Motivating action

Why should Canadian physicians participate in research, education, or patient care in the developing world?

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The worries facing my kids, and probably yours, include things like the following: Will they get to their squash game on time? Should they take hip-hop or jazz dance classes? Which summer camp should they attend? Will they get into their university of choice?

At the same time, millions of parents and kids around the world are facing a much more serious set of concerns: Will they have sufficient food to feed their families? What will they do if one of the children gets sick? Can they afford to send their kids to school?

The difference between these sets of questions might explain why the Council of Science Editors has organized a Global Theme Issue on Poverty and Human Development for October 2007. This issue of *Canadian Family Physician,* along with more than 200 other journals, focuses on this topic.

A commentary from the International Health Committee of the College of Family Physicians of Canada, which is in this issue (**page 1853**), is entitled "Degrees of engagement. Family physicians and global health." It focuses on *how* family physicians can be involved at different levels and still find their involvement meaningful. I, however, would like to focus on *why* Canadian physicians should become involved in research, education, and patient care in the developing world. The reasons I will provide are about benefits to both the physicians themselves and to Canada as a whole.

No list of reasons is a substitute for personal experience. My eyes were opened almost 10 years ago by colleagues from the developing world, initially by my friend Dr Solomon Benatar, the former Chair of Medicine at the University of Cape Town, and especially by my close collaborator and friend Dr Abdallah Daar, a Tanzanian-born transplant surgeon who attended medical school in Uganda until he was forced out of the country as part of dictator Idi Amin's expulsion of Asians in 1972. He subsequently became a transplant surgeon at Oxford and helped start 2 medical schools in the Middle East.

I am going to suggest there are at least 7 classes of reasons why Canadian physicians should get involved in research, education, and patient care in the developing world: ethical, scientific, economic, security, peace and diplomacy, human capital, and "making a difference."

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Ethics

One of the greatest ethical challenges in the world is the inequity in global health. In industrialized countries, life expectancy is 80 years and rising; in many parts of the developing world, especially in Africa and particularly as a result of HIV and AIDS, it's 40 years and falling. I spent 10 years leading the University of Toronto's Joint Centre for Bioethics. There, my colleagues and I addressed a wide range of clinical ethics issues—consent, end-of-life care, research ethics, and the like—that confront Canadian physicians on a daily basis. While these issues are important, they somehow do not rise to the same significance as the inequities in global health. Although these inequities are fundamentally an issue in justice, there is an underlying value of solidarity. If we begin to feel solidarity with those in the developing world, these inequities will be more meaningful to us and more likely to motivate us to take action.[1]

Scientific opportunities

As researchers and teachers, we are always looking for great opportunities and challenges. Naturally, the most interesting scientific questions are not limited to the geographical borders of Canada, and many of these questions, as well as opportunities for capacity strengthening, are in the developing world.

In the early 1980s, Allan Ronald and his colleagues from the University of Manitoba were studying sexually transmitted diseases among sex workers in Nairobi. Then the HIV pandemic burst onto the global scene and quickly became the focus of their work. The many researchers who have been associated with this group for more than 30 years—including Kelly MacDonald, James Blanchard, and Frank Plummer—have been at the forefront of global HIV research. Frank Plummer, who is also with the Public Health Agency of Canada, is pursuing research under the Grand Challenges in Global Health Initiative of the Bill and Melinda Gates Foundation (in partnership with the Canadian Institutes of Health Research, the Wellcome Trust, and the Foundation for the National Institutes of Health). The goal is to better understand why a subset of highly exposed sex workers do not get infected with HIV.

Other very good examples of scientific opportunities include the work on large-scale cardiovascular clinical trials in the developing world by Salim Yusuf of

McMaster University in Hamilton, Ont, and the large-scale observational cohort study on HIV in India by Prabhat Jha of St Michael's Hospital and the University of Toronto in Ontario. There are also opportunities for capacity building. At the University of Toronto Joint Centre for Bioethics we have trained 27 mid-career leaders in bioethics from South Asia, Africa, and the Middle East. Most of the bioethicists at Aga Khan University in Karachi, or at Ibadan University in Nigeria, for example, were trained at the University of Toronto.

Economics

Canadians' quality of life depends on Canada's participation in the global economy. The emerging economies such as China and India, with more than a billion people each and growth in gross domestic product of as much as 10% per year, represent important markets for Canadian goods and services. As described by C.K. Prahalad in *The Fortune at the Bottom of the Pyramid*, 4 billion consumers in the developing world represent a huge market for goods and services.[2] Canada is a trading nation, although, as Andrea Mandel-Campbell has argued in *Why Mexicans Don't Drink Molson*, we might not yet have lived up to our potential.[3] In any event, many Canadian physicians are also entrepreneurs, producing health-related scientific goods or services.

The emerging economies and developing world represent an important and growing market that's important to the future economic health of our nation. For example, Kevin Kain of the McLaughlin-Rotman Centre for Global Health, University Health Network, and University of Toronto, and Michel Bergeron of Laval University in Quebec are both developing for commercial use much-needed point-of-care diagnostics for diseases in the developing world. One of my favourite examples for bottom-of-the-pyramid markets is Sprinkles, a product developed by Stan Zlotkin at the Hospital for Sick Children and the University of Toronto that is sprinkled on food to combat iron deficiency. The recent emphasis in Canada on commercialization or return on investment in research will require penetrating new and growing markets for Canadian technologies. Participation by physicians in research in the developing world, and particularly the emerging economies, will lead to familiarity with market needs in those areas.

Biosecurity

As Toronto's experience with severe acute respiratory syndrome and the ongoing planning for pandemic influenza in Canada show, the world is a highly interconnected place. This applies not only to the spread of pathogens, but also to the dissemination of knowledge about life sciences, which—in the form of diagnostics, drugs, and vaccines—is the basis for much of our work as clinicians. The globalization of life sciences is an extremely positive trend, because it helps to address local health needs in the developing world with, for example, affordable diagnostics and vaccines. However, as outlined in the recent US National Academies report *Globalization, Biosecurity, and the Future of the Life Sciences*, with which I had the privilege to be associated, we must also be mindful of potential misuse.[4] Former UN Secretary General Kofi Annan, speaking in November 2006 at St Gallen University in Switzerland, said the following:

> Today, I would like to explore a potential initiative which would focus in greater depth on two main questions. First, how to expand the benefits of biotechnology and life science research to build better lives for people around the world. That includes improving human health and food security, and thereby encouraging economic growth and reducing global inequities. It will require making technologies available, encouraging transparency and promoting a cooperative environment. Second, how to develop a global framework to mitigate potential risks .... How to reach workable consensus on appropriate measures is a subject crying out for a focused global debate.[5]

The world is a highly interconnected place

The biological threat today is not primarily from state actors, and, in any event, that is the focus of the Biological Weapons Convention. The more important threat is from non-state actors, and this threat requires darkness to thrive. Given the wide dispersion of biological knowledge, networks and personal relationships among scientists around the world become an important mechanism for ensuring biosciences work is conducted with transparency, and that aberrations can be quickly spotted.

In this regard, the more linkages there are between Canadian physician-scientists and their colleagues around the world, the greater our collective biosecurity becomes.

Peace and diplomacy

Often, where politicians cannot find compromise, health professionals can. Dr David Franz, former Commander of the US Army Medical Research Institute of Infectious Diseases, who participated in many bilateral talks with his counterparts in the then Soviet Union, points out that health professionals on different sides can often sort out matters that diplomats cannot, because of a bond of professional trust. Another excellent example is the Israeli-Palestinian Science Organization, which is chaired by Nobel Laureate Torsten Wiesel. This

organization believes that "[c]ooperation between Israeli and Palestinian scientists and scholars helps create an infrastructure capable of bolstering sustainable development in both communities" and that "[s]cience, given its universal character, can be instrumental in stimulating dialogue, openness, and mutual respect, and thus in serving the cause of peace."[6] Closer to home, Arnold Noyek, an otolaryngologist at Mount Sinai Hospital and the University of Toronto, has developed a project called CISEPO (Canada International Scientific Exchange Program) that develops projects, initially around hearing loss, in which both Israeli and Palestinian health professionals participate. And James Orbinski from St Michael's Hospital and the University of Toronto led Medécins sans Frontières, a group that provides direct medical services and bears witness in conflict zones.

Human capital

Canada finds itself at the hub of a global flow of talent, but does not make full use of this strategic advantage. Canada is one of the most multicultural countries in the world. There are, for example, approximately 1.1 million Canadians of Chinese origin and 700 000 Canadians of Indian origin. I know this immigrant narrative from personal experience. My dad immigrated to Canada in 1956 from Hungary. He couldn't get a licence to practise dentistry, which he had done at home, so he worked in our basement.

I know from many years of clinical work as a general internist in a teaching hospital that Canada has not made full use of the talents of the health professionals who come here from other countries. If we did, these colleagues would not only make contributions to Canada, but also to their countries of origin. We studied scientists and entrepreneurs whose origins were from outside of Canada in biotechnology hubs in Vancouver, Montreal, and Toronto. We found they wanted to give back to their countries of origin, but had trouble finding channels to do so.[7] There are many Canadian family physicians with various backgrounds who could gain satisfaction from giving back to their countries of origin.

Making a difference

Many of us went into medicine because we wanted to make a difference, and many of us derive great satisfaction from doing so in the lives of our patients. This same motivation applies, but in an amplified manner, in doing research, education, or patient care in the developing world where the needs are so great. We can also teach this value to our children. In the end, that's what it's all about—making a difference, our children, and countless children in the developing world who deserve better opportunities to reach their potential.

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