts.

The foregoing discussion of administration of the medical service is based upon the presumption that the administration by the carriers will provide for adequate remuneration for the physician's service and equal consideration of all doctors registered on the panels. The fact must not be overlooked, however, that a health insurance system will give a compact organization to the carriers, whereas the organization of the physicians is a very loose one. This difference will give a tremendous advantage to the carriers in their annual bargaining with the doctors on any basis of payment; and the tendency may often be to drive the cheapest bargain possible in order to make a good showing for the local administration in power. This cheapening of the medical service may appear to be an economy to the lay mind.

Differences of this character will very probably occur if the medical profession does not see to it that the organic acts creating health insurance systems are so drawn as to prevent just such a probability.

In Germany, controversies occurred between the "sick fund league" and "medical league" over the questions of the "free choice of physician" and the graduation of fees. The controversy reached such a stage that a "doctors' strike" was threatened to begin January 1, 1914, and was only averted by the "Berlin Agreement" of December 23, 1913.

In England there was a long struggle between the British Medical Association and lawmakers which was finally settled by the granting of free choice among panel physicians under the act and the allotment of a capitation fee which has worked out fairly satisfactorily.

The one great advantage which the British physician has over the German physician is the fact that medical benefits are administered by governmental agencies according to county or county borough, whereas in Germany the "carriers," which corresponds to English "approved societies" administer the medical benefits. Furthermore, the physicians have legal representation in the administrative body, whereas in Germany the "carriers' " administrative body is composed only of representatives of employers and insured persons.

The same controversies are as liable to occur when physicians are employed on a salary basis as when on a panel and capitation basis, if the organic act places the administration of the medical benefits in the hands of the "carriers." In this connection it must not be forgotten that local administration of any character too often drifts into local politics and the selection of salaried physicians by local bodies may sink to a very low level controlled by local or "ward bosses."

With the administration of medical benefits by the state through a directorate on which the physicians have representation as well as the "carriers" this situation is not likely to be quite so bad.

In the administration of medical benefits the matter of disability certificates for insured claimants has proven a difficult problem to settle. It must be admitted that where this has been left to the family physician, many have been entirely too complaisant about signing doubtful certificates.

Experience has proven that this can probably be satisfactorily settled by the appointment of medical referees to sign disability certificates and to supervise the medical service in the interest of the insured persons, attending physicians, and the carriers. It goes without saying that a referee can not justly be in the employ of any of the parties interested in his decision. So that after all questions are

considered the most efficient administration of the medical benefits may be expected by providing that they be administered by the state and especially that the medical referees be state employees.

It is not necessary to point out to doctors the advantage of having their work supervised by doctors (medical referees) rather than by lay officials.

The many problems to be worked out in order to obtain an efficient medical service under health insurance laws has been touched upon for the purpose of arousing the interest of the medical profession to the importance of getting together and working out a plan which will protect their interest and at the same time provide an adequate medical and surgical service for those to be insured.

Now is the time for this action before it is too late. It will not be many years before health insurance laws will begin to be enacted by some states, and it is better by far to have these matters adjusted in the drafting of the bills than to fight for amendments before lawmaking bodies.

Health insurance acts will constitute the next important step in social legislation; and with an adequate medical and surgical service it will mean a new era in the development of medicine.

The wonderful progress in medicine and surgery which has made so many things possible will be brought within the reach of all the people and the prohibitive cost will be removed. Well equipped dispensaries, hospitals and sanatoria will be provided in every district within easy reach of all.

The family physician will not be handicapped in his practice by the lack of intelligent nursing and the many other things which mean so much to the early and complete recovery of his patients.

Much of the pain of childbirth will become a thing of the past and women will not have this dread weighing upon their minds, and will leave their bed of confinement free from many of the physical ailments which so often make life a burden.

The infant death rate will be materially reduced by intelligent care of mother and child during the few weeks which mean so much to infant life.

Team work of the general practitioner and the various specialists will be a mat-

ter, of course, for all patients in all districts and not confined as at present to a few medical centres.

When the medical service is placed upon such a scientific basis and the work of the medical team is combined for the study of the ills of the patients, many defects will be discovered and remedied so that the efficiency and lives of many will be increased and lengthened.

In the foregoing the discussion has been confined to the clinical side of an adequate medical service and the relief features of health insurance. The possibilities of an adequate preventive medical service, however, are much more wonderful than the clinical.

Health insurance will place a definite value upon each day of sickness and compel those to pay this price who are responsible for disease causing conditions. This will create an economic pressure for disease prevention, for provision is made that those who pay will save in direct proportion to the number of sick days prevented. They will be ready to make investments for health; and what is more to the point a properly organized health insurance plan will supply the funds for investment; and the more adequate the health machinery the greater will be the sum available for such investments.

Up to the present time the bills proposed have not provided in any way for a preventive medical service. They contain no authority for organizing health machinery or for utilizing existing health agencies. In other words, an economic pressure is created for disease prevention, but machinery is not provided through which it may operate.

An excellent opportunity is offered by which the specialist in preventive medicine could be introduced into the plan through the administration of the medical benefits. It would be a simple matter to provide that the medical referee, referred to above, be a medical officer of the health department, and employed by that department after careful examination as to his knowledge of preventive medicine as well as his skill in diagnosis.

This would bring to the service of the health insurance system a corps of trained specialists clothed with all the authority of the health department. Entering the

home of every sick insured person to certify as to his disability they would have an eye trained to see quickly unhygienic conditions as well as the technical knowledge of remedial measures.

Medical men, who are now only dreaming of an adequate medical service as ideal, will come into the realization of this if they will only work out practical provisions for it in connection with health insurance bills and lend their aid to those who are already at work in this field of social legislation. Should this dream come true it would doubtless reduce the score of human misery and perhaps increase that of human happiness.

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DISCUSSION

Dr. Lloyd Noland, Birmingham, Alabama.—Dr. Warren is certainly to be congratulated on the very excellent paper he has given us and the very high ideals which he has expressed.

The whole question of health insurance is such an enormous one and the many phases involved so numerous, that it is almost impossible in any presentation or discussion of the subject before a body of this kind to go into the matter very deeply. I believe there is no doubt that health insurance for industrial workers and wage earners in this country is badly needed, and there is very little doubt probably in our own minds that it is coming. The systems in vogue in England and Germany are in a certain way satisfactory, but controversies have waged about any number of details. I have had a chance very recently to go into the matter somewhat in England. I have talked to a number of men, some prominent medical men in England and some of the practitioners in small places as well.

At present, the panel system is in vogue in both Germany and England to a certain extent. The system carries with it the right of every registered physician in the country to be placed on the panel if he so desires, and the right of every insured individual to have a free choice of any doctor on the panel. In England, I believe about ninety per cent. of the practitioners of the country at the outbreak of the war were on the panel.

There has been a great deal of dissatisfaction caused in regard to the thing that Dr. Warren has touched on, namely, trouble of the family doctor signing certificates of disability without due investigation. In England the signature of the at-

tending physician only is required for the insured individual to draw benefits, and this has led to trouble, I am told. Dr. Warren's suggestion that a referee cover the matter is a great advance in that respect.

The carrier system, I believe, is not satisfactory as a whole in England or Germany. At present, it seems to me, there are certain things which every medical man should work for in connection with this legislation. First of all, the whole matter should be put in the strongest possible hands that we can get; in other words, in the hands of the Federal Government. If public health and care of the sick is not an interstate matter, it comes close to it, and if in any way the Federal Government could handle a proposition of this kind, it would immensely simplify the whole process and cut out the carrier system which, in England and Germany, is largely unsatisfactory.

Secondly, I believe that only salaried physicians should be used, those who are duly qualified and paid adequate salaries, the appointive power to be in the hands of a member of the Cabinet, the President of the United States or body delegated by him. It seems to me, there is a big chance in this country to improve the treatment of the public. We all know that unfortunately there are many hundreds of men, if not thousands, who are not really qualified to practice medicine, and who ought not to be allowed to practice medicine. If we are going to look after the public, if the insured individual is looked after properly he should receive the best procurable skill, and this method of selection would give a big opportunity to improve the quality of medical service furnished the public.

In the third place, I believe that cash benefits should not be paid. Certainly, a greater part of malingering would be cut out. The benefits to my mind should be paid in hospital treatment, medical treatment, and aid of that character as well as in food and clothing for the family and for the insured individual. Certainly by cutting out cash benefits the payments of the insured individual would be greatly lessened, and, at the same time, guarantee the necessities of life to the insured individual and his family and freeing us from the danger that we would be overwhelmed with in commercializing the whole scheme in this way if cash benefits were paid and the cash systems were used.

Dr. Roy K. Flannagan, Assistant State Health Commissioner, Richmond, Va.—There is one thing that has impressed itself upon my mind in connection with this subject, namely: that it is "up to" the doctor to retain the leadership in this matter as in public health matters generally, or this leadership will be snatched from his hands.

This health insurance, this modified contract work, if you please, is coming. There is no doubt about it, and we may as well realize it first as last. The socialization of the medical profession eventually will be the only way out for the doctor. Shall we wait until the social worker and the lay legislator crowd this thing upon us in more or less unbaked form? Shall we not lead in this great movement with which we are so intimately concerned?

Dr. Warren points out very significantly that the public health side of this question has not been touched upon in the legislation that has been offered. Our legislators are laymen; they are men who are framing and enacting laws for the people that are most interested, and the people most interested in these things up till now have not been public health men nor to any considerable degree practicing physicians. If health insurance legislation is to serve the highest interests of the people, I believe the doctors must take a leading part in framing it, so do not let us shut our eyes to this thing, but follow the road which has been so ably pointed out by Dr. Warren and by united effort endeavor to put the pressure where it can bring forth the best result. We will thus not only bring benefit to the people as a whole, but the doctors and the public health interests will not be forgotten.

Dr. John McMullen, United States Public Health Service, Lexington, Kentucky.—I consider that Dr. Warren's paper is a most important one. As public health officers we know better than we otherwise would have of the insanitary conditions that prevail, and it appeals to me most where the doctor says that it reaches those people who would not otherwise get attention. I have often wondered what would become of the people who live far in the country and mountainous districts, so far as medical attention is concerned, when our generation of doctors dies out, and this high standard for doctors, making them highly educated men which will necessarily decrease the numbers of doctors very much. Can they be influenced to go and practice medicine in those out of the way communities that promise them so little in the way of return? I recently asked this question of a public health man and he was of the opinion that the doctors would be glad to do it but I do not think so. As to the statement of Dr. Noland with reference to cash benefits it would seem to me that it would be better to give the benefits in other ways by the actual treatment of the cases. As Dr. Warren has pointed out, those women who go through life in misery after child-birth would have the benefit of the best clinics and be relieved. Without this cash benefit it seems to me it would be to the best advantage to give the people the benefit of actual treatment and the necessities of life.

Dr. Joseph H. White, United States Public Health Service, Memphis, Tenn.—At a meeting in New Orleans about two years ago, this subject was presented by Dr. Warren for the first time and in a most able manner.

A gentleman there present and himself a profound thinker, pronounced it the most profound thought he had heard enunciated, and stated that he was convinced that this was one of the biggest problems before the American people. I concurred in that opinion then, and I do today.

In talking to Dr. Irving Fisher about his ideas with regard to a National Department of Health, he said to me that he wanted to put every instrumentality of the government that touched public health under a department of public health. Then, I said, Dr. Fisher, you will abolish every other department of the government because there is no phase of human activity that does not impinge

directly or indirectly upon the question of public health. Wherever we turn, in whatever business we engage, we find the constant intrusion of the question of health and the ever present suggestion that health and economic questions are inseparable.

The suggestion made by Dr. Warren that the physician attending the sick in pursuance of this proposed law can also act as health officer is eminently practical.

The supervision of the accuracy of diagnosis and the reality of the necessity for relief could well be in the hands of the health officer, state, municipal or district as medical referee and upon him devolve the duty to see on the one hand that the people were given proper attention and on the other that there was no imposition upon the fund through the drawing of cash benefits to which there was no just claim or physicians fees not earned.

Such supervision is necessary and must be by a salaried man.

As to Dr. Noland's suggestion that all physicians be salaried, let me say, we are all human. We are all apt to lean towards the people who employ us, and this medical referee as a public health officer will prevent that.

Gentlemen, I have been a public health officer practically all of my life. I am a physician on salary, therefore, I think I have a right to speak as plainly as anybody can on this subject, and I say that will never do. You will have too many loafers on your jobs. The panel system by which a man may select the doctor he wants, and thereby receive good service, is the system, and it is the only way to secure good service in all cases. Unless you have a system whereby the best service will be rendered to the people, it will degenerate to the depths of inefficiency as is the case in the old system that obtains in a good many parts of the country of having a physician for the poor, of whom you hear the poor themselves speak as a "poor physician."

The system proposed by Dr. Warren has been carefully thought out as I happen to know from an intimate acquaintance with him, and this system will in time, if worked out along the line he has suggested, be the biggest help to the health organizations of the nation, to the state, the county, the municipality, that one can possibly imagine, for the basis of all perfect public health work is to know and to have, in the first place, morbidity, mortality, and vital statistics. Under this system we will come nearer a hundred per cent. of such information than under any other system conceived by man. With such a system as that available the health officer can put his hand upon every case of scarlet fever, measles or what not in the community, and we ought to be able to do much better public health work than we are doing today.

I am going to ask that we hear from a man who formerly was health officer of a big city and one of the most efficient city health officers in the world.—Dr. Evans.

Dr. William A. Evans, Chicago.—Dr. White is correct without doubt. Dr. Warren is correct. This is the most comprehensive health measure

that has ever been proposed. Dr. Warren has suggested, however, that effective as it has been in other countries, it should have been more effective, and when we come to plan for it in this country we should make it so, and this we can do by writing into it more preventive medicine than has been written into it in the other countries. We can make preventive medicine a distinctive feature of this measure in this country. It is the most fundamentally important question to the medical profession that has ever been proposed as well as to the people themselves. When this measure was proposed in England, it was opposed as Dr. Warren has told you, by the British Medical Association which nearly bankrupted itself trying to defeat it. And yet for the profession it was one of the best economic measures possible for Great Britain. Less than half of the people sick and in need of medical attention are getting the benefit of it; a large per cent. of those getting it are not paying doctors for the service that is being rendered. Easy to calculate, it means dollars and cents for doctors; it means bread and butter for doctors; it means a better system and more opportunity for taking care of their families than under the present system, and yet with that it is not as fair as it should be. Lloyd George, when he came to draw this bill, consulted with every interest; he got not only every bit of information he could on the subject in the whole history of civilization, but he counseled with the organized medical profession. It looks very much as though when our legislatures, federal, local or state, take up the matter, they are going to be in much the same position, and we need to have representatives of the medical profession who will see to it that every interest of the medical profession is conserved in drafting this proposed legislation.

This is the most far reaching and the most complete public health measure that has ever been proposed in the history of the world.

Dr. B. S. Warren (closing).—In reference to the English act, I will read an extract from the London letter to the *Journal of the American Medical Association* in a discussion of the subject of the English act October 16, 1916:

"A further development possible is a linking up of the insurance scheme with the great public health services. With the example of the army providing all medical services for a large fraction of our male population, it cannot any longer be contended that the prevention of disease and the cure of disease are separate questions. At present the physicians dealing with prevention and the physicians dealing with treatment in civil life are unrelated in an administrative sense. This absurdity is made clear by a single example—the treatment of tuberculosis. The great hope in this case is prevention; and as the patient himself is the source of infection, treatment and prevention become merely aspects of the same problem."

I wish to emphasize the medical referee feature. The medical referee can be made a public health man without any increase in cost. He could be made a public health officer of the state and be an all-time local health officer. He could act for the county if there is not sufficient money to pay for

both. Such a plan would give a personal touch between the health department and the people. The medical referee would of necessity have to go into all the homes of the sick insured persons. He would be a preventive man, and would be vested with the authority of the state or local health departments. Through him the health department would be on the job all the time.

It is unnecessary to take up your time to point out the various possibilities of this plan, but in the matter of records alone, as Dr. White and Dr. Evans have pointed out, the uniform certificate made by men trained in diagnosis and trained in making reports will be more valuable than if made by family physicians. There will be uniformity in these statistics.

We all know that preventive medicine is coming to be as much of a specialty as surgery. The doctor cannot be a doctor of preventive medicine without special training any more than he can expect to be a surgeon without special training.

The men who have drafted health insurance bills have the economic point of view almost altogether; they have the idea of industrial unrest; they have the idea of social service, the betterment and uplift, and all that, but they do not have the doctor's point of view, and it is time doctors were getting on the job.

As to the matter of cash benefits, I do not want the doctors to think for a moment that the cash benefits should be left out. They have got to come. You are thinking of one side of it, but the cash benefits are going to make a man economically independent while he is sick. You do not want it in the nature of charity.

If it comes under the nature of charity, a gift of goods, a barrel of flour and clothing, you kill the whole measure. Get that out of your minds right now. You must remember the vicious circle between poverty and disease. Poverty is a cause and effect of disease, and you are going to prevent as much disease by preventing poverty as you will by curing disease.

Author's Note.—Since the above discussion took place a revised edition of a bill proposed by the American Association for Labor Legislation has appeared which provides for recognition of the medical profession to a much greater degree.

AUTHORS' ABSTRACTS

Tropical Diseases and Public Health

Why Fumigation is Ineffective. C. E. Ward, Cleveland, Ohio. *Modern Hospital*, Vol. VIII, No. 2, February, 1917, p. 115.

Fumigation as generally practiced is ineffective, a waste of money and an injustice to our patients and operating surgeons.

The modern hospital is bending every effort toward efficient training, yet the average nurse knows nothing as to the importance of fumigation,

the proper method, or the merit of various substances in use. Inadequate methods, offering a false sense of security, should be abandoned.

Discontinuance of fumigation has been advised. I am in accord with this proposal if it is to be done in a haphazard manner. Investigation discloses that fumigation is attempted through the employment of many inefficient methods. *Formaldehyde in sufficient quantity thoroughly fumigates*; and it can be bacteriologically proven.

Fumigation is costly. If worth doing at all, it should be done properly. Tests demonstrate that one-half pound of potassium permanganate as the agent is required to expel the gas in one pint liquid formaldehyde,—this quantity being necessary to fumigate one thousand cubic feet of space. Permanganate for fumigation is now prohibitive in price. Other chemical agents far superior for fumigation are in the market at one-tenth its cost.

Many contagious diseases have been contracted in institutions to the wonderment of those in authority. The answer is imperfect fumigation, or none at all. If fumigation is important, we owe it to our patients and our consciences to employ the method which will really fumigate.

AUTHORS' ABSTRACTS

Medicine

(Continued from page 212.)

Blood Pressure in the Aged. L. M. Bowes, Chicago, Ill., *The Journal of Laboratory and Clinical Medicine*, January, 117, p. 256.

In making a study of 150 cases between the ages of 65 and 95, it was found that only repeated readings of both systolic and diastolic pressures were of value. Also both arms should be used for observations as an inequality of the pressures of the two sides is common in arteriosclerosis.

The pressure in the armlet must not be maintained too long, because the blood vessels in some are very brittle and may rupture, causing a hemorrhage to occur on the anterior surface of the arm.

The average systolic pressure increased to the age of 85 and then decreased. It was also higher in women than in men except after 90.

Only about 25 per cent. of the cases of arteriosclerosis had a high blood pressure, the pressure falling with involvement of the heart muscle in the process of fibrosis, resulting in chronic myocarditis. There was a high blood pressure in all cases of chronic nephritis. A sustained hypertension of both systolic and diastolic pressures was found to diagnosticate cerebral hemorrhage from cerebral embolism in most cases.

A low diastolic pressure was present in all cases of aortic regurgitation which, with an increased systolic caused a high pulse pressure. A high pulse pressure was also frequent in arteriosclerosis.

A sustained high pulse pressure usually ended in a failing heart.