

PUBLIC HEALTH PROBLEMS

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From their ages at death individuals may be divided into two groups: the premature and the senile. In the former, death occurs during growth, in early maturity, or in the great period of activity and is largely preventable. In the latter, the age of productivity is passed, senescence is at hand, and passage of the Great Divide is the law of Nature. It is the purpose of this symposium to consider the premature group in some detail as to its causation, prevention, social, economic, and medical aspects.

It is estimated that two and a half million children are born annually in Continental United States. Of this number about 300,000 will die during the first year of life. One of every eight children die before they are a year old. A new born child has less chance of living a week, than a man of ninety; of living a year, than a man of eighty.

Over 500,000 people die of communicable disease each year in this country; over six million are sick as a result of avoidable infection. Such a loss of life and health, if localized, would completely depopulate Cleveland and would cause every citizen of Minnesota, Wisconsin, and Kansas to seek medical attention. The immediate death rate and illness of infectious disease are probably no more important than their complications and sequelae. Measles and whooping cough may prepare the soil for tuberculosis; scarlet fever for renal disease; tonsillitis, pneumonia and syphilis for cardiac failure; infectious disease in general, but syphilis in particular for degeneration of the vascular and nervous systems.

Our industries are making considerable progress in the protection of workers from the illness and accidents of occupation. There are, however, each year about 25,000 deaths due to industrial accidents and 700,000 injuries involving a disability of four weeks or longer. One-third to one-half of these are estimated (by competent authorities) to be preventable by proper safe-guards, inspection and control. Each of the thirty million workers in this country lose on an average annually, nine days from work on account of sickness, more

than twenty-five per cent of which is avoidable. This great economic waste should cause capital, labor, and the community to realize that of all the instruments used in the production of wealth and happiness, none is so delicate, so sensitive, or so indispensable as the human machine. The capitalist will find it excellent economy to carefully supervise its operation, to prevent it from being injured by dust or corroded by chemicals. It will be an invaluable advantage to the employee to learn its use so as to protect it from destruction by ignorance and carelessness. The nation must preserve it, or forever give up the dream of commercial supremacy.

Diabetes, cirrhosis of the liver, cancer, vascular degeneration organic heart and Bright's disease are becoming more frequent before sixty. Many individuals are dying prematurely when as a result of training and experience, they should be of the greatest value. Thirty-six per cent of the deaths between forty and fifty and fifty-nine per cent between fifty and sixty are due to so-called degenerative diseases.

The expectation of life has increased for all persons up to a point between thirty-five and forty. For all ages above forty, there is a constantly increasing diminution of the duration of life, varying from six months at forty, to three years and three months at eighty-five. Tissue heredity may be a factor in the reduction of expectancy after forty. Its importance, however, must be small as compared to the influence of environment, the intemperance of food and alcohol, the harmful effect of occupation and the latent injuries of infectious disease.

The lack of personal hygiene, irregular employment, improvidence, bad housing, and low physical stamina cause a high mortality of the mentally defective. Over one million of our population is made up of the unfit, delinquent, insane, and criminal. We have 187,000 inmates in our hospitals for the insane; 480,000 prisoners; and, approximately 500,000 feeble-minded. These are the drift-wood of industry; the retarders of classmate and teacher; the procreators of the unfit; and, under our present social system, the most common cause for the travesty of justice. Syphilis, alcohol and heredity are potent factors in the production of mental deficiency, a condition, therefore, largely preventable.

THE ECONOMIC IMPORTANCE OF PREVENTABLE DISEASE

The economic cost of preventable disease is appalling. All children dying before the tenth year represent a total loss. Values have been created and destroyed without giving return. Society is demanding each year greater skill and increased efficiency. The larger investment in the training of the individual makes the loss most extensive. Nearly one-third of the deaths due to typhoid fever and one-fifth of those caused by tuberculosis occur in the high-school-university period of life. The time of the greatest expenditure in the preparation of the individual to enter service.

The toll of syphilis, typhoid fever, and tuberculosis is heaviest during the period of greatest usefulness. Syphilis shortens the expectancy of life 5.5 years. It may fasten itself upon the posterity of the individual, increasing degeneracy, encouraging poverty, and promoting public charges. It erects about 15-20 per cent of our asylums for the insane and taxes the nation for their maintenance. Tuberculosis and typhoid cause 90 per cent of their deaths before sixty; make tens of thousands seek public charity or spend large sums to care for themselves when they should be producing.

Industrial accidents and illness among workers are annually responsible for the loss of a billion dollars in wages and expenses for medical care.

The great economic loss due to the death of individuals before they have become an earning power, and of those dying during the productive period of life, is small, compared to the stupendous loss caused by invalidity, unemployment, decreased efficiency, and the cost for the care of the sick and defective.

PREVENTION

Whether we consider personal hygiene; the rural portions of the country with its problems of home and school sanitation, or, our cities with their social and engineering difficulties in the control of disease; prevention is a question of money, education, and the use of available scientific knowledge.

Within natural limits community health should be in direct proportion to the economic status of the individual and to the financial support received by constituted health agencies.

This is especially true in the reduction of infant mortality; in the promotion of industrial hygiene, and in the prevention of epidemics.

If we are ever to have preventive machinery commensurate with scientific knowledge; education of the public and of future community leaders must be pushed with greater vigor. The relation of preventable disease to social and to economic welfare requires that no student in our colleges or universities should complete his education without a thorough elementary knowledge of hygiene and sanitation.

It is of little importance, for what field the institution is preparing the future leader; to be successful he must have continued good health. If he studies Spanish and Business with the future planned for commercial expansion in Latin America, his success may largely be determined by whether he is bitten by a mosquito that may give him yellow fever, malaria or dengue. If engineering is his profession, the condition is the same, whether at Panama or on the Rand, the success of his achievement will depend upon his health and that of his employees. Should he become an agriculturist, to protect himself, his family and his community, he must meet the problem of rural sanitation. Should he select pedagogy as a vocation and should not recognize the relation of errors of refraction, defects of hearing, under-nutrition, and mental retardation to class repetition, he can not attain the community leadership that should be his heritage. Should he worship at the shrine of Mars, other things being equal, his eminence as a commander will be in direct proportion to his sympathetic co-operation with the sanitarians of his command. Should he seek to be a captain of industry, to be able to meet modern competition, he must have knowledge of industrial and vocational hygiene. In short, there can be no rule of efficiency that does not include the gospel of health.

Finally, if hygienic living is to supersede the fierce struggle for existence in a large part of our population; if infant mortality is to be decreased to a proper level; if rural sanitation is to be elaborated; if senility is to be kept beyond forty-five; if workers are to engage in industries without injury to health or to the reduction of their period of productivity; if communicable disease is to be prevented; if we are to have more stu-

dents in our colleges and universities than we have of the unfit in our institutions for the defective; our future leaders must be taught as never before, the use of available scientific knowledge in the promotion of health and in the production of mental and moral superiority.
