



## President's Message

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### Environmental Health Practice and Medicine

During these trying times of inflation, recession, high cost of medical care, world food shortage, overcrowdedness, and depleting natural resources, it appears that it is high time to pause, assess the situation, plan, then move forward. The writer believes that, if we were to give these problems proper consideration and evaluation, we would realize that we are on the wrong road and that we can't afford to turn back nor can we go straight ahead, but we must build a road from the present road to the road that we have missed.

The more I talk with other public health professionals and the public, the more I realize that they do not fully appreciate or comprehend the full ramifications and importance of our profession in the total health maintenance picture. Our role in the health maintenance and health care system is extremely important. Without environmental health practice, life expectancies would lower very sharply and conditions would be like they were in Liverpool, England, in the 1830's and 1840's.

Environmental health practice may be defined as the maintenance of the environment in such a manner as to alleviate the burden that the human body must endure in warding off disease and, consequently, remaining healthy. Another way of saying this is that by good environmental health practice we can arrest the causative agent of a disease before it reaches the human body, thus promoting positive health. Causes of disease can be classified as biological, physical, chemical, stress, accidents, lack of nutrients, presence of toxic materials, and diseases can be classified as degenerative, chronic, and those with unknown causative agents.

Therefore, it appears that *Environmental Health is man's first line of defense against disease*. I contend that man's defenses against disease (dis-ease, discomfort, uneasiness, deviation from normal — both physically and mentally) are as follows:

#### I. Man's First Line of Defense Against Disease (Environmental Health Practice).

- A. Water quality management
- B. Proper human wastes disposal
- C. Solid waste management
- D. Rodent control
- E. Insect control
- F. Milk sanitation
- G. Food quality management
- H. Occupational health practice
- I. Interstate travel sanitation
- J. Air pollution control
- K. Water pollution control
- L. Environmental safety and accident prevention
- M. Noise control
- N. Housing hygiene
- O. Radiation control
- P. Recreational sanitation
- Q. Institutional environmental management
- R. Land use management
- S. Product safety and consumer protection

#### II. Man's Second Line of Defense Against Disease (preventive medicine).

- A. Proper nutrition
- B. A healthy skin
- C. Mucous membranes
- D. The body's reflexes
- E. Chemical secretions
- F. Cilia in the trachea
- G. Tears (lysozyme)
- H. Wax in ears
- I. Routine health check-up
- J. Etc.

#### III. Man's Third Line of Defense Against Disease (preventive medicine).

- A. Phagocytosis (a natural process)
- B. Immunity
  1. Active
  2. Passive

#### IV. Man's Fourth Line of Defense Against Disease (curative medicine).

- A. Surgery

- B. Administering of medication
- C. Setting the bone
- D. Etc.

Therefore, when one assesses the situation he realizes that environmental health practice is very important and should receive more attention at all levels in this country and throughout the world than it does. It is more practical, more humane, and could be more economically feasible to control the causative agent while it is in the environment rather than waiting for it to gain entrance into the body or have an effect upon the health of a person. To require the fourth line of defense, curative medicine, means we have failed in our first three endeavors and, consequently, are surrendering because we have lost the battle. It appears that more emphasis should be given to the first three defenses against disease rather than concentrating so much money, efforts, resources, and manpower on the fourth line of defense.

According to a recent article, American physicians wrote over 800 million prescriptions last year. That means approximately four prescriptions for every person in America. I regret that the article did not reveal the number of dollars the prescriptions cost the American people. I will bet that Americans paid as much or more for the prescriptions than they paid for environmental health practice at all levels!

In their book, *Preventive Medicine*, second edition, Herman E. Hilleboe, M.D., and Granville W. Larimore, M.D., list the following as areas of preventive medicine:

1. Accident hazards
2. Ionizing radiation
3. Air pollution
4. Water supply
5. Waste disposal
6. Milkborne diseases
7. Foodborne diseases
8. Insect vectorborne diseases
9. Medical defense against atomic and natural disaster
10. Housing hygiene
11. Occupational health
12. Mental health

They definitely include environmental health practice in preventive medicine. I think the two are inseparable. Consequently, as practitioners of environmental health and preventive medicine, we must continue to use management, planning, research, continuing education, and administrative skills in the practice of our chosen profession.

It appears that not only do the taxpayers, budget makers, and politicians at the local, state, and national levels need to understand environmental health and preventive medicine, but so do practitioners of curative medicine. The answer to the problems was given in 1850 by a Boston bookseller and environmentalist named Lemuel Shattuck when he wrote, "Sanitary professorships should be established in all our colleges and medical schools and filled by competent teachers. The science of preserving health and preventing disease should be taught as one of the most important sciences. It would be useful to all, and particularly to the student in curative medicine."

In their book, *Preventive Medicine*, Drs. Hilleboe and Larimore said, "In fact, the World Health Organization (WHO) since its beginning, has given special attention to preventive medicine and has recognized the unique relevance of prevention to every aspect of medical care. Without preventive services, the financial burden of medical care would soon become unbearable even in developed countries. Yes, unbearable describes the present situation concerning the cost of medical care. Apparently too few people read their book, *Preventive Medicine*, where Drs. Hilleboe and Larimore further said, "Our primary hope of solving the major health problems in the years ahead is to help future physicians to understand and to apply the broad concepts of the preventive aspects of medical care."

I say the primary hope for solving the health problems of this nation is to educate the public, legislators and budget makers to the fact that it is better to prevent than to have to cure and that a proper balance of environmental health practice, preventive medicine, and curative medicine is desirable.

I fear that not often enough have even the preventive medicine experts realized that environmental health practice is the most basic and important element of preventive medicine. Therefore, let us dedicate ourselves to improving our knowledge and skills in the arts and sciences of environmental health practice. Let's work hard, increase our competence, enhance our knowledge, and let other professionals know how important our role in the health care system is. Let's appreciate our role on the environmental team and our role on the health team and do a good job of protecting the home of the public.

Let future generations realize that it was during the trying times of 1975 that the environmental health practitioners, be they environmentalists, sanitarians, environmental technicians, engineers, or professors, rose to the occasion and educated politicians to the fact that without environmental health and preventive medicine, no nation could afford or provide the curative medicine that would be necessary. Just like it takes the architect, carpenter, plumber, electrician, and tile and carpet man to build a house, so does it require various expertise on the environmental and health care teams.

It appears that since environmental health practice is man's first line of defense against disease (or stated another way, man's first form of insurance that he will maintain his present state of health), he should better support it. It is not adequately supported because the American public has not been environmentally educated. The reason that they have not been properly educated is because we have failed along with the total American educational system. Therefore, we have an important challenge which is to educate the populace as to how important environmental health practice is in maintaining their present state of health and a good quality of life.

We have made some progress in recent years as the results of a recent survey indicate. The results of a recent Harris survey of the American people revealed that "three out of four Americans are *unconvinced* that a temporary slow-down of water and air pollution control program will 'help ease the energy shortage' get the economy moving again or ease unemployment." It further stated, "Americans . . . oppose proposals to sacrifice environmental clean-up for either emergency energy programs or those to boost the economy." Are we going to provide the expertise and leadership that they need and expect from this profession? Only by working hard, working together, revering the profession and exemplifying humanitarian characteristics can we fulfill the expectations of the present concerned population and future generations.

Strive to be the best! If you are not the best, do not debase the one in front of you, but do let him know that you are not satisfied with second best and, consequently, you intend to be number one. Then as you strive to be number one, you will take the profession up with you.

Many members of this Association have given much to the profession this year. I must give credit to the members of the National Environmental Health Association Committees, Sections, and Task Forces. As a result of their work, much valuable information has been gathered. A general report of all Committees and Task Forces reports will be given in the next issue of the *Journal*. Future editions of the *Journal* will carry the position papers, task force reports and the needed model ordinances. I believe that the information will be useful in many ways for many years to come.

To those who responded to the plea in my first President's Message, to "work hard for the profession and Association", I say many, many thanks! Without you the year would have been unsuccessful. Oh, yes, please keep up the momentum. Work hard, revere your profession, improve your profession, or find one that you will revere.

Give to the profession nothing and nothing will come to you. Give to the profession and mankind the best you have, and the best will come back to you.

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## Mosquito Larvae Live After Two Year Storage

The mosquito larvae *Aedes aegypti* have been found viable after two years in relatively dry (50 percent humidity) conditions by an investigator at the University of Puerto Rico School of Medicine. It was formerly thought the eggs of this vector of dengue fever was only one year maximum. "The possibility that these eggs may survive almost two years in dry habitats should be given more weight in planning, budgeting for and execution of *Aedes aegypti* control programs," says Irving Fox, an entomologist who did the investigation. He continued, "No place can be assumed to be mosquito-free simply because recent inspections of wet habitats reveal no larvae. A few eggs which may be present in the dry habitats may eventually generate a large population after heavy rains." They used a laboratory colony of the Arcibo strain of *Aedes aegypti*. The adult insects had developed strong resistance to malathion insecticide over 10 generations, a factor which Fox suggested may help account for the longevity of their eggs.