

MANUFACTURERS' INTEREST IN PREVENTIVE  
MEDICINE AND SURGERY

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When the United States decided to build the Panama Canal, the first great problem confronting our Government was, "How can our workmen endure the diseases prevalent in this section until the stupendous task of engineering can be accomplished?"

The French did not realize in 1877 when Ferdinand de Lesseps, a great French engineer, attempted to dig the Panama Canal, nor did they realize when they tried again in 1884 to 1889, that the "stegomyia mosquito" was the chief reason why they could not progress with this wonderful undertaking. The United States, recalling the experience of France and the great engineer who had previously built the Suez Canal, realized that it was necessary for the Government to find a means of eradicating not only yellow fever, but bubonic plague and malaria in order to go on with this great piece of engineering and do something France had been unable to do up to that time.

Our Government at once realized that the first step was to clear this zone of disease so that our men could work and live in reasonably healthy surroundings. After a survey of our possibilities, the surgeon general's office was called upon. General Gorgas was ordered to report to the Commission as Chief Sanitary Engineer for the Isthmus. Our Government had to be convinced first that it would be necessary to conquer the mosquito before any work in the Panama region could be undertaken safely. It required quite a sum of money for the Commission, composed of General Gorgas, Dr. Carlos Finlay, Dr. Antonio Albertini, and Dr. Juan Guiteras, who cooperated with the Walter Reed board, to go on with their work, but with General Gorgas' enthusiasm and his staunch belief in his proposed methods, his immediate initiative, and his great industry overcame all obstacles, and between the time of the announcement of the plan on February 1, 1901 and September 15, 1901, a period of less than eight months, he eradicated yellow fever from

Panama where it had extended continuously for over one hundred and fifty years.

If sanitary conditions had remained as they were previous to 1901 and we had lost, as did the French, 200 of our employes out of every thousand on the work, we would have lost 7,300 men each year, and 78,000 during the whole construction period; thus, the Gorgas sanitary program saved the difference between 78,000 estimate of deaths under the old regime and the actual 6,630 deaths under the new, or a total of 71,370. General Gorgas estimated that the saving to the United States Government, due to the work of sanitation, was a total of \$80,000,000.

The Walter Reed board, working under General Gorgas, not only conquered the "stegomyia mosquito", and the "anopheline mosquito" which produced malaria, but also conquered the rat flea which transferred from the rat to the human being the dreaded disease known as "bubonic plague."

"The Canal Zone," says General Gorgas, "for the past 400 years, ever since it has been known to white man, has been one of the most unhealthful spots in all the tropical world and now it is one of the garden spots of our civilized world, with a health condition excelled by no land."

Many of the great problems were brought to the attention of the medical profession at a time when progress was impossible. Did you hear of typhoid, malaria, or yellow fever epidemics during the great World War? No. You say, "We did hear, though, of the flu epidemic which caused a death rate nearly as great as the number killed and wounded in battle." How our laboratories worked during this epidemic to find the direct cause! Eventually, we will find a way to conquer influenza as we did typhoid and malaria.

When the different Workman's Compensation laws went into effect a few years ago, there was a material increase in the number of accidents, due largely to the fact that all accidents had to be reported. Only a short time before, employers realized that by active safety prevention a marked saving in time and suffering of the employe could be produced. Immediately, safety devices,

guards of all descriptions were utilized to prevent accidents. What has been the result of this universal movement to establish safety, not only in industry, but upon the public highways?—Reduction in the number of accidents to employes and making our streets safe for pedestrians.

The Division of Factory Inspection of the Illinois Department of Labor reports that preventive measures are more rigidly and widely used by employers than was the case when factories were merely under police power of the Factory Inspection Department. Furthermore, employes are certain of immediate benefits, employers escape expensive court procedures with large sums for damages in some cases, and the public is benefited by actual reduction in sickness, as health measures are more generally adopted.

One of the constructive measures adopted by the Illinois General Assembly of 1923, upon which employers and employes were able to agree, was placing occupational diseases under the provisions of the Workman's Compensation Act. In order for science to progress, there must be individual cooperation with public efforts. The making of laws without interest and cooperation of parties prevents current efforts from being effective to any adequate degree.

We must admit there is much economic waste in industry as the result of absence from work, caused largely by avoidable illness and physical disability. Employers realize the necessity of physical examinations of workmen and, where indicated, medical service is a part of the routine equipment of the personnel management of industries. The employer may, however, ask if these remedial measures pay. It is not a mercenary question, but one upon which the future generations depend. If need be, the cost of the article manufactured could be increased sufficiently to cover additional expense, so that the workman and his family might be protected.

There are approximately 42,000,000 gainfully employed persons in the United States. More than 25,000,000 of this group have defective vision of sufficient degree to handicap them in their work. A large number

are employed in Illinois. We all know defective vision is a liability. Correct these defects and the procedure would result in increased production, better workmanship, minimized waste, smaller number of accidents, greater individual comfort and efficiency.

The economic value of good eyesight to the industry of this country, although difficult to measure, can hardly be overestimated. Careful examination shows that above 60 percent of employes have defective eyes. The fact that this can be almost entirely remedied makes its continuance inexcusable. Frequently a person is found to be practically blind in one eye without being aware of it. A person so afflicted, if injured, may claim compensation that is not justifiable.

Over one hundred years ago Dr. Benjamin Rush, after whom Rush Medical College was named, wrote a book on medical practice, and in the first chapter cites many cases in which patients suffering from rheumatism and other maladies either were cured or greatly improved by the extraction of teeth.

More than a century ago in England examination of the teeth of school children was considered a routine procedure.

Teeth of the average adult appear to have been neglected, judging from the evidence of 6,000 x-ray pictures taken a few years ago of the mouths of 600 adults of the average age of twenty-eight years. These pictures showed over 1,500 treated teeth and an average of  $5\frac{1}{2}$  teeth missing for each person. Allowing for a few who never had wisdom teeth, we might say that an average of four teeth for each person had been extracted because of neglect of cavities or decay. These same x-ray pictures showed that 51 percent of these 600 adults had infected areas at the ends of roots of one or more teeth, and 53 percent had parts of the bone along the sides of the roots destroyed by the infective process known as pyorrhea. Of the entire 600, 78 percent had one or the other or both types of infection. Nearly every leading physician will tell you that infections of the teeth are by far the most frequent causes of secondary infections elsewhere in the body. The lack of attention to the teeth

of our children and adults results in a series of disabilities which is without doubt cutting short the lives of many people.

What has been accomplished in Illinois to reduce tuberculosis, can be done with respect to cancer, heart disease, eye strain, kidney disease, and many of the preventive disturbances.

During the days of epidemic and pestilence it was considered good evidence of normal health to avoid death. People would expose themselves and their children to mild cases in the hope that they might contract a mild form of the disease. It never occurred to those people that they might entirely avoid pestilence. Their only thought was not to die of it. There was a great improvement during the first part of this century in the avoidance of certain infections, those infections especially referring to infancy.

Our struggle in this age is not only to prevent infections and contagious diseases, but toward perfecting health. A healthy body can be made a positive asset. It is one of the necessary foundation stones, not only to prevent disease, but also for development.

A statistician published figures showing that in 1921 there was expended in the United States an average per capita of \$10.00 for candy, \$9.00 for education, 50 cents for chewing gum, and 29 cents for health.

We must not forget that the power of our nation and the happiness of our people depend upon the health of individuals.