GLOBALIZATION AND HEALTH: CHALLENGES FOR HEALTH SYSTEMS IN AN INTERDEPENDENT* WORLD

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The shift of human affairs from the restricted frame of the nation-state to the vast theater of Planet Earth is affecting not only trade, finance, science, the environment, crime, and terrorism, but health as well (Valaskakis, 2001). In 1997 an influential report by the U.S. Institute of Medicine stated: "Distinctions between domestic and international health problems are losing their usefulness and are often misleading."[1] This is due to what the great European historian Eric Hobsbawm (1994) called "the virtual annihilation of time and distance."

We do not wish to suggest here that intense international contacts are a new development. Since time immemorial the forces of trade, migration, war, and conquest have bound together people from distant places. After all, the expression "citizen of the world" was coined by the Greek philosopher Diogenes in the fourth century B.C. What is new is the pace, range, and depth of integration. Like never before, the consequences of actions that are taking place far away show up at our doorsteps.

The degree of proximity in our world can be illustrated by the fact that the number of international travelers has tripled since 1980—three million people now travel abroad every day. In addition, two years ago the traffic on international telephone switchboards topped 100 billion calls for the first time in history

*Some of the reflections on globalization and health presented here are based, with some modifications, on the following article: Frenk, J. and Gómez-Dantés, O. 2002. Globalization and the Challenges to Health Systems. *Health Affairs* 21, 3:160-165.

(Kearny, 2001). Even the anti-globalization movement went global in 2001 when activists from all over the world came together for the first World Social Forum in Porto Alegre, Brazil. We cannot underestimate the implications of these changes for health. In addition to their own domestic problems, all countries must now deal with the international transfer of risks and opportunities for health.[2]

The most obvious case of the blurring of health frontiers is the transmission of communicable diseases. Again, this is not a new phenomenon *per se*. The first documented case of a transnational epidemic was the Athenian plague of 430 B.C. Having originated most likely in Africa, it was spread by ships carrying grains through Persia to ancient Greece (Porter, 1996). The Black Death of 1347, which killed one-third of the European population, was the direct result of international trade. In the 16th century the conquest of the Aztec and Inca empires was an early example of involuntary microbiological warfare through the introduction of smallpox and measles in populations that had not been exposed to these illnesses. The colonization of the Caribbean and Brazil almost led to the extermination of the indigenous populations, a situation that led to the importation of slaves from West Africa. This traffic, in turn, brought malaria and yellow fever to the New World, creating additional disasters (Porter, 1999). In this microbial exchange, it is possible that Christopher Columbus carried a serious disease from the Americas to Europe, syphilis (Porter, 2004).

Another example in the uninterrupted history of the transnational transfer of infections is the cholera pandemic of 1829, which began in Asia, spread through Egypt and North Africa, entered Russia and cut across Europe. Three years later, it reached the shores of the United States. More recently, the influenza pandemic of the early 20th century, misnamed the "Spanish flu", produced more deaths than World War I.

As we can see, infectious diseases have a long cosmopolitan history. What is new, as mentioned earlier, is the scale of what has been called "microbial traffic." The explosive increase in trade and world travel produces thousands of potentially infectious contacts daily, and jet planes have made even the longest intercontinental flights briefer than the incubation period of any human infectious disease. Thus, the Asian "tiger mosquito," a potent vector for dengue fever virus, was introduced into the United States in the 1980s in a shipment of used rubber tires imported from northern

Asia. Likewise, a Peruvian outbreak of cholera turned into a continental epidemic in a matter of weeks in the early 1990s.

Tuberculosis is another reemerging problem. Globally, around 9 million people suffer from this disease, and over 2 million die from it annually. There are several reasons for its comeback; one of them is the fragility of immunosuppressed people. Tuberculosis is often one of the first signs of HIV infection. Other variables that influence the development of this disease are overcrowding, malnutrition, and the lack health care, all common factors among the socially marginalized.

The latest additions to the list of global epidemics are severe acute respiratory syndrome, or SARS, and avian influenza. The latter still is a regional danger, but some specialists anticipate a pandemic of this type of influenza (Osterholm, 2005). In this regard, we are faced with two major challenges. First, the need to design more effective drugs against viral diseases in general and, influenza in particular. *Oseltamivir*, a neuraminidase inhibitor, can reduce symptoms and prevent the transmission of the flu, but its real benefits have yet to be demonstrated. The other challenge is the faster, more economical development of new technologies for the manufacture of influenza vaccines. This is an enormous challenge, given the demand that would occur in a pandemic of this nature (Garrett, 2005). There is also need to boost vaccine production capacity by strengthening the infrastructure, improving training, and transferring technology to more countries than the nine that are able to manufacture the vaccines.

The acceleration of the spread of infectious diseases is related to radical changes in our environment and lifestyles, which has led Arno Karlen (1995) to talk about a new biocultural era. Indeed, to complicate things even further, it is not only people and microbes that travel from country to country, but ideas and lifestyles. Smoking and obesity are the best examples of health risks linked to globalization that are imposing a dual burden on the world's health systems, complicating the existing inequities even further. In fact, the problems that affect **only** the poor, such as malaria, are not the **only** problems of the poor. Tobacco-related deaths are increasingly concentrated in the developing countries, which lack the legal and regulatory structures to curb the enormous power of multinational corporations. The only way of curbing that power is to couple national policies with global instruments, such as the WHO Framework Convention for Tobacco Control, the first international

health public treaty. Mexico was the first country to sign this treaty in the Region of the Americas.

The globalization of health goes beyond diseases and risk factors to include health care and its inputs. For example, the regulations on access to prescription drugs in one country may be subverted when its neighbor allows the indiscriminate purchase of antibiotics, thereby stimulating the appearance of resistant microbes in both countries.

Another recent development with potential implications for the irrational prescription of drugs and consequent spread of microbial resistance is the growing online service and drug trade. The fact that this phenomenon is already not a marginal one is demonstrated by the recent efforts of the World Health Organization to control it.[3]

All these are contextual factors that limit the ultimate impact of health inputs, particularly drugs and vaccines, since, at the end of the day, all technological innovations must be provided through concrete health systems. As we have witnessed in the bitter debates surrounding access to HIV/AIDS drugs, developing effective drugs in the absence of adequate mechanisms for delivering them to patients can create very serious ethical and policy dilemmas.

Fortunately, this is one of the areas where interdependence has opened up new avenues for collective international action. The initial efforts of the 1990s to reduce the cost of drugs to fight AIDS in poor countries yielded only modest results. Several years ago, however, strong international mobilization persuaded several multinational drug companies to establish agreements with developing countries to offer the drugs at heavily discounted prices. Mexico benefited from these agreements, and thanks to them, today our country offers universal access to antiretrovirals.

Forces related to globalization also prompted the organization of the United Nations (UN) General Assembly Special Session on HIV/AIDS in 2001, which approved a historic Declaration of Commitment "to enhance coordination and intensification of national, regional and international efforts to combat AIDS in a comprehensive manner." This was the first time in history that a session of the General Assembly was devoted to a health topic, thus underscoring the growing link between health, economic development, and global security.

The growing complexity of health systems has also made international comparisons more valuable than ever. Given the enormous economic and social impact of policy decisions,

countries can benefit from shared learning. This was the significance of the recent effort by WHO to assess the performance of all 191 health systems of the world.[4] This comparative analysis has the potential to promote international dissemination of best practice.

This type of knowledge-related global public good will be key to achieving further improvements in health.[5] In fact, we now know that most of the progress in health of the 20th century can be attributed to the advances in knowledge, through three mechanisms. First, knowledge gets translated into new and better technologies, such as drugs, vaccines, and diagnostic procedures. Second, knowledge is internalized by individuals, who use it to structure their everyday behavior in key domains like personal hygiene, eating habits, sexuality, and child-rearing practices. In this way, knowledge can empower people to modify their lifestyles in order to promote their own health. Third, knowledge can improve government decision-making in both health service delivery and public policy-making.

Each of these mechanisms is limited by gaps that we need to bridge. In the use of knowledge to generate new solutions, our main challenge is the "10/90 gap," which refers to the fact that only 10% of the global resources for health research are devoted to the problems that affect 90% of the world's population. Regarding the use of knowledge to improve lifestyles, the challenge is to ensure access by all the people to it, particularly the poorest. The democratization of knowledge is essential to empower people in their struggle to confront old and emerging risks. The power derived from knowledge also allows individuals to become informed users of services and citizens conscious of their rights. Finally, the third gap is the distance that still separates knowledge and action, the "know-do gap," due to poor the translation of research into decisions for immediate action. Here, the great challenge is to ensure that the **power of ideas** informs the **ideas of the power**--that is, the ideas of those who have the power to design and implement health policies.

Recent developments in our country illustrate this last point. Thanks to cooperation among several academic and international organizations, the analytical armamentarium for health policy has been greatly enriched during the past few years to include such robust tools as the measurement of burden of disease, cost-effectiveness analysis, national health accounts, and standardized surveys. The rigorous application of these knowledge-related

global public goods, coupled with excellent country-specific data, helped to catalyze a structural reform of the Mexican health system.

This is probably a textbook case of evidence-based policy. Indeed, sound analysis made decision-makers and the public aware of critical realities that required solution. Thus, the careful calculation of national health accounts revealed that more than half of total expenditure in Mexico was out-of-pocket. This proved to be a direct result of the fact that approximately half the population lacked health insurance. These findings were unexpected, as it was generally believed that the Mexican health system was based on public funding. Instead, the analysis revealed an unacceptable paradox: we know that health is one of the most effective ways of fighting poverty, but medical care can itself become an impoverishing factor for families when a country does not have the social mechanisms to assure fair financing that protects the entire population.

The realization that households had been paying catastrophic out-of-pocket sums created a different perspective on the operation of the health system. Policymakers widened their focus to include financial issues that proved to have a great impact on health care delivery and poverty levels among Mexican households. Another global public good that helped to make the local case for reform was the WHO framework for assessing health system performance. This framework, launched in 2000 as part of the *World Health Report*, highlighted fairness in financing as one of the intrinsic goals of health systems.[6]

As a direct result of its high levels of out-of-pocket spending, Mexico performed very poorly on the international comparative analysis of fair financing. Instead of generating a defensive reaction, this poor result spurred detailed country-level analysis in 2001 that showed that catastrophic health expenditures were concentrated among poor and uninsured households. The analysis was carried out jointly by the Ministry of Health of Mexico, WHO, and the Mexican Health Foundation, an example of how national governments, international agencies, and nongovernmental organizations can join forces. The country-level analysis was based on data from the National Income and Expenditure Surveys for Mexico, yet another global public good. These surveys are produced by many countries in the world and provide homogenous data sets that are key for cross-national comparisons.

The careful use of national and international analyses generated the advocacy tools needed to promote a major legislative reform, establishing a system of social protection in health, which was passed by a hefty majority of the Mexican Congress in 2003. This system is reorganizing and increasing public funding by a full percentage point of GDP over seven years in order to provide universal health insurance, including the 50 million Mexicans, most of them poor, who had been excluded until now from formal social insurance schemes because they are self-employed, are out of the labor market, or work in the informal sector of the economy.

A hallmark of the Mexican experience has been a substantial investment in research to design the reform, monitor progress towards its implementation, and evaluate its results. This is a clear example of the possibility of harmonizing two core values of research in health: **scientific excellence** and **relevance to decision-making.**

The value of sound research for enlightened decision-making is underscored these days, when we are all searching for better ways of strengthening health systems. Because of the gaps in our current knowledge, every reform initiative should be viewed as an experiment whose effects must be documented for the benefit of every other initiative, both present and future. This requires a solid investment in research on health systems. Each innovation constitutes a learning opportunity. Not to take advantage of it condemns us to rediscover at great cost what is already known or to repeat past mistakes. To **reform** it is necessary to **inform**, or else one is likely to **deform.**

The Mexican case also shows that the dilemma between local and global research is a false one. As we have seen, the process of globalization can turn knowledge into an international public good that can then be put at the center of the domestic policy agenda in order to address a local problem. Such application, in turn, feeds back into the global pool of experience, thus generating a process of shared learning among countries.

Finally, the Mexican reform also illustrates that knowledge public goods can empower local decision-makers in advancing the health agenda amidst the competition for attention and public resources. Health officials can make use of global evidence, showing that, in addition to its intrinsic value, a well-performing health system contributes to the overall welfare of society by improving productivity, increasing educational abilities, developing human capital, generating employment, protecting

savings and assets, alleviating poverty, boosting competitiveness, and directly stimulating economic growth. These arguments have been a powerful tool to convince decision-makers to mobilize **more money for health**. But it is also necessary to guarantee citizens an efficient health system in order to achieve **more health for the money.**

The performance of local health systems can also be enhanced by one of the most potent motors of globalization: telecommunications. Telemedicine is opening enormous opportunities for improving the access of underserved populations to the benefits of innovation and points the way to a future when physical distance is not a significant impediment to health care.

The challenge, of course, will be to make sure that the geographical distance divide is not simply replaced by the digital divide and that the new technologies do not generate new forms of social exclusion. The magnitude of this challenge becomes clear when we realize that the 80% of the population living in developing countries represents less than 10% of Internet users.[7] The new forms of social exclusion feed on the old scourges of poverty and inequality. The 1.3 billion people who survive on one dollar per day are a reminder to all of the enormous gaps that must still be overcome.

Exclusion and inequality are one dark side of globalization. Insensitivity to local cultures is another. Together they may explain a painful paradox of our days: Precisely when technology has brought human beings closer together than ever before, we are witnessing the reappearance of intolerance in its ugly guises of xenophobia, ethnic cleansing, and oppression.

And with intolerance, like a Siamese twin, comes terrorism, traditionally the instrument of offended fanatical minorities that resist believing in persuasion. At its essence, terrorism is the worst form of dehumanization, as it turns innocent people into mere targets. The arsenal of terrorism has expanded to include chemical and biological weapons. According to intelligence agencies, in recent years several militant groups across the world have started developing or tried to purchase biological weapons for the purpose of terrorism. There is a lot of discussion about the viability and possible magnitude of such attacks. What seems clear, though, in the face of the recent events in New York, Madrid, and London and the rapidly growing power of biotechnology, is the need to strengthen our surveillance capabilities through actions international networks of public health laboratories, efficient

mechanisms for sharing information, and programs for training specialized personnel. Whether or not a bioterrorist attack materializes, these measures in themselves could improve the daily operations of our public health systems for the common good (Henderson, 2001)

In the long run, the challenge is to build a world order characterized by peace in the midst of diversity. Instead of asserting one's identity by rejecting or destroying what is different, our obligation is to try to soften confrontations, balance claims, and reach compromises (Berlin, 1992). In this way, we will be able to live by what Vaclav Havel (1995), former president of the Czech Republic, has called a basic code of mutual coexistence.

Health may contribute to this pursuit because it involves domains that unite all human beings. It is in birth, in sickness, in recovery, and ultimately in death that we find our common humanity. At critical moments for the world, health has consistently remained one of the few truly universal aspirations. In fact, before the creation of specialized technical agencies, health affairs were a staple of international diplomacy. Health now offers again a concrete opportunity to reconcile national **self-interest** with international **mutual interest**. Today more than ever, health is a bridge to peace, a common ground, and a source of shared security.

If we are to build a new world order in which values such as health are promoted for the sake of justice and security, it will be necessary to renew international cooperation. In conclusion, let us suggest three elements for that renewal, the three "E's:" exchange, evidence, and empathy.

Health systems around the world are facing unprecedented challenges; many of them, as we just discussed, are related to globalization. The communications revolution provides the opportunity to **exchange experiences** about the best ways of dealing with these challenges. For that exchange to be useful, it must be based on **evidence** about the alternatives. Only then will we be able to build a solid body of knowledge about what really works and the possibilities of transferring it to other countries when culturally, politically, and financially reasonable.

But there is one more value. British philosopher Isaiah Berlin proposed the comparative study of other cultures as an antidote to intolerance, stereotypes, and the dangerous delusion of individuals, tribes, states, ideologies, or religions that they are the sole possessors of truth (Berlin, 2001). And this leads us to **empathy**,

the human trait that allows us to emotionally participate in a foreign reality, understand and relate to it, and value the core elements that make us all members of the human race.

As we engage in this process of renewal, we would do well to remember the words of a universal leader, Dr. Martin Luther King Jr. (1968): "It really boils down to this: that all life is interrelated. We are all caught in an inescapable network of mutuality, tied into a single garment of destiny. Whatever affects one directly, affects all indirectly."

Together, let us continue to weave the destiny of better health for all humanity in this interdependent world that we are privileged to share.

NOTES

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