Defining Global Health: Who Is Responsible for the World’s Burden of Disease?

First of a two-part series.
This year, the Organization for Economic Cooperation and Development reported that its 30 member countries, most from the developed world, spent record amounts on health care in 2001. The United States tops this list, spending $4,900 per capita in public and private dollars combined.

As developed countries spend more and more in both public and private funds for health care within their own borders, nations and organizations around the world are also paying attention to health across international boundaries. According to the U.S. Census Bureau, 90% of the planet’s births and 77% of its deaths in 1998 took place in lesser-developed countries. The developing world has very different primary health risks—malnutrition, vitamin and mineral deficiencies, unsafe drinking water, and unsafe sex—than those in the developed world. However, the World Health Organization (WHO) has noted a “risk transition” in recent years; factors historically important only in industrialized countries—blood pressure, cholesterol, tobacco, alcohol, and obesity—have become prevalent in developing nations.

This shift in risk-factor prevalence could mean an enormous shift in the burden of disease around the globe, and it raises the question of who will provide the care and pay the bills as people in resource-poor countries experience different patterns of disease. Global health—the new buzzword used to describe cooperative efforts to eradicate and control disease around the world—is gaining popularity as governments and organizations develop programs and initiatives to reach out to other nations. At the same time, there is still debate about the meaning of global health and where the burden of responsibility lies for addressing the world’s burden of disease.

Developed vs. Developing Nations

A large part of global health boils down to developed nations, which have the resources, reaching out to the developing world, which carries much of the burden of disease. “Since 85% of the world’s population lives in developing countries, global health must be particularly oriented to developing countries,” said Ian Magrath, M.D., president and medical and scientific director of the International Network for Cancer Treatment and Research in Brussels, Belgium. “It’s a kind of ‘us versus them’ philosophy, occasionally arousing suspicion that affluent countries are interested in health in developing countries only because it may affect them, not for humanitarian or even economic reasons. But health should be a global issue . . . . Health is a critically important element to the success of all economies, and in this respect, health issues in one place can have a major impact quite apart from the disease itself, on others.”

Richard Klausner, M.D., executive director of global health for the Bill & Melinda Gates Foundation and former director of the National Cancer Institute, suggested that part of global health is changing developed countries’ models, or the way resource-rich nations view developing countries. “The other dimension is moving from an aid model—a reaching out across bound-aries and borders, an international public health model—to a global model where the responsibilities are global; also where the solutions need to tap into the ability, the capacity, the great potential and untapped engine of creativity and innovation of the . . . developing world,” Klausner said in May at a 2-day symposium called “Global Health: A Challenge to Scientists,” sponsored by the Fogarty International Center, part of the National Institutes of Health.

One of the reasons for the increased interest in global health is a change in awareness. “I think the computer age has dramatically changed global communication, such that many more people are aware of international problems,” Magrath said. In addition, he pointed out that improvements in travel have brought more people into direct contact with the problems of developing countries. “More and more people are aware of the enormous economic discrepancies in the world, and, although on average the world has prospered, the gap between rich and poor has increased and, because of population increases, still about 1.2 billion people live on less than a dollar a day,” Magrath said.

A Shift in Focus

Initial efforts to increase global health focused on communicable diseases, such as tuberculosis and malaria. Now noncommunicable diseases, such as cancer, cardiovascular disease, diabetes, and chronic respiratory disease are being given attention. In April, the WHO predicted in its World Cancer Report that global cancer rates could increase by 50% to 15 million cases by 2020. “Cancer occurs in all countries, but the total burden experienced in resource-poor developing countries is lower as compared to
developed countries,” partly because of inadequate documentation and under-diagnosis, said Rengaswamy Sankaranarayanan, M.D., research scientist with the Unit of Descriptive Epidemiology at the WHO’s International Agency for Research on Cancer (IARC) in Lyon, France.

And the cancer burden in resource-poor nations is sure to grow for three reasons, said Donald Maxwell Parkin, M.D., chief of IARC’s Unit of Descriptive Epidemiology. First, the population is rapidly increasing in most poor countries. Second, the proportion of elderly people in the population is increasing even in developing countries. Third, there has been an increase in incidence and mortality of cancers that are associated with Western lifestyles—especially cancers associated with smoking, diet, and obesity. At the same time that these cancers are increasing, there has been “relatively little progress in controlling the cancers traditionally associated with poverty, such as [cancers of the] stomach, liver, cervix uteri, and esophagus,” said Parkin.

**Targeting Global Health**

WHO has several initiatives under its noncommunicable diseases cluster targeted at controlling cancer, along with cardiovascular disease, diabetes, and chronic respiratory disease. “The noncommunicable disease cluster in WHO works on surveillance, prevention, and management of [those four diseases],” said Rafael Bengoa, M.D., WHO’s director for management of noncommunicable diseases. “It does not prioritize among those conditions because those four conditions share many of the same risk factors in their genesis. For example, tobacco, poor nutrition, and lack of physical exercise affect all those diseases in some important degree. We therefore actively seek integration.”

Important among those initiatives is the promotion of a comprehensive approach to national cancer control programs, Bengoa said, which encourages the implementation of evidence-based interventions across the continuum of care. Also, WHO’s Framework Convention on Tobacco Control and a palliative care project that is under way in six African nations are among the highlights of WHO’s initiatives, Bengoa said.

The Gates Foundation has taken a similarly broad approach with its Grand Challenges in Global Health initiative, part of a partnership between the Gates Foundation, the National Institutes of Health, and the Foundation for the National Institutes of Health. The initiative promises $200 million in grants to support groundbreaking research into critical scientific chal-
Challenges to global health. Program leaders recently selected 14 challenges, two of which focus on more accurately measuring the prevalence of disease and of the health status among people in poor countries.

Whereas WHO and the Gates Foundation have an international focus, some countries also stretch beyond their own borders to address health around the world. For example, Canada does not focus primarily on cancer as an international issue, but through its International Development Research Center it supports the Research for International Tobacco Control group, which has as its mission “to create a strong research, funding, and knowledge base for the development of effective tobacco control policies and programs that will minimize the threat of tobacco production and consumption to health and human development in developing countries.” Lung cancer associated with smoking is necessarily a part of the threat.

The European Union’s focus on cancer is also centered on tobacco control. The European Union does not conduct health interventions outside its boundaries, but part of its four-stage approach is to “make sure that the pioneering role of the European Community in many tobacco control areas produces an impact beyond the frontiers of the European Union, and establish the Community as a major player in tobacco control at a global level,” according to EUROPA, the European Commission’s Public Health Web site. The WHO’s Framework Convention on Tobacco Control, adopted in May of this year, counts the United Kingdom, Canada, and the European Union as signatories. (See News, July 2, Vol. 95, No. 13, p. 935.)

The United States, under the auspices of the National Cancer Institute, takes a broad approach to cancer control. NCI’s Office of International Affairs focuses on sharing scientists and technical resources with other developed nations to make research progress faster and on helping developing countries devise tracking/surveillance systems and train their research scientists and caregivers.

NCI sees its international work as more and more relevant as the distribution of disease around the world changes. “As certain infectious diseases become less prevalent, as population demographics shift, and as lifestyles change, cancer is becoming more of an issue of public health in less developed countries than it has been in the past,” said Joe Harford, Ph.D., director of NCI’s Office of International Affairs. “More and more, the public health officials of many of these countries are recognizing the growing burden of cancer on their people and looking to the NCI for assistance in training and building of infrastructure. We certainly see our work as exceedingly relevant to addressing the consequences of these changes and the altered distribution of diseases. The United States has no monopoly on research talent and ideas for the task at hand. NCI seeks to assist in bringing all such talent and ideas together for the benefit of all.”

In the next issue: The burden of disease is changing, and organizations and countries are poised to help. But how is cancer treated when resources are limited? What research opportunities are there in the developing world? How can training programs be implemented where they are needed most?

—Christine Theisen and Stacye Bruckbauer

Links for Global Health

- Fogarty International Center: www.fic.nih.gov
- The Bill & Melinda Gates Foundation Grand Challenges in Global Health: www.grandchallenges.org
- National Cancer Institute's Office of International Affairs: www.cancer.gov/about_nccioia/
- WHO Tobacco Free Initiative: www.who.int/tobacco/en/
- International Network for Cancer Treatment and Research: www.inctr.org/
- International Agency for Research on Cancer: www.iarc.fr/