

MEDICINE AND PUBLIC HEALTH SINCE THE WAR

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The request of your Secretary that I discuss the effect of the war on medical and sanitary science and the responsibilities and opportunities of medical and sanitary science under conditions following the war, is a large order and one which I hardly feel qualified to fill. The knowledge I have of the development of military surgery, of the brilliant advances in plastic surgery, of the investigations that have been made of the physical conditions and injuries peculiar to this war, comes to me at second or third hand and in no more authoritative form than it has come to the other members of this Association in the popular and technical periodicals. If what I have to say contains anything which is original or authoritative, it must consist of a discussion of the advances which the war has brought about in the field of preventive medicine and of sanitary science. It is to be regretted that the breadth and scope of this program made it impossible to include a physician or surgeon who could review briefly actual war-time accomplishments in the field of medicine and surgery. For, we are led to believe that the medical history of this war, when it is written, will be a tremendous contribution to the medical and surgical literature of the world. However, there is enough to be said on the progress of preventive medicine and public health to more than occupy the time which is assigned to me today.

The immediate effect of our entering the world-war was the realization that our man-power is quite as important, if not more important, than our monetary wealth and industrial power, and further that the strength of our man-power is determined, in the last analysis, by the individual

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health of the men of the nation. It was impressed upon us that it was not only essential that we should have men free from disease and physical defects for the military service, but that it was quite as essential that we should have strong men and women to meet the demands of the tremendous speeding-up of our industrial activity.

The actual story of accomplishment in the prevention of disease during the war is effectively summarized by Colonel Victor C. Vaughan in a recent publication and under the caption, "The Fruits of Preventive Medicine." In this very striking article Colonel Vaughan says, "By making use of our increasing knowledge of medicine and sanitation since the civil war times it has been possible during the war just closed to prevent 500,000 cases of disease and save the lives of 10,000 soldiers."

Colonel Vaughan contrasts the sickness rates prevailing among the Northern armies engaged in the Civil war with those of the American Army engaged in the recent world-war, and sets forth the following extraordinary facts indicating the progressive tendency of preventive medicine and sanitation, and the part which they have played in winning the war for democracy. According to Colonel Vaughan the incidence of typhoid fever has been reduced over ninety-nine per cent; minor intestinal infections have been reduced ninety-six per cent and malaria has been reduced to the same extent. Inflammations of the mouth and throat have been reduced to eighty-seven per cent and pneumonia sixty-five per cent. Measles, which was one of the serious menaces in Civil War days and whose epidemiological problems are not fully mastered at the present time, was reduced thirty per cent, while the incidence of tuberculosis, aptly termed "The captain of the men of Death", has been decreased fifty per cent.

For a number of years, health officers and physicians have urged the periodical physical examination of all persons to determine the existence of serious disease in its incipient and curable stage. While some progress has been made in this line, we have all been so engaged with our personal, professional and business interests that we have ignored individual health and precautionary measures to a large extent.

The physical examination carried out by the Exemption Boards in the creation of the new National Army, however, gave us a definite idea of the extent of which serious disease prevails in the rank and file of the people, generally unrecognized by those individuals until relatively far advanced.

The results observed by some of these Exemption Boards were astonishing and aroused the more or less preoccupied public officials to an activity which the nation had never before known. The American people, with admirable spirit, accepted the dictum that every public and private interest must be regarded as secondary to the successful pursuit of the war, and to this end traditions, customs and prejudices were swept away as they could not have been under other conditions.

Without the records of the first draft, which, unfortunately, were not preserved, it is estimated that over seventy-five thousand young men were rejected by the Exemption Boards on account of tuberculosis, and it was found that, with the necessarily hasty examination made by these Boards, thousands of others had been passed who were suffering from this very evasive disease. On this account, and very largely through the personal influence of Colonel Frank Billings of Illinois, the Surgeon General of the United States Army designated over two hundred tuberculosis experts to re-examine the recruits in the camps and cantonments with the result that approximately twenty-five thousand young men were discharged from service on account of tuberculosis.

The importance which the Federal Government and all European nations attached to tuberculosis as a war-time problem, made it very easy for state health departments to formulate new rules and regulations for the control of the disease, requiring the reporting of all known or suspected cases to the local health authorities and empowering such authorities to isolate and segregate the victims of open disease.

A feature of the regulations promulgated in Illinois as a part of a very comprehensive tuberculosis war-time program, is the requirement that the physician shall advise the patient and members of his family as to the exact na-

ture of the disease, thereby overcoming that unfortunate secrecy which has caused untold thousands of consumptives to lose their opportunity of recovery.

On account of a false sense of modesty upon the part of the people, or on account of the unfortunate manner in which educators had approached the subject, relatively little progress had been made throughout the United States in the campaign against venereal disease until our participation in the war. For the most part, venereal disease literature had been written in a style which indicated that the author regarded his subject as an improper one, or, upon the other hand, colored with such lurid hues as to make the subject morbidly interesting. The recognition of the tremendous prevalence of gonorrhoea and syphilis in the armies of Europe, and the confirmation of a similar condition among the young men of the United States through the reports of the draft boards, caused the Federal and State governments to take a firm hand in the venereal disease campaign and to approach it in the same sane and practical manner that they have approached other communicable diseases. The change which venereal disease literature has undergone during the past year is quite astonishing, and the response of the people of all classes to this educational campaign has been equally surprising. There is now good reason to anticipate that, on account of the impetus given the subject by the war, a successful fight will be made against social disease on a simple public health and disease prevention basis. Questions of morals and of religion, which formerly confused this subject, have been generally eliminated and the problem has been attacked with the same frankness and candor that marked the action of the Surgeon General's office in establishing stations for preventive treatment in the various camps and cantonments.

Illinois was the second state in the union to join with the Federal government in its battle against venereal disease, and the rules and regulations of the State Department of Public Health, which were first applied in the zones surrounding military cantonments and later extended throughout the entire State, have been accepted as practical in application, rigid enough to produce salutary results and yet not so drastic that they would produce unfortunate reaction.

The war and the necessary protection of the fighting forces made it possible to seize the prostitutes in the five mile zones surrounding military camps, and to subject them to thorough examination. Moved by the exigencies of the war, the courts were ready and willing to impose sentence which was suspended so that these unfortunate women might be placed in hospitals for scientific treatment at the expense of the county in which they were found. The program which is now being carried out, and which will continue to be carried out throughout the state, gives better promise of the control of isolated vice districts and the reasonable suppression of vice than any program that has been contemplated or adopted in the past. The quarantining and placarding of premises in which there are persons venereally infected, seems to go further than any form of police regulations. This program is no more drastic than conditions of peace-time would warrant, but I feel satisfied that the tremendous strides which have been made could not have been accomplished in a decade had it not been for our participation in the war.

The accent which has been placed upon the importance of sound physical condition of the people, together with the almost prodigal liberality of the federal government in attaining desirable ends during the war, will have its effect upon the public health history of the nation for all times to come. The Federal government has appropriated large sums of money for the warfare against venereal disease, and is meeting state appropriations with dollar for dollar grants of funds.

Early in the war, when men were found to be tuberculous or physically unfit, they were discharged from military cantonments either as "in line of duty" or "not in line of duty", depending upon the length of time they had been in service. After a few months, this policy was abandoned and every man who was accepted in a military cantonment was regarded as "in line of duty," the Federal government assuming the responsibility of his financial compensation just as though he had sustained his disability through wounds on the field of battle. As months went by, and as troops began to return from the front, the government policy was made even broader and more generous. Instead of being discharged with pensions or financial grants, and

permitted to make their way through life as the victims of physical defects, the Federal Government, as far as possible, is retaining the sick and wounded and disabled in service, assigning them to special hospitals where they not only receive medical care of the highest type, but where they are being re-educated to a condition of self-sustaining efficiency.

At the present time, if the sick or wounded soldier will avail himself of what the government urges him to accept, he will be returned to civil life physically rehabilitated and ready to resume his former occupation, or he will be specially trained in a new means of livelihood adapted to his physical condition. Merely as a minor part of this great program of reconstruction the Federal Congress has recently appropriated the sum of seven million and fifty thousand dollars for the erection and maintenance of tuberculosis sanatoria to be operated under the direction of the United States Public Health Service.

As important as the steps of this reconstruction policy may be, and as great as the public investment in health, I still feel that the secondary or remote result of this great program will be more important to the nation, as a whole, than the direct or immediate result. That is, I feel that the realization of the value of individual and community health, brought about by the war, will not be forgotten, and I am convinced that the policy of generous appropriations and generous expenditures for health purposes will be continued not only by the federal government, but by the states by local communities. The influence of the liberal policies of the government in attacking health problems during the war bore fruit in Illinois when at the autumn election of 1918, the people of thirty-three counties voted by overwhelming majorities to establish county tuberculosis sanatoria, free tuberculosis dispensaries and visiting nurse service. While Illinois has sorely needed these institutions and has apparently been very reluctant in the past to adequately meet that need, I am satisfied that such a result could not have been attained at this time except through the awakening influence of the war.

In times past, child welfare work,—the effort for the conservation of child life and the protection of child health—has been regarded by the average citizen as a phase of public health activity of only moderate importance. The

attitude of European nations and especially the findings of our exemption boards, have radically altered our conception of the importance of child welfare work. Strong manhood has its foundation in infancy and childhood, and, as never before, rugged manhood is recognized as essential to the nation which seeks industrial, intellectual, financial or military supremacy. On this account, in this country as abroad, child welfare work has been given an impetus such as it has never had before which will result not only in a material lowering of our present shocking infant mortality; but which will cause a very different showing if we ever have a selective draft in another generation.

The examination of several hundred thousand school children, which was brought about on account of the stimulated interest due to the war, has brought forcefully to our attention the fact that physical defects are more common among children in rural schools than among those resident of cities; accentuating the importance of sanitary and health work in rural communities which has been overlooked to a considerable extent, through the former conception that rural life and healthfulness necessarily go hand in hand.

Incidentally, our experiences with communicable diseases, in mobilizing and maintaining an army, has caused public attention to be more definitely centered on these preventable ailments than could have been possible under any other conditions. The ravages of measles, of pneumonia and influenza in our camps at a time when the outcome of the war seemed to depend upon our organizing a gigantic force of fighting men, caused the American people to think seriously in terms of preventive medicine and to appreciate the importance of these diseases in their own communities. The complete elimination during this war, of typhoid fever—the disease which played such havoc in the war with Spain—has caused our people to realize that typhoid fever need not be endured in times of peace.

The absolute prevention of smallpox among hundreds of thousands of men has accented the truth about vaccination,—a truth whose neglect is manifested by the repeated invasions of this wholly unnecessary disease.

Camp sanitation with the destruction of the breeding places of mosquitoes, with consequent prevention of malaria and yellow fever among the troops in southern

states, has greatly interested the average citizen. While the influenza epidemic, sweeping away thousands of our much needed troops came as a tragic lesson of the utter futility of governmental endeavor in the face of the outbreak of disease.

When the influenza epidemic was at its height, the public press reflected the fear entertained by many high officials, that communicable disease might spell defeat for the allies, and, for the nonce, public health stood in its correct position,—the paramount subject of the nation.

While the influenza epidemic was responsible for twenty-five thousand deaths in Illinois, and between five hundred thousand and six hundred thousand in the nation, constituting perhaps the most serious scourge the country has ever seen, it is not unlikely that the benefits which will accrue from the tremendous arousing of public sentiment through the epidemic will more than compensate for its frightful cost in human life and human suffering. The epidemic seems to have been, at least indirectly, a result of the war. Its explosive invasion of many states having its origin in the large concentration camps. The regulatory measures in which the public readily acquiesced during the epidemic have already borne material fruits. On account of the medical school inspection required in communities where schools remained open, the communicable disease of childhood have been less prevalent in Illinois during the past winter than at any time during the history of the State Department of Public Health, and people have seen the advantages and necessity for the expenditure of public funds in the safe-guarding of community health as they have never done before.

This enforced concentration of public attention upon matters of public health has had a natural tremendous influence in the more progressive communities of Illinois, and, from studies recently made by the State Department of Health, there is ample occasion for grave concern over the problem of disease prevention in our cities and villages and rural communities.

Terms of dollars and cents are more readily intelligible to most of us than terms of grief and sorrow and human suffering, and the studies of the cost of preventable diseases made by the Department are staggeringly convincing.

Estimating the cost of human life, the loss of time in gainful occupations, medical and nursing care and the expense of burial, it is found that eleven communicable diseases during the year ending July 1, 1918, cost the people of Illinois approximately \$155,000,000, or \$24.67 for every man, woman and child in the state. The per capita cost to the various counties ranged from \$4.72 in Stark County to \$124.16 in Kendall. In one county this loss equalled 37.61 per cent of the valuation of the total assessed wealth.

Of this gigantic sum \$115,000,000 was due to tuberculosis; \$30,010,000 to pneumonia; \$3,007,000 to typhoid fever; \$2,660,000 to malaria; \$1,157,000 to diphtheria; \$735,000, to whooping cough; \$675,000 to smallpox; \$461,600 to poliomyelitis; \$456,000 to measles; \$426,000 to epidemic meningitis; \$388,300 to scarlet fever. It will be borne in mind that these figures are for the year ending last July and do not include the months of the epidemic of influenza.

The experiences of the war, in handling hundreds of thousands of men, closely crowded together, with typhoid fever, smallpox, and malaria absolutely eliminated, suggests a definite and certain saving of great magnitude which can be brought about in Illinois by relatively simple means now available to us. Greater savings in dollars and cents, but not so easily demonstrated, may be made through intelligent attack on the other communicable diseases.

For successfully meeting the problems of disease prevention and health promotion whose importance the experiences of the past two years have revealed so clearly, the war has provided a personal and a public sentiment which will be tremendously effective if properly utilized. A large number of physicians have gone into military service from every section of the nation. Some of these men have been assigned to sanitary service in the army and have received excellent intensive training. All of them, regardless of their branch of service, have had impressed upon them the paramount importance of maintaining the men about them in the highest degree of health and efficiency. In the army they have seen flagrant violations of health regulations looked upon as nothing short of crime, and they are all returning imbued with the necessity for a

closer and more rigid adherence to the laws of public health. Many of these physicians, having had their first experience in executive positions and in preventive medicine, will be reluctant to return to the humdrum of private practice, and out of their ranks we should be able to obtain the full-time medical health officers essential to the proper safe-guarding of every community.

In addition to these medical officers who will come back to us from the war, there has also come the great army of soldiers in line who will create a new sentiment in regard to public health control. These young men who enlisted in service from every city and village, and from all walks of life, had impressed upon them in a way that they will not forget, not only the advantage of keeping physically fit, but the obligation to maintain the highest degree of health as citizens and soldiers. They have seen examples of effective disease prevention. They have seen the price that must be paid in the ravages of communicable disease. They have had impressed upon them the necessity and the reason for ready and cheerful submission to sanitary rules and regulations.

The nation has never had before so many young and progressive men active in the affairs of their own community, trained to the necessity of public health supervision as we have today, and the nation has never had so many men capable of leadership in the field of preventive medicine. These forces have come to us from the war, and their intelligent utilization will bring such benefit to the state that our war-time casualties and losses will sink into relative insignificance as compared with the saving of human life which the war thus indirectly will make possible.

The sentiment created by the war has caused the people of Illinois to be ready for progressive legislation for the conservation of health which in all likelihood will be introduced in the present session of the General Assembly. One bill which is attracting wide attention is that requiring a full time medical health officer in each community in the state. I am satisfied that the introduction of this measure will find the General Assembly and the people at large thoroughly responsive to it, and that within the next few years there will be established in Illinois a public health organization whose incentive and whose personnel have been for the most part, the contribution of war-time conditions and war-time sentiment.