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INFECTIONS

IMPORTANCE OF ENVIRONMENTAL SANITATION
IN THE URBAN AND RURAL ENVIRONMENT IN
THE CONTROL OF ENTERIC INFECTIONS

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IMPORTANCE OF ENVIRONMENTAL SANITATION IN THE URBAN AND
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All the countries in Central and South America have been beset with endemic and epidemic enteric diseases throughout their history. These infections represent the first or second cause of mortality and morbidity. Although there is some indication of a decline in the mortality rate, the total number of deaths is on the increase because of unprecedented population growth. The present and prospective toll is and will be excessively high.

These diseases are due to a multiplicity of specific organisms, or combinations thereof. They vary in time, place, and ages of susceptibles. Epidemiological studies make abundantly clear that all of them have generally a common cause, namely, human excreta in the wrong place -- in water, in food, on the hands, and ubiquitous in household facilities and equipment.

This simplicity in origin, unpleasant as it is, has been long and universally recognized. This recognition has not been matched, however, by sanitary measures designed primarily to raise the level of personal and in-house hygiene. Until these are widely activated, we shall continue to be plagued by endemic enteric infection, periodically punctuated by explosive epidemics.

What environmental measures are most likely to interrupt this vicious cycle of disease and ultimately to assist in major reduction? In the first place, excreta must be removed from direct contact with people. Today, people literally live in and consume these human discharges. Second, it should be made possible for people to wash, so that personal hygiene is both recognized and practiced. Third, food preparation and handling must be scrupulously pursued within sanitary surroundings. And fourth, public understanding of these elementary essentials must be ultimately accomplished.

The implementation of these objectives and requirements is difficult and complex, but less costly than many would suppose. They cannot wait upon the elusive development of nonexistent vaccines -- obviously an area for continuing research. They can be pursued independently of the development of more skillful diagnostic therapeutic measures or even the improved identification of specific causative organisms.

The environmental determinants of the enteric diseases are clear. Why then the eternal and delayed corrective activity? Workers in this field are often intimidated by the sheer mass of people exposed, by the logistics of the measures to be employed, by the financial and manpower costs, and by the obvious resulting lack of motivation.

Simpler routes of prevention and control are then pursued, whose potential for success is of demonstrated low order. Vaccines are a case in point. Even if efficient ones were at hand, and they are not, the probability of their total usefulness is low. Their use must be repetitive, or, when interrupted, the diseases will occur again because the environmental "soil" has remained untouched and hazardous.

The conclusion to which one is driven is that a vast educational process is essential to raise personal understanding of cleanliness and official motivation and will. Difficult and time-consuming, of course, but where is the alternative?

This program must be accompanied by the rapid spread of water availability in rural and urban areas. We shall always be confronted by those who say such objective is unrealistic, costly, and well-nigh impossible. In the Americas, history has already demonstrated that much of this argument is untrue.

Let us look first at urban water supply. Some 12 years ago world bank loans for this purpose to the Americas were approximately \$100,000. Last year loans for the same purpose exceeded one billion US dollars. To this figure one must add capital investments by local communities of \$2,600,000,000. The total, in other words, had grown in 12 years from \$100,000 to approximately \$3.7 billion -- hardly a demonstration of impossible implementation. Over 75 per cent of the urban population was supplied -- an unheard of figure about a decade ago.

The rural situation does not match this. Only some 12 per cent of the total funds have been invested in rural areas. It is much more difficult to improve rural conditions, but it must be done and is being attacked, both by the World Bank and by PAHO.

The removal of excreta lags even further behind, in urban as well as in rural areas. The job remains a challenge and necessity -- and must begin now.

Incidentally, the costs intimidate the health officer. They should not. In many instances they are modest and easily repayable in whole or in part. The fiscal processes alarm, because they are unfamiliar. They are none-the-less successful, where whole-heartedly pursued by those practitioners long-engaged in this art. Certainly the constraints imposed by environmental determinants of enteric diseases will never be lifted by listing the array, and it is extensive, of all the financial, political and cultural obstacles to their correction. The tools are at hand. Why not use them?

The raising of these funds and the responsibility for their expenditure are often not within the duties of the Ministry of Health, but fall to other ministries. Health officials, however, bear the continuing assignment of leadership in the functions hitherto noted, and do represent the major catalyst in moving them forward expeditiously.

Parallel with these actions we shall need studies on cheaper and easier technology, improved management, far better service to the poor, and increased manpower at all levels. These are and always will be in short supply. While we pursue them, the primary and well-known implementations need not be deferred. They have been postponed long enough! The situations have been greatly aggravated by rapid population growth and major urbanization. These have not changed the essential validity of the solutions required. They point up the necessity for intensification of effort.