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HILE EPIDEMIC AND PANDEMIC BOTH denote diseases that simultaneously attack many members of a community at a rate greater than normal, the two differ in that the latter occurs over an extensive portion of the planet. AIDS is a pandemic. Unlike other so-called international health problems, such as malaria and smallpox, AIDS strikes the developing and developed world with equal vengeance and forces all nations to consider their common interests in the solution of international health problems. The AIDS pandemic provides a new opportunity to view health as an international phenomenon, one that is best addressed by policies with international dimensions.

According to World Health Organization (WHO) estimates, based on cumulative reports from 133 countries through February of 1988, the world has had 150,000 cases of AIDS and between 5 million and 10 million people are presently infected with HIV, the causative organism. While Asia and Oceania have thus far largely been spared, Europe, Africa, North America, and South America have all been significantly affected. The United States and central Africa have been the hardest hit—forming two epicenters of the pandemic—with 204 reported cases of AIDS per million inhabitants in the United States and about 150 cases per million in central Africa. Estimates of the prevalence of HIV infection in the general population range from

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0.04 to 0.3 percent in the United States³ and from 0.7 to 18 percent in certain central African countries.⁴ Preliminary evaluation of the effect of such infection rates in developing countries suggests that AIDS is so serious a threat that it may substantially reduce their population growth rates over the next few decades.⁵ In response to this worldwide threat, more than 77 nations have tried to confront the problem unilaterally by passing laws regarding AIDS.⁶

That AIDS is found and addressed unilaterally in most countries around the world, however, does not make AIDS an international problem per se. The common cold exists in every country of the world, but it is not ordinarily perceived as an international problem. There is a distinction between a *worldwide* problem and an *international* problem. The latter has an important feature in addition to worldwide occurrence. This feature is the direct interrelatedness of the problem in one country with the problem in another or of the cause of the problem in one country with the effect in another. Such interrelatedness is typical of a number of problems in the world today, including pollution, ozone depletion, arms proliferation, hunger, and AIDS. International interests in AIDS control arise largely because of this interrelatedness.

The AIDS problem meets the interrelatedness criterion on several levels. First and most obvious, the disease is caused by an organism that does not stop at national boundaries. The spread of HIV within a country is related to the spread of infection throughout the world because HIV is transmitted through human contact. Though intrinsically more deadly and less explosive in its spread, HIV is in this respect similar to the influenza virus, another cause of pandemic disease.⁷

The movement of the virus across international boundaries is paralleled by the movement of medical ideas, care providers, and investigators. Western and Western-trained medical investigators and health-care workers have increased their attention to medical problems in the developing world over the past few decades. Despite the appeal and prominence of non-Western medical systems, Western biomedicine has become the only truly international system of medicine. One aspect of the ascendancy of Western biomedicine is the increasing role international organizations play in health care. Aid organizations and pharmaceutical firms deliver Western-based health-care services and Western medicines the world over. Con-

fronting the AIDS pandemic will thus involve the systematic use of the same general medical system throughout the world. Insofar as the parts of this international medical system are interrelated, the parts of the global AIDS problem which this system confronts will meet the interrelatedness criterion.

Beyond the nature of the virus and the state of contemporary medical practice, AIDS is an international problem because of the nature of health. The AIDS pandemic, as we shall see, suggests that we take an ecological view of health, a view that stresses the interrelatedness of the health of people throughout the world.

The identification of AIDS as an international health problem raises a series of important questions. Is an international response to the AIDS pandemic required? If so, which aspects of the global AIDS problem should receive international attention? What are the national and international interests in AIDS control? What are the obstacles to international cooperation in the control of AIDS?

NATIONAL AND INTERNATIONAL INTERESTS IN AIDS CONTROL

Every nation has an interest in AIDS control because it has a stake in the health of its citizens. Virtually all those infected with HIV are now thought to develop AIDS, a disease for which the mean survival is presently about two years, even in developed countries. As a major cause of both sickness and death, AIDS brings about serious suffering and psychological distress. Nations have a rational interest in the limitation of such adverse effects on the physical and mental well-being of their citizens.

AIDS presents monetary costs that nations also have good reason to want to limit. One well-informed estimate of the direct costs of care of AIDS patients in the United States in 1986, for example, is \$1.1 billion; this is expected to rise to \$8.5 billion in 1991. Direct nonpersonal costs (for research, screening, education, etc.) are estimated at \$0.54 billion in 1986 and \$2.3 billion in 1991. Indirect costs (attributable to the loss of productivity due to AIDS morbidity and mortality) are estimated to have been \$17 billion in 1986 and \$55.6 billion in 1991. The direct costs for 1991 represent 1.4 percent of estimated personal health-care expenditures for all illnesses; and the indirect costs in 1991 represent 12 percent of the indirect costs of all

illnesses. From a monetary perspective, confronting the AIDS problem by limiting the spread of infection or developing less expensive or more effective treatment protocols is therefore a significant interest of the United States and other nations.

Nations have an interest in AIDS control beyond the health threat AIDS poses and the cost it engenders. A number of features of AIDS as a disease—its lethality, its sexual transmission, and its appearance in previously stigmatized or neglected groups—have made it a threat to the social structure of society. AIDS has raised troubling questions regarding sexual behavior, privacy rights, discrimination, and professional responsibility. In nations around the world, AIDS has been problematic for the insurance industry, blood-bank services, the military, the penal system, and the school system.

Such health, monetary, and social issues are present in all nations but differ in each nation according to its cultural, political, and medical features. The differences are most evident in a comparison between developed and developing countries. The social impact of AIDS clearly varies. For example, in the United States more than in any other country, years of progress in the civil rights of the homosexual minority are at stake. For developing countries, already faced with considerable health problems and severe restrictions on the money available for the health sector, the health impact of AIDS is likely to be especially severe. In developing countries as well, years of economic development are at risk as AIDS siphons off funds for its control and as it decimates the population. Since AIDS is essentially a disease of young, productive adults, many commentators have remarked that from the standpoint of development, AIDS may be especially problematic in the urban areas of Africa, where it may deplete the educated elites.¹⁰

Interests in adequately confronting the AIDS problem, however, are not limited to the national level. International stakes in AIDS control also exist. What is the interest of the United States, for example, in controlling the pandemic rather than just the U.S. epidemic? What is its stake in international cooperation in AIDS control? Should rich nations that can unilaterally implement AIDS-control interventions concern themselves with the AIDS problem in other countries? Should poor nations that can barely address their own AIDS problem be concerned with AIDS in other nations? In

what way is the international impact of AIDS the concern of a single nation?

An international interest in AIDS control arises (1) when one nation has an interest in the control of AIDS within another nation, (2) when aspects of the AIDS problem are of mutual concern to two or more nations, (3) when one nation needs others to adequately address the AIDS problem within its own borders, and (4) when health is viewed as a global resource. In general, international cooperation is required to properly address such international interests. It is clear, however, that since international cooperation is usually motivated by the self-interest of the parties involved, no plan to control AIDS through increasing international cooperative effort will remain effective unless it continues to serve the national interests of each nation.¹¹

A brief example from the problem of pollution will illustrate the four types of international interests a country may have. First, the United States may be concerned about the problem of pollution in Canada and may have an interest in Canada taking adequate measures to solve it. Second, the United States and Canada may wish to address the problem of pollution as it affects them both, as with the pollution of Lake Michigan by both parties. Third, the United States may need Canadian assistance to deal with the pollution problem within the United States—for example, through the provision of Canadian expertise unavailable in the United States. Fourth, the United States may be concerned about pollution generally because of the threat it poses to the global environment and to life on earth. In all four situations, the U.S. and international interests lie in dealing with the international aspect of the problem. The situation with AIDS is analogous.

Regarding the first situation where international stakes in AIDS control arise, even if AIDS did not affect the United States, for example, the United States might nevertheless want to help control AIDS in central Africa because of humanitarian, economic, and political concerns, as it does with other diseases. The United States may thus have an interest in the control of the pandemic, not merely its own epidemic, out of concern for the political, social, or economic stability of other countries. In a pandemic, however, interests in control both within and without a given country become congruent. That is, Western concern about AIDS in Africa probably arises from

a confluence of interests that Western nations have in AIDS control within their own borders as well as in other nations. Indeed, most diseases affecting the Third World—even sicknesses such as malaria, for which effective technology for prevention and cure already exist—are not accorded the attention given to AIDS.

The movement of goods and people across national boundaries is typical of the second situation in which international interests in AIDS control arise. Examples include immigration and tourism of HIV-infected individuals, trade in defective condoms and antibody tests, international transport of HIV-infected blood, and interdiction of illegal intravenous drugs. Properly addressing such concerns will require international policy and cooperation. In the effort to control both the export and the transfusion of HIV-contaminated blood, for example, international effort must figure prominently. WHO, in collaboration with the League of Red Cross-Red Crescent Societies, the International Society for Blood Transfusion, and the U.N. Development Program is organizing a global safe-blood program. 12 Part of the impetus for this program has been the possibility of success in controlling this mode of HIV spread, and part has been the expectation that success in this area might further foster international cooperation in AIDS control.

Similarly, concern about international transmission of HIV through sexual contact has led many countries (including Belgium, Bulgaria, China, Costa Rica, West Germany, India, Iraq, South Africa, the United States, and the Soviet Union) to test visiting students, immigrants, and returning nationals for HIV antibodies. ¹³ In a report on such testing, WHO made prominent note of the fact that "no region of the world is free from HIV infection," as if to stress the futility of border testing in the face of a pandemic disease. ¹⁴ Such testing policies have also been appropriately criticized on the grounds that they are expensive, relatively ineffective, and potentially racist. There is an international interest in appropriate and cooperative policy regarding international travel.

A third situation where international interests in the AIDS pandemic arise is where one nation requires the involvement of other nations to confront the AIDS problem optimally. AIDS research is a good example. AIDS research is also illustrative of the obstacles to international cooperation in AIDS control.

A fourth situation in which international interests in AIDS control arise is when health itself is conceptualized as an international concern.

OBSTACLES TO COLLABORATIVE AIDS RESEARCH

The conduct of collaborative AIDS research in Africa—generally involving African subjects and American, European, and African scientists—is illustrative of both the need for and the obstacles to international cooperation in AIDS control. Western and African nations have much to gain if an effective means of AIDS prevention or therapy is developed as a result of collaborative research; national interests would clearly be well served by such discoveries.

Africa has been identified as an ideal site for human research trials of AIDS vaccines and drugs for a number of practical and scientific reasons. Many have pointed to the low cost of conducting a trial in Africa because labor is cheap there. There is a scientific need for large study groups, which also militates for the conduct of trials in Africa. The design of studies to test the efficacy of pharmaceutical agents in HIV-infected persons generally involves a trade-off between the number of subjects and the time necessary for the research to show an effect of the pharmaceutical. The need to quickly find efficacious therapy for HIV infection would therefore favor large-scale trials involving many thousands of subjects in many countries. In the trial of an HIV vaccine, research subjects would have to be free of HIV infection and yet at risk of infection; this expectation is easier to meet in Africa than in the developed world.¹⁵ And in the trial of drugs, subjects who are infected with HIV but who do not self-medicate with putative anti-HIV agents ("pharmacologically virgin" subjects) would be required; such subjects are scarce in the United States and Europe but common in Africa. A constellation of epidemiological features that facilitate the assembly of appropriately large study groups thus exists in Africa.

Hence, the United States, for example, needs the assistance of central African nations if it is to make progress in AIDS research. Conversely, African nations—lacking both well-developed research institutions and adequate funds—need the involvement of the developed world if useful AIDS pharmaceuticals are to be developed.

But the AIDS pandemic presents an enormous challenge to scientists, physicians, public-health officials, politicians, and others concerned about public welfare. Obstacles to international cooperation in the confrontation of the AIDS pandemic may be grouped in five categories: (1) practical issues, (2) diverging national interests, (3) lack of consensus on the nature of the problem, (4) mutual mistrust among nations, and (5) cultural dissonance. Such obstacles are to be expected in all international cooperative efforts, including large-scale vaccination (if an AIDS vaccine becomes available), AIDS prevention, and AIDS research. Identifying the obstacles sometimes makes straightforward solutions obvious. Ways around other obstacles are more elusive.

Practical Issues

International cooperation in AIDS research will be hampered by a number of practical concerns. The poor quality of statistics gathered in much of the world where surveillance systems are inadequate will be a problem. In Africa, for example, there is serious underreporting of AIDS cases for a number of political and logistic reasons, though the situation is improving. Even in countries with adequate resources and good surveillance, other limitations in the information that is gathered may arise; in the United States, for example, conducting necessary seroprevalence studies has proven politically problematic. Seroprevalence studies and case surveillance will be necessary for the proper design of AIDS pharmaceutical trials, and, more generally, for proper planning and resource allocation on an international scale. A related practical obstacle to international cooperation is the erroneous or delayed communication between nations of such statistical and other scientific information. Even more ominous, however, is the shortage of trained Third World researchers and clinicians capable of good care and research in Third World settings. Collaborative efforts will depend heavily on the availability of such professionals.

Diverging National Interests

Differences in national interests will present obstacles to international cooperation. National interests in AIDS research may diverge according to the particular form the AIDS pandemic takes in particular countries. National research agendas will likely be sensitive to the local expression of the pandemic. For example, the requisite social

science research on the spread of HIV through drug abuse in Amsterdam will not be the same as that needed to understand the spread through prostitution in Kinshasha. And in some countries, perhaps dictated by low local seroprevalence, the emphasis may be on research to produce preventive rather than curative measures.

National interests may vary with respect to the very need for AIDS research. Health officials of some African nations, for example, have complained that AIDS research has been foisted on them by the West, that they know best how to use their very limited health budget, and that they have more pressing health problems than AIDS. Indeed, the cost of a single HIV antibody test (roughly \$1 to \$4) approaches the annual per capita health expenditure for many African countries.

Lack of Consensus

Cooperative international effort will ideally be based on consensus about the nature of the problem. In some countries, however, AIDS will largely be viewed as a social problem amenable to a change in morals, in others as a criminal problem meriting police action, in others as an external problem requiring border interdiction, and in still others as a health problem responsive to public-health intervention. Such discrepant views about sexually transmitted diseases are not without precedent.16 In some countries, a type of national blindness or feeling of immunity may prevail that necessitates persuading people they have a problem to begin with. Differences in perspective about the AIDS problem considerably complicate efforts to reach and sustain a common approach to AIDS control. Nations where drug abuse is illegal, for example, may not be open to the idea of researching the effect of providing clean needles on HIV transmission through intravenous drug use. Essential here is that HIV is transmitted by activities that are viewed differently-generally negatively-in different societies. That HIV is transmitted sexually subverts international cooperation because of profoundly disparate ideas about sex, sexually transmitted diseases, and the susceptibility to infection with sexually transmitted diseases.¹⁷

Mutual Mistrust

Cooperation will be hampered by mistrust among nations. This problem will likely be exacerbated by virtue of the fact that the two major loci of HIV infection are in the United States, one of the most

developed regions of the world, and in central Africa, one of the least developed. These two regions have vastly different cultures, economies, politics, and health-care infrastructures.

International mistrust has manifested itself in superfluous arguments about which region is to blame for the origin of HIV. 18 While there are some legitimate reasons for concern regarding the origin of HIV (e.g., the clues it might provide regarding HIV transmission or immunity), such concern is often inappropriately extended to assignment of blame. Precisely for this reason, Africans are very sensitive to the assertion that AIDS originated in Africa. Many Africans feel that they have been victims of "cynical and unhealthy exploitation by the Western press"19 and have complained that "AIDS has exposed the thinly veiled racism and fascism existing in Europe, because here is a pandemic problem being treated as if it is the scourge of a particular part of the world."20 Some African officials have asserted that AIDS has arisen in North America²¹ and complain that there is little research into this possibility.²² International misunderstanding is not limited to the developing world, of course, as the controversy over whether French or American researchers first discovered HIV demonstrates.²³

Differences in economic and political power might also lead to abuse of the poor by the rich and of the weak by the strong, prompting resentment, quite appropriately, in the former. For example, Africans have been concerned that Western investigators, unchecked by foreign or local supervision, might conduct "savage experiments" in Africa. There is a feeling that "Western science often comes to Africa with dirty hands."24 In view of past experience with occasional disregard for the rights of human subjects of research in Third World countries, this fear is not entirely unjustified.²⁵ For example, in the case of a recent trial of an AIDS vaccine in Africa, Africans were understandably concerned that they were serving as subjects for research deemed too risky to be conducted in the West. An unidentified source close to the research group conducting the trial informed a New York Times reporter that "it was easier to get official permission [to conduct the vaccine trial] here [in Zaire] than in France."26 Special attention to local concerns about the conduct of research will be necessary.²⁷ Of course abuse of developing-world research subjects is intolerable.

African concerns about Western research transcend concerns that subjects might be treated unethically. Many Africans have voiced the more general concern that they do not derive much benefit from their contribution to collaborative research efforts. African physicians have complained that:

some of the Western press and researchers have used the seropositivity data we supplied, but instead of putting HIV under the microscope, they have put our society, our customs, and even our love life under the lens. Do you find it surprising that some of us resent this? Whatever goes wrong, whether it is famine, war, politics, or anything else, it is always because we Africans are more incompetent, corrupt, blood-thirsty, or immoral than other people. We just get tired of it—we give you information and so often you seem to turn it against us.²⁸

To avoid abuse of African subjects in a crude dollars-for-bodies trade in research trials, there must be assurance that all will benefit from the research being conducted. This benefit should extend to study participants (in the form of counseling on risk reduction and, possibly, the provision of other health care) and to the nation in which the study is conducted. The ethical principle of justice requires that those who stand to benefit from research also be those who bear the burden. Since all the world stands to benefit from an effective AIDS vaccine, for example, risks and benefits should be uniformly distributed. In Africa, however, economic constraints may well prevent even modest distribution of a beneficial vaccine, should one be developed. The benefit to Africans of a collaborative vaccine trial is thus only hypothetical unless those developing the vaccine make a financial commitment to provide free or subsidized vaccine to the population in which it is being developed. This commitment should be a contingency of an AIDS vaccine trial conducted in Africa by Western scientists.

Cultural Dissonance

Another obstacle to international cooperation in general and to collaborative AIDS research in particular is cultural dissonance. Profound differences in the cultural conception of illness, sex, medicine, and research have great impact on the facility with which nations can cooperate with one another. An important example of cultural dissonance is provided by differing cultural conceptions of biomedical research ethics.²⁹

A system of ethics is a set of rules governing the proper, moral, and desirable conduct of an individual or group; it is fashioned by a particular group of individuals within a particular cultural tradition. The ethical expectations regarding research with human subjects therefore vary cross-culturally. Biomedical ethics may thus provide an arena for cultural conflict. Indeed, conflict in research ethics might be expected to exacerbate other conflicts that sometimes arise when the Western medical tradition is transposed into a non-Western cultural setting.³⁰ The AIDS pandemic has called into question the basing of research ethics on Western ideals because, here, the same disease occurs throughout the world in disparate cultural settings, everywhere drawing research interest, and everywhere raising ethical questions.

MEDICINE AND HEALTH AS RESOURCES HELD IN COMMON

International interests in AIDS control also arise if medicine and health are viewed in international perspective. As we have seen, some of the necessary biomedical research on AIDS will involve the participation of many countries. The need for and conduct of such research is illustrative of the increasingly international character of medicine and health. More generally, the control of the AIDS pandemic should not be based solely on Western ideas and technology. Western ideas and technologies are insufficient on two levels.

Western biomedicine is insufficient on the technical level. It is extremely expensive, especially for the developing world; the widespread distribution of the anti-AIDS drug AZT, for example, which costs about \$7,000 per person per year of therapy, is inconceivable in countries like Zaire. Furthermore, the demands of biomedicine for equipment and supplies are often so great as to make it impracticable in many settings; abridged versions such as "primary health care" are therefore usually offered. Biomedicine is especially weak in dealing with chronic disease, where the emphasis is on care rather than cure; it often neglects the essential importance of suffering in illness; ³¹ this deficiency will be troublesome since it is becoming increasingly likely that AIDS will be more of a chronic than an acute condition. Also, biomedicine generally stresses delivery of care to an individual; such individual-based medicine may be inappropriate in many settings,

especially in Africa, where illness is sometimes viewed as a social as well as a personal phenomenon. Finally, biomedicine may be too culturally distant from patients in much of the world. These limitations in biomedicine mean that it alone is not sufficient for the proper medical care throughout the world of people at risk of infection or already infected with HIV.

Nevertheless, that the biomedical control of AIDS is problematic does not mean that AIDS will be more easily confronted by other medical systems. Despite its limitations, biomedicine clearly offers promise in the global control of AIDS. One goal in global AIDS control should be to make Western biomedicine transferable to disparate socioeconomic settings.

Western views of health, medicine, and disease are insufficient on the conceptual level because they tend to be reductionistic. Disease is seen as a physiological derangement within the body that undermines an individual's health. Generally, to understand disease and its effect on health, a form of analysis is applied that moves sequentially through progressively finer levels, from symptoms to organ systems to cellular processes to biochemical abnormalities to genetic constitutions. Doctors intervene in the course of the disease in the affected individual in an attempt to arrest or reverse it. Health is therefore seen as the state of individual well-being that is generally improved by medicine and worsened by disease.³²

Health, however, is not simply the antithesis of disease, an antithesis mediated through the action of medicine at the level of the individual. Health may be conceptualized at a level greater than that of the individual.

A reductionistic approach is not sufficient for effective AIDS control. Indeed, a type of thinking that stands in contrast to the traditional scientific approach in the understanding of AIDS will also be required. The only way to control AIDS will be to examine the interaction between the affected or susceptible individuals and their environments and to determine the causes of disease and health that are extrinsic to the individual. In addition to moving analysis inward, within the bodies of AIDS victims, we must move outward toward an understanding of the relationship between the patient and his sexual partner, his family, his doctor, his community, and beyond. We must examine how these concentric circles interact with each other. We must understand the worldwide ecology of the pandemic.

When confronting the AIDS pandemic, a national AIDS epidemic, or an AIDS patient, one must keep in mind that each exists because of the others, each acquires some of its properties from its relation to the others, and aspects of all three evolve because of their interaction.³³ The AIDS pandemic is not simply the sum of the epidemics faced in all the nations of the world nor simply the sum of the AIDS problems faced by all the inhabitants of the globe. The whole is greater than the sum of the parts.

Just because the global AIDS problem can be approached at subordinate levels does not mean that this is the true nature of the problem. As an example, consider the need to approach an infected person's sexual partners. In this situation, addressing only the concerns of the infected individual is clearly an inadequate response to the problem. On this small scale, ecological thinking is employed: ideally, the partner or partners are approached to be tested, treated, or counseled. The degree to which others must be included in the approach to the AIDS problem should be extended even further. As we have seen, certain aspects of the AIDS pandemic can be addressed only through international effort.

Such an approach to the AIDS pandemic will in turn require renewed sensitivity to the international character of medicine and health. With respect to medicine, the nature of the AIDS problem has come to be understood by a concerted international effort involving the participation of physicians, patients, and research subjects from the United States, Europe, and Africa. The AIDS pandemic will reinforce the idea that medical knowledge is nonproprietary. Medical knowledge is created through the observation of and experimentation on generations of sick patients. Medical professionals hold the knowledge acquired through such activities in trust for the good of the sick. 34 Because of the special and intimate way medical knowledge is acquired—from the illness of human beings over the course of time—it should not belong to any particular person or group. Advances in AIDS research should therefore not be seen as appropriately benefiting only certain societies. No rational distinction can be made between the sick in one society and the sick in another with respect to who deserves, in a moral sense, the benefits of medical knowledge. The AIDS pandemic forces us to see that confining the ethical imperative to treat the sick within national boundaries weakens rather than strengthens the altruistic basis of medicine.³⁵ Given

the increasingly international character of modern Western biomedicine, confining the ethical obligation to treat within the West is even more inappropriate.

An international view of health is also suggested by the AIDS pandemic. From the position that health is the responsibility of the individual, the notion of public health has historically arisen in recognition of the fact that certain aspects of health preservation are outside the control of the individual. Concerns that are largely beyond the control of individuals, such as sanitation or communicable disease control, have come to be recognized as requiring a concerted societal response, and the national government has emerged as an important protector of the health of its citizens. This progression may be extended to the international level. The public that public health serves must be more broadly construed in order to reflect the international stakes in AIDS control. Certain aspects of health preservation may now be seen as requiring international attention.

The AIDS pandemic suggests a further profound change in the way health is perceived. Health is usually viewed on the level of the individual, as the absence of disease in a body. Occasionally, health is viewed on the level of a nation, in the measurement of national health statistics or indicators. Even in the latter case, however, the health of a nation is seen as the aggregate sum of the health of its constituent individuals, and health-status indicators merely represent the sum of events, such as death or injury, seen in individuals.

The AIDS pandemic suggests a change in this view: health may be conceptualized as a resource held in common, like the oceans, a resource that may be threatened worldwide and that requires collective action to protect.

Viewing health as the possession of the individual is a Western notion, stemming in part from the congruence with which we view the phenomena of the body, the individual, and the person. But in some non-Western cultures, such phenomena are incongruent. Some cultures have more relational concepts of personhood, concepts that emphasize the embeddedness of an individual within society, and draw much looser boundaries around the person. The Kongo of Lower Zaire, for example, have conceptions of illness that "consistently [draw] the effective boundary of a person differently, more expansively, than classical Western medicine, philosophy, and reli-

gion. The outcome is usually disconcerting or unreal to Western medical observers."³⁷ The very definition of the body in Kongo culture is achieved by means of constant reference to social relations. As a result, disease in one body is often seen as reflective of disturbance in the group and is considered to be the problem of the community. In the West, by contrast, persons are generally defined as autonomous individuals; problems with the body are therefore seen as the concern of the person.³⁸

Health, in other words, may be conceptualized as a possession of a group of people, a resource not belonging solely to individuals. A key aspect of this type of resource is that concerted effort is required to preserve it, lest the resource be depleted.³⁹ The narrow, nationalistic policy that AIDS may be controlled within a single country neglects the international character of what the AIDS pandemic threatens.

A step toward viewing health as a common resource was made in 1978 at a conference sponsored by WHO and UNICEF in the Soviet Union at Alma Ata. At this conference, a historic consensus on the worldwide promotion of community-based, primary health care was reached. The conference participants articulated an international goal that "all people of the world by the year 2000 [attain] a level of health that will permit them to lead a socially and economically productive life." More remarkably, however, the Alma Ata declaration stated that:

All countries should cooperate in a spirit of partnership and service to ensure primary health care for all people, since the attainment of health by people in any one country directly concerns and benefits every other country.

The declaration thus essentially articulated the notion of health interdependence among nations. ⁴¹ The AIDS pandemic provides a pragmatic foundation for this notion. The reason that nations are interdependent in the area of health transcends the empirical observations that diseases spread or that physicians move. The reason that nations are interdependent in health is that the health of humanity may be viewed as a common resource.

THE ROLE OF INTERNATIONAL ORGANIZATIONS

As we have seen, some of the stakes raised by the AIDS pandemic are international in character and require international cooperative effort to address. For a worldwide program in AIDS control to be effective, however, there must be some agency for coordinating and monitoring the work. International efforts are difficult to manage given the realities of national sovereignty and the acknowledged limitations of international bureaucratic organizations. Nevertheless, international organizations can contribute to an international effort by supplying a continuity of professional staff that is experienced with AIDS and able to move from country to country, by coordinating the distribution and monitoring the quality of pharmaceuticals used worldwide, by redirecting discretionary funds to areas where they are needed acutely, by promulgating international guidelines and distributing information, and by coordinating international strategy once it is formulated. ⁴² In general, international organizations such as WHO can implement international policy.

International policy is more appropriate and international organizations are more suited to addressing certain aspects of the AIDS pandemic than others. There are some important advantages to responding to AIDS at the national level. When international organizations are used to coordinate a series of national responses, or when they are used to deliver care at a local level, they often neglect local sociocultural issues and are therefore ineffective. 43 A national response is likely to be more sensitive to local factors than an international response. A response based on the concerns of a single nation may allow local priorities to be set in a more appropriate fashion. And a national response is more flexible and less cumbersome than an international effort in which policies are set at a central level. Recognizing the importance of the foregoing concerns, a prominent component of the international efforts by the WHO Special Program on AIDS has been to foster national initiatives to control AIDS that are in keeping with international goals.⁴⁴ Indeed, an international effort does not preclude national efforts to control AIDS; ideally, it should complement them.

An international approach is less useful in AIDS control when the aspect of the problem being addressed is not technical. The more a health problem is influenced by social and cultural factors, the less there will be for an international organization to do. Sexuality, for example, is so deeply surrounded by local cultural traditions that an international approach directed at changing sexual behavior is inappropriate in most situations. Both the understanding and the control

of HIV transmission through prostitution are likely to be very different in Paris, Rio de Janeiro, Port-au-Prince, New York, and Kinshasha.

Paradoxically, therefore, in some aspects of AIDS control, a global strategy must recognize local diversity. Educational policy, for example, being profoundly influenced by local sociocultural factors, may best be left to the national level. Given the way health care is financed, the provision of medical services is also probably necessarily left to the national level. AIDS research and the collection of seroprevalence data, however, are more appropriate concerns of international organizations. This is not to say that the scientific and technical concerns in AIDS control are not influenced by social factors. Rather, such concerns may be more amenable to international consensus and cooperation.

International organizations are relatively good at addressing technical and scientific aspects of international health problems. When the problem is configured as a technical one, WHO is apt to be especially effective; for example, in the case of the global smallpox eradication program, where a similar protocol could be used everywhere, WHO was extremely successful. International organizations can thus do a great deal to address practical and technical obstacles to international cooperative efforts. WHO has appropriately played a role in addressing such obstacles, for example, through the development of a global data-reporting network and the coordination of research efforts. But there are some further steps that need attention in the confrontation of the AIDS pandemic and that deserve the attention of WHO.

Cooperative intervention will be needed to take initiative where there is little private-sector incentive to intervene (e.g., in the development of a low-cost HIV test that would be usable in Third World countries). Cooperative effort is required to improve the basic health-care infrastructure of developing countries; even if an AIDS vaccine were available and both developing and developed countries desired widespread vaccination, infrastructural constraints would make worldwide vaccination very difficult. Cooperative effort is needed to strengthen Third World capabilities in medical care and research; limitations in the quantity, training, and facilities of researchers in the developing world, in both basic and social sciences, are a serious problem.

Assuming effective technological interventions in the prevention and therapy of AIDS are eventually discovered, and assuming AIDS persists at a time when such technology exists—as seems likely given the experience with other widespread diseases—the global AIDS problem will then no longer be primarily a technological one. That is, in the future, should an AIDS vaccine, for example, become available and should it not come to be universally applied because of political, cultural, or financial obstacles, the challenge will be to overcome these nonscientific obstacles. Unfortunately, international organizations will likely be of limited efficacy in these areas.

AIDS AS A PERMANENT INTERNATIONAL PROBLEM

The AIDS pandemic illuminates some critical polarities in which international health problems may be configured. There is a distinction between pandemic and epidemic disease. There is a distinction between international and national interests in AIDS control, between the global and the local effects of the disease, and between systemic and reductionistic perceptions of the AIDS problem. These polar configurations of the AIDS problem are not mutually exclusive. Rather, they are complementary ways of conceptualizing and addressing the important issues in global AIDS control.

A pandemic disease cannot be addressed in the same manner as an epidemic disease. While the AIDS pandemic clearly demands a series of national responses, an international response is also necessary. AIDS creates a special set of international issues that would not have arisen had the disease affected only one nation or region. AIDS demonstrates the increasing interdependence between nations in the area of health.

In all probability, AIDS will never be eradicated. It is likely to become a permanent part of the international agenda, much like arms control and pollution. The more the international character of AIDS is recognized, the easier it will be to establish proper institutional and conceptual bases for addressing the international interests in AIDS control.

ENDNOTES

- I am grateful to Professors Allan M. Brandt, Richard A. Cash, Alexander N. Christakis, Stephen R. Graubard, and Arthur M. Kleinman for their helpful comments on earlier versions of this paper.
- ¹World Health Organization, *The Global AIDS Situation*, *Update March* 1988, 54 (Geneva: World Health Organization, 1988).
- ²The Panos Institute, *AIDS and the Third World*, *Update* (Washington, D.C.: The Panos Institute, 1988).
- ³"Human Immunodeficiency Virus Infection in the United States," *Morbidity and Mortality Weekly Report* 36 (49) (1987):801–4; "Quarterly Report to the Domestic Policy Council on the Prevalence and Rate of Spread of HIV and AIDS—United States," *Morbidity and Mortality Weekly Report* 37 (36) (1988): 551–54. The variation in these estimates depends on the group sampled, e.g., first-time blood donors, military recruits, hospitalized patients.
- ⁴T. C. Quinn et al., "AIDS in Africa: An Epidemiological Paradigm," *Science* 234 (21 November 1986):955–63. The variation in these estimates depends on the country surveyed and the group sampled.
- ⁵R. M. Anderson, R. M. May, and A. R. McLean, "Possible Demographic Consequences of AIDS in Developing Countries," *Nature* 332 (17 March 1988): 228–33.
- ⁶Professor W. Curran, Harvard School of Public Health, personal communication, October 1988; see also: World Health Organization, *Tabular Information on Legal Instruments Dealing With AIDS and HIV Infection*, document WHO/SPA/HLE/87.1 (Geneva: World Health Organization, 1987).
- ⁷Regarding the 1918 influenza pandemic, see W. I. B. Beveridge, *Influenza: The Last Great Plague* (New York: Prodist, 1977).
- ⁸Other medical systems, such as Ayurveda, will also likely be used, but not in a systematic fashion throughout the world.
- ⁹A. A. Scitovsky and D. P. Rice, "Estimates of the Direct and Indirect Costs of Acquired Immunodeficiency Syndrome in the United States, 1985, 1986, and 1991," *Public Health Reports* 102 (1) (1987):5–17.
- ¹⁰M. F. Goldsmith, "AIDS around the World: Analyzing Complex Problems," Journal of the American Medical Association 259 (13) (1988):1917–19.
- ¹¹For a discussion in the case of arms control, see R. R. Bowie, "Basic Requirments of Arms Control," *Dædalus* 89 (4) (1960):708–22.
- ¹²M. E. Samuels, J. Mann, and C. E. Koop, "Containing the Spread of HIV Infection: A World Health Priority," *Public Health Reports* 103 (3) (1988): 221–23.
- ¹³Panos Institute.
- ¹⁴World Health Organization, Report of the Consultation on International Travel and HIV Infection, document WHO/SPA/GLO/87.1 (Geneva: World Health Organization, April 1987).

- ¹⁵N. A. Christakis, "The Ethical Design of an AIDS Vaccine Trial in Africa," Hastings Center Report 18 (3) (1988): 31–37.
- ¹⁶A. M. Brandt, No Magic Bullet: A Social History of Venereal Disease in the United States since 1880 (New York: Oxford University Press, 1987).
- ¹⁷For an example of various sexual mores, see R. Parker, "Acquired Immunodeficiency Syndrome in Urban Brazil," *Medical Anthropology Quarterly* 2 (1) (1988):155–75.
- ¹⁸R. Sabatier, Blaming Others: Prejudice, Race, and Worldwide AIDS (Philadelphia: New Society Publishers, 1988).
- ¹⁹J. Brooke, "AIDS Danger: Africa Seems of Two Minds," *The New York Times*, 4 January 1987; see also, J. Brooke, "In Cradle of AIDS Theory, a Defensive Africa Sees Disguise for Racism," *New York Times*, 19 November 1987.
- ²⁰T. Agbabiaka, "Racist Bigotry on AIDS," African Concord, 4 June 1987.
- ²¹See generally R. Sabatier.
- ²²But see H. P. Katner and G. A. Pankey, "Evidence for a Euro-American Origin of Human Immunodeficiency Virus," *Journal of the National Medical Association* 79 (10)(1987):1068–72.
- ²³L. C. Chen, "The AIDS Pandemic: An Internationalist Approach to Disease Control," *Dædalus* 116 (2) (1987):181–95.
- ²⁴A. J. Fortin, "The Politics of AIDS in Kenya," *Third World Quarterly* 9 (3)(1987): 906–19.
- ²⁵See, for example, C. McCord, "International Research Laboratory in Bangladesh," The Lancet (i) (1978):768; D. Warwick, "Contraceptives in the Third World," Hastings Center Report 5 (4) (1975):9–12.
- ²⁶J. Brooke, "Zaire, Ending Secrecy, Attacks AIDS Openly," New York Times, 8 February 1987.
- ²⁷N. A. Christakis, "Ethical Design of an AIDS Vaccine Trial."
- ²⁸Quoted in R. Sabatier, 89-90.
- ²⁹N. A. Christakis, "Which Ethics for Transcultural Biomedical Research?" (forthcoming).
- ³⁰P. U. Unschuld, "Medico-Cultural Conflicts in Asian Settings: An Explanatory Theory," Social Science and Medicine 9 (6B)(1975):303–12.
- ³¹A. Kleinman, The Illness Narratives: Suffering, Healing, and the Human Condition (New York: Basic Books, 1988).
- ³²This is, of course, too simple a formulation; see I. Illich, *Medical Nemesis: The Expropriation of Health* (New York: Pantheon Books, 1976).
- ³³For further consideration of this idea in a biological context, see R. Levins and R. Lewontin, *The Dialectical Biologist* (Cambridge: Harvard University Press, 1985).
- ³⁴E. D. Pellegrino, "Altruism, Self-interest, and Medical Ethics," Journal of the American Medical Association 258 (14) (1987):1939–40.

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- ³⁵L. C. Chen and R. A. Cash, "A Decade After Alma Ata: Can Primary Health Care Lead to Health for All?" New England Journal of Medicine 319 (14) (1988): 946–47.
- ³⁶See W. DeCraemer, "A Cross-Cultural Perspective on Personhood," Millbank Memorial Fund Quarterly 61 (1) (1983):19–34; and also, C. Geertz, "Person, Time, and Conduct in Bali," in C. Geertz, The Interpretation of Cultures (New York: Basic Books, 1973).
- ³⁷J. M. Janzen, *The Quest for Therapy in Lower Zaire* (Berkeley: The University of California Press, 1978), 189.
- ³⁸However, some Western health-care systems do make illness and well-being the responsibility of the community. See R. G. Evans, "'We'll Take Care of It for You,' Health Care in the Canadian Community," *Dædalus* 117 (4) (1988): 155–90.
- ³⁹G. Hardin, "The Tragedy of the Commons," *Science* 162 (13 December 1968): 1243.
- ⁴⁰World Health Organization, "Alma Ata 1978, Primary Health Care" (Geneva: World Health Organization, 1978).
- ⁴¹Some have argued that the AIDS pandemic highlights the importance of global health interdependence; see L. C. Chen, "The AIDS Pandemic: An Internationalist Approach to Disease Control."
- ⁴²For a discussion of the role of WHO, which is analogous to that described here, in the global effort to control smallpox, see F. Fenner et al., "Lessons and Benefits," in *Smallpox and Its Eradication* (Geneva: World Health Organization, 1988).
- ⁴³J. Justice, *Policies, Plans, and Peoples: Culture and Health Development in Nepal* (Berkeley: University of California Press, 1986).
- ⁴⁴World Health Organization, Special Program on AIDS, Progress Report #2, document WHO/SPA/GEN/87.4 (November 1987).
- ⁴⁵See F. Fenner et al..
- ⁴⁶Public-private sector arrangements in the development of AIDS technologies require careful consideration; see N. A. Christakis and M. J. Panner, "Appropriate Collaboration between Industry and Government in the Development of an AIDS Vaccine," *Law, Medicine & Health Care* 17 (2) (1989) (in press).
- ⁴⁷For an example of complaints by African officials, see J. Perlez, "Scientists From Western Countries Pressing for AIDS Studies in Africa," *New York Times*, 20 September 1988. Faced with the increasing pressure of Western scientists to permit HIV research in their countries, African physicians have also repeatedly pointed out that they are interested in genuine cooperation and not a subservient status.