

Special Feature

HEALTH PRIORITIES IN HUMAN ECOLOGY AND ENVIRONMENTAL POLLUTION¹

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Health authorities face a vast multitude of environmental problems. This presentation discusses the need for assigning relative health priorities in deciding how much attention to devote to these various matters.

Exactly 10 years ago, the PAHO Advisory Committee on Medical Research held a one-day session devoted to "Environmental Determinants of Community Well-Being." In a summary of that session, the late Dr. Anthony M.M. Payne posed the dilemmas of a health officer in the following terms:

In Latin America millions of people span, in effect, two centuries of cultural and political contrasts. How can these gulfs be bridged in terms of the provision and acceptance of modern sanitary measures? What are the priorities in the face of limited resources and rising expectations? And, finally, what are the areas of ignorance that must be illuminated to facilitate the actions of tomorrow?³

Although a great deal of progress has been made in some areas of environmental concern since those questions were posed, it is disconcerting to note that similar issues still confront

us. Runaway population growth, astonishing urbanization, and vast industrialization dramatize and intensify the issues of 10 years ago. The primary causes of mortality and morbidity are still, to a significant degree, environment-borne.

For our demographic setting, we have in the Latin America of today some 318 million people and a dismaying prospect, by the year 2000, of 650 million souls. There is no average country or even average region in any given country. Within a single area, vast differences occur in living density, occupation, income, social organization, and attitude. Decision-making, therefore, runs the risk of overgeneralization or even overphilosophizing as to appropriate strategies for corrective measures.

In our recent semantic enthusiasms regarding man and his ecologic stance, some thoughtful people have pointed out that "one hallmark of contemporary America . . . is the short life-span of its crises . . . Civil rights, urban decay, hunger, drugs, crime, campus unrest, medical care, the environment, energy . . . one succeeds another with blurring speed, almost as though some issue-of-the-year club were in charge."⁴

Fortunately or unfortunately, in Latin

¹Excerpted from a presentation made at the Symposium on Ecology and Environmental Pollution held during the Thirteenth Meeting of the PAHO Advisory Committee on Medical Research (Washington, D.C., 24-28 June 1974). Also appearing in Spanish in the *Boletín de la Oficina Sanitaria Panamericana*, Volume LXXVIII, 1975.

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³*Environmental Determinants of Community Well-Being*, Pan American Health Organization, Washington, D.C., 1965 (PAHO Scientific Publication 123).

⁴A. L. Otten, *Wall Street Journal*, 6 May 1974, p. 16.

America most of these issues have always been with us, buffeted, however, by the same ephemeral winds of doctrine as in North America. The challenges to the Central and South American health ministries are directed at their capacities to distinguish between the actual and the possible, between the present and the prospective, and between the known and the unknown hazards to life and well-being.

The simplest task of all is to list the ingredients in the environment, whether biological, chemical, physical, economic, political, or social. This shopping list can then be expanded to suggest the relative hazards they may singly and collectively pose. The obvious epidemiologically validated facts are coupled with the subtle, intriguing potentials of the remote future. Much of recent literature on environment and health covers the real hazards as well as the enticingly unknown. Where knowledge of cause and effect is inadequate, as it often is, the reality of danger is frequently tenuous. The suggestion to seek more knowledge is always unpopular. Hence, the temptation is to try drastic action, or else to do nothing, which is almost as bad.

In the present climate of public opinion, a minister of health is further plagued by the feeling that he should be a conservationist, preservationist, and overall protector of the biosphere. If we add to these functions family planning and zero population growth, he will be so weighed down that his original responsibility for prevention of disease and promotion of health will decline.

He cannot escape the needs for continuation of surveillance, assessment of prevailing and frank disease, detection of new threats, and elucidation of choices for action. But now he is torn from pillar to post by popular, and often misguided, demands. Can this burden be lightened by a renewed interest in the environmental domain, by expanded inquiries into the unknown, and by the epidemiology required to separate the "wheat from the chaff" in health department activity?

For example, the universality of the enteric diseases in the Americas must somehow be

weighed against such environmental hazards as mercury poisoning. The former phenomena are too familiar, having posed a serious and constant problem for over a century. The latter issue was the temporary "pitch" of the mass media.

Now, after an absence of some fifty years, *Shigella dysenteriae*, type 1, has reappeared in Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, and Nicaragua. Epidemics in these countries have dramatized the fact that millions of people consume human fecal material all their lives, and that diarrheal diseases still represent the first or second cause of human death.

Similarly, the recrudescence of thousands of typhoid fever cases in Mexico in recent years reminds us that a world presumably made safe by antibiotics, therapeutic chemicals, and less than totally effective vaccines, is not really so safe after all, and that the fecal-oral route of infection has not been eliminated, it has merely been ignored.

One may hope that we will find out more and more as time goes on about how PAHO can help in leading the way through the shoals of environmental impacts upon man. Every day the Organization must take its multiple choice examination. It must do something about everything, but it must recognize that some objectives are far more important than others.

Are nearly 200,000 cases and over 11,000 deaths from shigellosis in El Salvador⁵ (July 1969 to June 1973), and 12,000 excess deaths—diarrheal and dysenteric—in Guatemala over the last several years, as important as the rare human cases of mercury poisoning? Is the choice to be made by television coverage, because of the tragic experience with mercury in Japan caused by inexcusable industrial practices? Or can it be made, at least in part, on the basis of the best information and warrant?

Can mankind profit from a deliberate epidemiologic investigation as to whether the

⁵See A. Faich, *et al.*, The rise and fall of Shiga dysentery in El Salvador, in the *Bulletin of the Pan American Health Organization*, Volume 7, No. 4, 1973, pp. 20-24.

millions of cases of Chagas' disease might be materially reduced by economical surfacing of the walls of houses, so as to eliminate the harborage of the vectors of this disease? Would this be far cheaper than the specter of building anew hundreds of thousands of houses? ⁶

PAHO must and will concern itself with the vulnerability of the fetus and the child to chemical pollutants. It cannot escape the gnawing responsibility for research into the mutagenic and carcinogenic risks inherent in the environment.

Still, how much methemoglobinemia of infants actually occurs in the Americas because

⁶The insect vector of Chagas' disease makes its home in the multiple cracks of walls of adobe houses or in house walls made of other fragile materials subject to such harborage. Smooth surfaces eliminate this harborage.

of excessive nitrates in drinking water? Is its frequency so great that it warrants rigid prohibition of the use of such waters? If not, why the costly vigilance?

Is noise a major public health hazard, other than in industry? How much budgetary allotment should go into control of "rock-and-roll" music, or the air compressor? These questions are all relevant to the decision-making process.

A director of health must practice selection in his strategy of work, as well as in his devotion to studies. His resources, as well as those of all other ministries, are always in short supply. They must not be squandered, while in the pursuit of knowledge, or seduced by the interesting but unimportant. Obviously, no public servant can be impervious to public clamor, no matter how erroneous. He should, however, strive to lead as well as to follow.

SUMMARY

Given the present climate of public opinion, health leaders are haunted by the feeling that they should also be conservationists, preservationists, and overall protectors of the biosphere. If we add to these functions family planning and zero population growth, health authorities will be so weighed down that their original

responsibility for prevention of disease and promotion of health will decline. It is thus vitally important to weigh the actual impact on health of the multitudes of environmental problems we face, and so to determine in a health context what the priorities for attacking these problems should be.