

## THE PREVENTION OF DISEASE

DR. CLARENCE W. EAST,

DISTRICT HEALTH OFFICER, ILLINOIS STATE BOARD  
OF HEALTH

This title is broad, and I have taken the privilege of using only a portion of it, that which by inference applies to the communicable diseases.

Occupational diseases, diseases due to neoplasms, degenerative diseases due to the wear and tear of life, to dietary faults and to narcotic drugs, surgical conditions and a considerable number of other morbid conditions cannot be further referred to.

## COMMUNICABLE DISEASES

## ONE. Isolation and Quarantine.

The oldest and most generally effective measures for the control of communicable diseases are isolation and quarantine. The rationale of these measures has a three fold basis, viz :

1. Prevention of contact. A large proportion of these diseases depend for their dissemination upon contact of the patient with other humans.

2. Biological antagonism resulting in germ death. An attacking force of pathogenic organisms is successfully combated by the defensive forces of the human body and usually perishes in toto in the case of a large number of diseases which are styled "self-limited."

3. Disinfection of discharges. Body discharges may be disinfected when proper isolation is maintained, thus destroying a common source of disease spread.

## Specific Instances.

There are no communicable diseases in regard to which quarantine and isolation are not enormously useful measures, and there are some in relation to which these are our chief and perhaps only preventive agencies. Among the more common of such are measles, scarlet fever, mumps, chickenpox and whooping cough.

## Two. Control of Carriers.

1. Lower animals as carriers. Some diseases may be brought under practically complete control by the control of the animal species which are their sole means of dissemination. Such are yellow fever, and malaria, disseminated by mosquitoes, the *stegomyia* and *amopheles*, respectively; typhus fever, which is louse borne, and bubonic plague which is carried from rodents, especially rats, to man, by fleas. To this list may be added Rocky Mountain spotted fever which is conveyed to man by a species of tick.

2. Human Carriers. Aside from the agency of patients in spreading diseases, we are forced to recognize the fact that persons who have acquired a large degree of immunity may harbor, especial in body passages, disease germs which when transplanted to non-immunes, may have pathogenic results often of an epidemic character. There are such typhoid and diphtheria carriers. There are such epidemic cerebro-spinal meningitis and possibly acute poliomyelitis carriers.

The venereal diseases, especially syphilis and gonorrhoea, are conveyed at times by those who are not suffering in an obviously acute manner from these diseases, though they cannot be strictly said to be immune carriers.

The control of human carriers is obviously fraught with difficulties. But we hope that the growth of enlightenment will give society the power to identify and control such carriers and that the increase of good will among men "when this cruel war is over," will make all carriers ready to be cleared of any agency in the spread of disease.

## THREE. Control of Diseases by Biological Agents.

There are reactions and reinforcements which may be produced or introduced into the human system which are positive in their preventive effects. Vaccination in the case of small-pox; anti-typhoid and anti-paratyphoid inoculation in the case of these diseases; anti-tetanic serum in tetanus and diphtheria anti-toxin are examples of positive control of the respective diseases. To these may be added anti-plague, anti-

meningococcic and anti-dysenteric sera of large curative and prophylactic value, and preventive because bactericidal in the human body.

Tuberculin is a valuable agent in the treatment of some forms of tuberculosis though only in a limited way curative or preventive.

Serum from those who have had acute poliomyelitis has been hopefully used in those attacked, though this agency is still in an experimental stage.

Very hopeful is recent word that for the two most common types of pneumonia, there is now possible a curative serum of very great potency.

#### FOUR. Sanitation.

Sanitation always stands as a barrier to all communicable diseases. Water, milk and fly borne diseases are easily preventable by rendering free from human and organic waste all sources of food and drink.

Polluted water is not only a typhoid source but perhaps less so than it is a source of the enteric diseases of infancy and childhood—which slay more people than does typhoid.

The unspeakable fly, filth born, filth bred and filth bearing, is a busy, ubiquitous distributor of whatever disease germs the body may excrete.

Personal hygiene is a central factor in disease prevention, especially hygiene of the hands. The Mosaic legislation says nothing of hygiene of the teeth, though it well may have done so. However, it is too late now to pass the suggestion to Moses. However, Moses passes the suggestion to us, and it were well were it heeded as Divine Command, that we should not "eat with unwashed hands"; neither should we cook with them, and especially we should keep them out of our mouths when eating is not the order.

#### FIVE. Education.

We look to educational processes for our greatest gain in disease prevention. "The people perish for lack of knowledge."

With education must go both information and moral culture. The old chivalry of man toward women, the old modesty of women toward men, and all the moral urgency of ethics and religion are needed to save us from the blighting and almost universal venereal disease peril.

#### SIX. Inspiration.

This last because many people ill with many of the long-drawn-out communicable diseases fail of cure and remain sources of infection as men fail everywhere from lack of persistence.

There is enormous and everbrightening hope for the tuberculous who have the moral courage to persist in the regime which we now may establish in almost every household.

Quackery fattens on the ignorance and especially the impatience of its victims. Trying this and trying that breaks the golden chain which every way bind the tuberculous patient around the throne of God.

Many are cured of tuberculosis; and all who are cured have no miracle wrought and find no portable and salable "cure," but do find cure in an intelligent regime patiently and persistently followed.