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POLICY IMPLICATIONS FOR DISEASE PREVENTION
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For there to be any rational approach to policy formulation or modification in this area, it is obvious that we must first appreciate what diseases are to be prevented or controlled. Then we must examine the policies that may be successfully developed to prevent or control such diseases.

I will not deal extensively with the first, as you have now heard several times today of the kinds of diseases that may affect man as a result of climate change and I agree that these may best be divided into those that are the direct and those that are the indirect result of that change. The indirect effects in particular represent the results of a changing ecology and we now all accept that, even today, our social and physical ecology is one of the principal determinants of the healthy or unhealthy state. You are also aware of the growing interest in the new and emerging infectious diseases that often also represent a changing ecology, and in some ways this problem of today gives us a whiff of what we might expect if indeed major ecological changes were to occur. The emergence or resurgence of cholera, the hemorrhagic fevers and tuberculosis have made it clear that the microbes have a remarkable capacity to adapt and evolve in a dynamic manner. The threat of these diseases is also more apparent because of the changes in population and migration patterns with concentrations in our cities that are ever-growing.

I must mention briefly one aspect of the determinants of the appearance of preventable diseases that is rarely dealt with in any depth. Much of the disease burden in the world is related to poverty, and the differentials between and among countries are reflected in their disease burden. Climate change that brings with it the kinds of diseases that we predict, will again bear hardest on the poor and perhaps will be one other phenomenon that widens the health gap between groups of people.

Policies on disease prevention and control are usually based on the acceptance of three main approaches: (1) removal of hazardous exposure (primary response); (2) early detection (secondary response); and (3) treatment to minimize adverse effects (tertiary response). If for the sake of this discussion we take as a given the occurrence of climate change, then option (1) is not viable although it is obvious that this is the most effective response. But the primary response is not all or none, and there may be actions taken to mitigate the extent of the exposure. The policy implication

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at this level would be for those interventions that you know well that would reduce the magnitude of climate change.

It is in the early detection and the secondary response that I see the greatest effective role for the health sector and the greatest scope for effective policy formulation. It is critical that there be adequate surveillance systems in place to detect the appearance of preventable diseases, although we all recognize that the inherent difficulty in establishing and maintaining a good surveillance system for this purpose lies in uncertainty about what is abnormal. It is difficult to determine what might be the early effects of climate change against a background of a high incidence of such diseases that may theoretically be also ecologically determined.

But the most important policy aspect of such a surveillance system is that it must be global and this calls for a level of international cooperation that is not easy to obtain. However, the first step might be to entrust a suitable organization such as the World Health Organization or in this Region the Pan American Health Organization, with the responsibility to assist countries in establishing the kinds of systems that allow for ready interchange. The technology already exists and it has been demonstrated for specific diseases that it is feasible to have such a system. The experience with human as well as animal diseases has given us the confidence that national policies on surveillance can be developed, strategies elaborated and the necessary activities carried out.

I must emphasize the global or multinational aspects of surveillance and the need for policy in this area. We all accept that the main features of surveillance are the systematic collection of pertinent data, the analysis of such data and the determination of the information that results from the analysis. But it is not of much value to establish surveillance systems when the epidemics are really upon the people. It is the presence of the system's infrastructure and the alertness of trained individuals that can provide the early warnings needed to put effective action in place that will make a difference.

The policy implications as regards to treatment are rather outside the scope of this brief presentation that focuses more on prevention. But the essence here will be to develop the care services at primary, secondary and tertiary levels that are efficient and are distributed in such a way that there is equitable access to them.

Much of our thinking on disease related climate change seems to be based on the premise that they will occur gradually if not silently. This may not be the case and it is quite possible that some of the effects may be massive and sudden. Floods may alter the ecology such that epidemics occur, leading to a disaster situation. Another major policy implication, therefore, relates to preparedness for disease emergencies. The essence of the prevention in this case lies in the previous training that allows for a rapid local response and the capacity to mobilize the appropriate external support. The recent epidemic caused by the Ebola virus provides us with a case study on the kind of organized, local, national and international coordinated response that is needed to deal with a disease emergency. Countries must, therefore, be encouraged and supported in developing the necessary capacity to respond appropriately to such disasters. This implies identification of responsible groups, training and provision of adequate communication facilities and the development of precautionary action plans. Our Organization has demonstrated quite clearly that although our countries may not prevent natural disasters, adequate preparedness which has been deliberately

constructed can indeed prevent many of the unfortunate consequences. In this as in other areas, our support from agencies like AID has often meant the difference between success and tragedy.

Health maintenance, as well as prevention of disease from any cause, must be seen as an intersectoral activity. Unfortunately, most national policy still maintains rigid sectoralization of responsibilities. Examination of the kinds of climate-related diseases that might be prevented will show clearly that while primary responsibility rests with the health sector, others must be involved. For example, the future may offer vaccines for some diseases such as cholera but, as of now, the main preventive policy is directed towards provision of clean and safe water. While there is acceptance in principle of the policy of intersectoral collaboration in such areas, in reality this does not occur very frequently. We are still wrestling with the question as to whether this is an indictment of the political structures that obtain, or a misguided perception of the place of health and disease prevention in the public agenda.

A policy decision must be made about the method of informing all the people in a non-panic producing manner of the potential disease impact of climate change and the methods that must be taken to prevent or mitigate such disease. In this, it is essential that the key social actors be involved and from these I would single out the nongovernmental organizations and the media. It must be part of the national policy on disease prevention on the whole to involve the media in the attempt to modify individual or collective behaviour. This can only be done if there is a systematic approach to the media, establishment of a dialogue based on provision of accurate data, and an appreciation of the need to make the case to the gatekeepers that issues such as these are of public interest.

If the predicted global climate change does become a reality, international and national public health will be presented with a major challenge which will be compounded by the lack of empirical data. We are making predictions without the benefit of past experience and in many cases without accurate knowledge of even the status quo. This, therefore, calls for the strengthening of national capacity for research and policy analysis. This policy analysis will be essential to guide much of the health sector reform which is now being undertaken in almost every country. Unfortunately, much of the debate about sector reform addresses mechanisms for organizing and financing the health care services and little attention is paid to those essentially promotive and preventive services that are likely to bear the brunt of the responsibility for climate changes related disease. Unless there is a deliberate policy to pay attention to these services as of now, all our people and especially those that are currently most marginalized will suffer enormously if the predicted climate changes do occur.

Major lasting national policies that have led to effective disease prevention have come as a result of, or have been considerably strengthened by, agreements and mobilization at the international level. The eradication of smallpox was the result of a worldwide commitment to the implementation of a defined health policy. Polio eradication in the Americas is another example. After a firm decision and policy were adopted at the Regional level, each country adjusted its own policies to match the regional one. Six years and 544 million U.S. dollars after the policy decision, the countries, which themselves spent 80 percent of that sum, reached their goal. There has been no polio in the Americas for the past four years. The same approach is being taken for measles and neonatal tetanus and there is every expectation that there will be the same successful outcome.

I must also cite an example from veterinary public health. This Region has committed itself to the policy for elimination of foot-and-mouth disease and already tremendous progress has been made in Argentina, Brazil, Chile, Paraguay and Uruguay. Here we calculate the benefits of this policy in economic terms -- it is estimated that the increased revenue to these countries, so far, from exporting meat free of this disease is of the order of 1 billion U.S. dollars annually. The achievement and lessons learned in this area must be one of the best kept secrets in the Americas.

My Organization -- the Pan American Health Organization -- has more than a passing interest in policies for disease prevention and control. From our inception we were assigned the role of facilitating the interchange of health information among the countries of the Americas. Originally much of this related to quarantinable diseases, but even though the diseases have changed and the mode of communication has been revolutionized, we believe that it is even more relevant today to provide the mechanisms for the international approach to these problems. No country will have the luxury of standing away from global climate change or ignoring the international health policies that must be developed and implemented if its citizens are to have the best chance for disease prevention. This Conference must represent an excellent initiative for sensitizing us all to what must be done, by whom it should be done, and the cost of the appropriate policies.

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