Global Health, Personal Action

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(See the viewpoint by Hotez et al. on pages 871–8)

For those concerned about disparities in health between rich and poor nations, 1993 was a momentous year. First, the World Bank’s World Development Report for 1993, subtitled “Investing in Health” [1], forcefully put forward the thesis that improving the health of the poor is an engine for economic development. This is the case because healthier workers are better able to cope with both the intellectual and the physical demands of work and, therefore, are not only healthier but also more economically productive. Second, the World Bank published a book entitled Disease Control Priorities in Developing Countries [2] that, for the first time, assessed the cost-effectiveness of a set of tools designed to address the major health problems of the poor in developing countries and provided a means for developing nations to prioritize interventions on the basis of disease burden, available resources, and maximum impact per dollar invested. To be sure, it would be preferable if these nations had the resources necessary to provide for the basic health needs of their populations; however, as that is not the case, there is utility in using analysis of cost-effectiveness to guide decision making.

In the past decade, considerable work has been done to measure the burden of disease due to specific conditions and to predict the distribution of these disease-specific burdens over the next several decades [3]. These studies have largely made use of the newly created metric of disability-adjusted life years (DALYs). This metric is designed to weigh and cumulate the burden imposed by premature death plus years lived with disabilities due to the diseases and conditions considered. In 1990, the burden due to infectious diseases (which accounted for the majority of DALYs at the time) was predicted to diminish and the burden due to noncommunicable illnesses was predicted to rise considerably, under the assumption that control of infectious diseases was both feasible and achievable. This scenario now seems overly optimistic. Although great advances have been made, these have not resulted in control of infectious diseases. Rather, the spread of HIV infection (and, with it, tuberculosis) has continued, and, in developing countries, there has been growing resistance among tuberculosis, malaria, and common bacterial enteric and respiratory illnesses to commonly used drugs—a problem magnified by the failure to eliminate vaccine-preventable diseases by comprehensive and sustainable immunization programs in these settings [4].

In the current issue of Clinical Infectious Diseases, Hotez et al. [5] report on the results of a meeting, organized by the Disease Control Priorities Project (DCPP) team, that focused on tropical infectious diseases as part of a process of revising the original 1993 publication [2] in the light of new knowledge. Their report [5] highlights several key issues and indicates several points of departure from the earlier publication [2]. First, priorities for research and program implementation do not mirror disease burden (as measured in DALYs). Second, several new features are prominent on the world stage. These include the growing database provided by longitudinal demographic surveillance surveys conducted in different parts of the world (providing more accurate information on disease trends than has ever been available), the greater attention being paid to health by the world’s development banks, and the greater investment in research on tropical infectious diseases by both developed and developing countries. Third, the DCPP will consider the potential impact new knowledge can have and will also prioritize those research areas with the highest potential payoff. The report [5] classifies 13 diseases and conditions into 3 categories, as follows: diseases with effective control measures (Chagas disease, onchocerciasis, lymphatic filariasis, leprosy, and infectious causes of vision and hearing loss), diseases lacking effective control measures (dengue, leishmaniasis, and African trypanosomiasis), and widespread major infectious diseases for which...
available control measures are not being used to full effectiveness and for which new and more effective measures are essential (malaria, diarrheal diseases, helminthes, tuberculosis, and measles).

More than 10 million childhood deaths still occur annually, of which ~60% are preventable, the majority being due to diseases that are infectious in nature. New attention, focus, and resources are desperately needed if the potential to reduce morbidity and mortality due to childhood infectious diseases is ever to be realized. Systematic application of current tools is unlikely to achieve the goals sought, because the application of yesterday’s solutions to tomorrow’s problems cannot be sufficient, by itself, to effect the control (let alone the eradication, or even the extinction) of these diseases and their agents. Rather, tomorrow’s solutions much be developed through ongoing basic and translational clinical research, applied in conjunction with the good use of currently available methods.

The dual agendas—application of control measures and research to identify new and potentially more-effective approaches—must, therefore, go on concurrently. For infectious diseases specialists—even those still in training—this is a golden opportunity. There is enormous challenge. The achievement of success will save countless lives and reduce suffering. There is increasing attention and allocation of capital—both political and research—to the problems of poor and marginalized populations. Finally, the personal rewards of participating in the effort are an unparalleled satisfaction (albeit not without its share of frustration), new friends and colleagues around the world, and a most interesting and adventurous lifestyle. New opportunities to participate in these grand challenges are being provided through training and research support from the Fogarty International Center and other Institutes of the National Institutes of Health, and pledges of greater support to improve clinical services and access to drugs are coming from the governments of the United States and other developed nations and (perhaps most importantly and reliably) from organizations such as the Bill & Melinda Gates Foundation, the Rockefeller Foundation, and nongovernmental organizations, such as the Drugs for Neglected Diseases Initiative of Doctors Without Borders.

References