TROPICAL DISEASES AND PUBLIC HEALTH

WHO PAYS?*

BY J. H. FLORENCE, M.D.,
Medical Director, Atlas Life Insurance
Company,
Tulsa, Okla.

While the title of this paper would suggest an essay on eugenics, a treatise on sociology, or perhaps a "movie" story of the ever-present social triangle, do not be alarmed; such is not the case.

It is difficult at this juncture of the world's history to write or discuss aught else but war. We hope to engage you for a few moments on the cost in dollars and cents of sickness and mortality to the Nation, state, county, community, and, last but not least, the individual citizen.

A journey into the clerical departments of business firms, corporations and industries finds the loss of time estimated in dollars and cents even down to the batting of an eye. If financial institutions find it profitable and valuable to calculate the cost of the loss of time of illness and death of employees, why should not we go further and reduce the reckoning down to the family or individual? People never become aroused on great issues, calamities or misfortune until it comes home to them. War is never so real as when the fond parents receive a cable of the death of their boy in the trenches. So it is with the average citizen. Little he cares for public health until a loved one is stricken with typhoid or some other preventable disease. But let us hope there is some way to make the citizen realize the value of public health without it's being so emphatically impressed upon him by sickness and death in his immediate household.

Just a little point on prevention: a 3 3-4 mill tax would have made New Orleans rat-proof any time prior to the advent of plague in that city, but they spent \$600,000 for eradication.

The legislature of one state spent for the welfare of live stock and protection of

game \$151,600 and one-fourth that amount for public health.

Any city during the late influenza epidemic would have appropriated any amount of money for its eradication when two months prior they would not have considered it for a moment. We will be dumbfounded when the total cost is known. There is no doubt that this epidemic killed more people than the United States lost in the present war, all told. Insurance companies have paid claims in excess of \$150,000,000 caused by the recent epidemic.

The economic value of deaths in a recent year was \$2,000,000,000. Several years ago these figures would have sounded large and appalling, but in war times a billion dollars is a mere pittance.

A report based on 94,269 deaths of males, industrial workers, shows that 20.5% died of consumption; that of clerks, bookkeepers and office workers was 35%; general outdoor laborers, 20%. These are statistics taken from policy records of a life insurance company. Actual statistics of one city of not over 100,000 people shows 250 deaths and 1,500 cases of preventable sickness last year; the problematic cost, \$1,035,000. A conservative estimate places the economic loss from preventable germ, postponable, and degenerative diseases in the United States at \$4,000,000,000 annually, five times more than the National debt in 1915, and several times more than the cost of building of the Panama Canal.

Speaking of the Panama Canal reminds us of the remarkable work of General Gorgas during its construction and thorough administration of the Zone's health regime since, clearly showing the difference in results of an administration by military authority and that of political preferment, which is oftentimes indifferent, underpaid, and incompetent. In a certain week the death rate in the Canal Zone was 3.61 per thousand and for that same week in New York it was 12.61. Of course, military government is the ideal one for results in health work, as power is its own apology, but needs none in a

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righteous cause such as the health and happiness of the people.

We hear much of industrial waste, which is right and proper, but at the same time it should be stated that:

Typhoid costs annually.....\$	350,000,000
Malaria	550,000,000
Tuberculosis	700,000,000
Childhood diseases	300,000,000
Accidents to industrial workers	1,500,000,000

A noted actuary states that "civilization brings delicacy with it."

While our National death rate from preventable disease is on the decrease, those from cerebral, circulatory, and kidney troubles are increasing, especially above the age of forty years. It is perhaps surprising to know that in thirty years the death rate from organic degenerative diseases has increased 100 %. Unfortunately there is little hope of improvement from this, as death from these causes depends largely upon individual standards of living and is not reducible by ordinary methods of public education or instruction.

It is recorded officially that in one year 201,616 people died of heart disease. The majority of these are attributable to high pressure business methods, high living, overeating, and drinking. The mortality of combined life insurance companies in 1914 was 68.66 % of the expected, being the lowest of any previous year.

It is not uncommon to hear the remarks of many intelligent people bemoaning the loss of life in the war. If they were conversant with the mortality statistics, not occurring one year but each and every year from disease, they would certainly become interested and feel more keenly the necessity for improvement in all matters pertaining to hygiene, sanitary science, preventive medicine, and other things that physicians, sanitarians and philanthropists have striven to teach for a quarter of a century.

Legal reserve life insurance companies paid claims in one year amounting to \$222,000,000. The amount paid for preventable deaths is appalling, and for that reason your policy is loaded to cover this,

as the life companies are too shrewd to carry the burden resulting from the indifference or ignorance of their policyholders who disregard all laws of health, hygiene, and sanitation.

In 1917, 15,000 women died from child-bed fever. Certainly this whole number is not chargeable to the ignorance or carelessness of the people, but it seems that part of it is due to carelessness and unscientific practice of our own profession. What about it?

Since the fly-killing campaign started, there has been a decrease in typhoid, especially in larger cities, ranging from 3 to 18 %. Typhoid was 14 % of deaths in life companies last year. The mortality from tuberculosis has been reduced 33.9 % in ten years.

It is unnecessary to refer to the record of reduction of typhoid fever in the Army and the reason of its almost absolute abolishment.

Just here I shall quote from Surgeon-General Gorgas as to the general health and mortality in the Army since 1898:

Deaths per thousand:

1898.....	20.14
1900.....	7.78
1901.....	6.90
1916.....	5.13

This record is simply marvelous, and all praise to this great man whose master mind is largely responsible for it.

We note in the current press recently that "common colds in North Dakota cost that State over a million dollars."

Dr. Hoffman is authority for the statement that cancer is increasing 2.5 % per annum. However, a small increase may be attributable to more advanced methods of diagnosis.

The press gave out last year that 116,000 soldiers were discharged from the French Army on account of tuberculosis. It is stated that about 63 % of the young men presenting for enlistment in our Army were physically deficient.

A common saying that "health is a purchasable commodity" is true, but we have yet to see a nation, state, county or city go bankrupt, or even financially embarrassed, buying it.

Anent the above, quoting a noted health authority, "the health records demonstrate that milk inspection has saved enough babies under two years old to more than pay all expenses of maintaining the department for five years."

If this be true, the more we buy the higher the interest and greater the dividends.

If it were the undesirable, the laggard or the useless who suffered and died, the cost would not be counted so much, but when the bread-winner, the useful citizen, the needed mother and innocent babe sicken and die the cost is, indeed, great.

The mental attitude toward labor is important. Some method of obtaining industrial contentment and welfare of labor would certainly lead to efficiency, and the corporation that sees this and plans methods to put a system into effect looking to this end, will reap greater financial reward.

Whatever tends to promote happiness and social welfare tends to longevity, and, in a measure, to reduce crime.

The day will come when a case of typhoid fever appears in a neighborhood it will be known that some one has been negligent of his duty, if not criminally liable. However, it is legal, before demanding pay for damage, to prove responsibility. It would seem that the responsibility rests with the people and the law-makers (including medical men). The largest responsibility should be upon the ones most intelligent and who have knowledge of matters along lines of public health betterment.

In one year in the United States 16,000 suicides are chargeable to financial loss, domestic trouble, poor health and liquor.

It is easier to retain than regain health and any state or city that sets a standard for health and morals for its people, surrounds them with sanitary safeguards and health-prolonging measures will reap a reward beyond all expectations.

It will be interesting to know that the death rate at all ages in England and Sweden is decreasing. The death rate under 45 years is decreasing in the United

States, but the rate over 45 years is increasing.

Let's get ready to take care of the remnants of worried and depleted nations who will flock to our shores.

A legislature spent sixty days appropriating \$60,000 for public health and in fifteen minutes appropriated \$200,000 for wolf bounty. The reason was not that the life of a Nanny or William goat is worth more than a baby, but because no one appeared before this committee in behalf of public health and the baby, while several hundred stockmen appeared in behalf of the sheep bounty bill. In other words, what is everybody's business verily gets left out of the running.

The remedy can be summed up in four divisions:

1. Publicity,
2. Wholesome health laws.
3. Administration, and
4. Education.

PUBLICITY

Nothing pinches or pleases like publicity. The press is a forceful factor and educator, and can always be relied upon to lend its columns to the cause of public health. Another potent procedure is public speaking of physicians and educators on these topics. In fact, leave no stone unturned to get before the people through every available avenue the dire results and cost of violation of laws of health, and the extreme necessity of awakening and putting into practice every law tending to the lengthening of life and staying the grim reaper.

HEALTH LAWS

The average legislator has his political ear to the ground, as it were, all the time. When he hears the rumbling from afar, emanating from the brethren at home, will he turn a deaf ear? Nay, verily, but he will at once become interested and busy, and will proceed to vote an appropriation for any measure from taking the brine out of the ocean to a law requiring the dehorning of all hydraulic rams at puberty. So have his constituents have speech with him and commit him before election on health topics and issues and write and wire him

after election and the scales will fall from his eyes and the results will be satisfying beyond all expectations. However, you need not expect them to exceed the speed limit at any time. The laws put upon the statute books should be endorsed by public sentiment, and with ample funds for their execution, all will be well. If funds be meager, little will be accomplished, regardless of the number and excellency of the legal provisions, so money provided for the execution of the law is doubly important. Emerson in his essay on recompensation tells us that something of value can not be had for nothing.

ADMINISTRATION

The medical or scientific officer who is to enforce or execute the laws should be honest, capable, diplomatic, and untiring. He should by all means be paid for his whole time and then you can expect results. Speed the day when the poorly-paid, part-time, political health officer will be extinct. The live health officer could interest capital and corporations, as was done recently when one large insurance company gave \$100,000 to the National Association for Study and Prevention of Tuberculosis. Should similar institutions and other corporations do the same it would be only a short time until the influence of the research and education would permeate the whole citizenship.

EDUCATION

The above outline deals with the present and the getting of results as quickly as possible, but Humboldt said: "Whatever virtue men would have appear in society must be taught in schools." It is the physician's province and duty to teach, as well as enforce, laws of health, thereby preparing the lay mind for reform. The same wholesome health instruction given our soldiers in the Army when they get home will reflect into every nook and corner of the Nation. So for the future, the real keynote is to have taught these things in school which will be beneficial to the health, lives, longevity, and happiness of our Nation. It is the real, effectual, and permanent way.

MALARIA CONTROL DEMONSTRATION AT HAMBURG, ARK.*

BY H. A. TAYLOR, M.D.,
International Health Board,
New York, N. Y.

I. SELECTION OF AREA OF OPERATIONS

The effectiveness and practicability of measures directed exclusively against the propagation of mosquitoes, as a means of controlling malaria in towns, was further demonstrated during 1917 by operations carried on in Hamburg, Ark. The work here was conducted in co-operation with the United States Public Health Service and the Arkansas State Board of Health, and followed the same lines as that at Crossett, Ark., during 1916.†

The town of Hamburg was selected after preliminary surveys had been made of this and several other small towns in the southeastern portion of Ashley County (the county in which Crossett is located), and after data as to the prevalence of malaria in these towns had been collected and studied. It was chosen mainly for two reasons: first, because its citizens pledged themselves to support the work and appropriated a small amount toward its maintenance; and, secondly, because it was so accessible to Crossett that those having direction of the Hamburg work would be enabled to give whatever personal supervision might be necessary to maintain at Crossett throughout 1917 the conditions which had been established during the preceding year.

II. GENERAL DESCRIPTION

The town of Hamburg is situated near the center of Ashley County, about twenty

*This report (No. 7383) deals with the results accomplished in a malaria control demonstration carried out during 1917 (April 1 to December 31) by the International Health Board in co-operation with the United States Public Health Service and the Arkansas State Board of Health. In summarizing and reporting the results of this work, the Board is seeking merely to make the information available for all persons who may be interested.

†U. S. Public Health Service Bulletin No. 88 gives a full account of the measures for the control of malaria employed at Crossett during 1916.