



## Speaking Points

“Blue helmets and white coats: Canadian innovation and global challenges”

Dr. Peter Singer,  
Director, McLaughlin-Rotman Centre for Global Health

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University Health Network and University of Toronto  
MaRS Centre, South Tower, Suite 406, 101 College Street  
Toronto, Ontario M5G 1L7 Canada  
[www.mrcglobal.org](http://www.mrcglobal.org)

Thank you Gary.

And good morning everyone!

Let me begin by congratulating the Professional Institute of the Public Service of Canada for organizing such an important – and timely - Conference. Important, because science and innovation have a critical role to play in addressing the central challenges of our time - global health, the environment, agriculture, water, energy.

And timely because we have reached a defining moment - when the possibilities of science must be matched to the commitments of public policy. When we apply the full potential of science to informing and directing our approach to the challenges we face.

Over the past couple of days we have heard about the importance of bringing science and public policy together. To solve big problems. Meet important challenges. Advance social justice.

This afternoon, I want to focus on how doing so can help Canada to carve out a unique role for itself in the world – particularly as it relates to global health, but in other areas as well.

Nine years ago, world leaders set far-sighted goals - Millennium Development Goals - to free a major portion of humanity from the shackles of extreme poverty, hunger, illiteracy and disease by 2015.

Three of those goals spoke directly to global health issues, specifically: reducing child mortality; improving maternal health; and combating HIV/AIDS, malaria and other diseases. Together, these combine to rob entire countries of their futures.

Ban Ki-Moon caught the urgency of achieving these goals in his Forward to the 2009 Millennium Development Report when he said, “We have made important progress in this effort and have many successes on which to build. But we have been moving too slowly to meet our goals.” end quote.

The statistics bear that out. Today, a woman in the developing world is *still* fifty times as likely to die in pregnancy and childbirth. A child born in the developing world is *still* thirteen times as likely to die under the age of five. And shocking as those ratios are, they are almost twice as bad in sub-Saharan Africa!

How can that be right? How can that be fair?

It's *not* right and it's *not* fair. And so if global health isn't the mother of all ethical issues - if it isn't the ultimate test of social responsibility - I don't know what is. Because make no mistake, in an interconnected world, these problems are *our* problems - “we” are “they”.

In light of these challenges, the question is, will Canada rise to meet them? And what might our unique contribution be to global health?

You know, fifty years ago, Canada redefined its role on the world stage when Lester Pearson won a Nobel Peace Prize for his role in resolving the Suez crisis. Pearson's proposal - to create peace keeping forces wearing the blue helmets of the United Nations - revolutionized international relations and raised Canada's reputation in global affairs.

And just as this country formulated a new way to address global conflict through peacekeeping, now we have the opportunity to address global health challenges through innovation.

Two weeks ago, we took a giant step in that direction.

The Minister of Finance, the Honourable Jim Flaherty, launched something called Grand Challenges Canada - an initiative that will use innovation to develop breakthrough solutions to global health problems.

Together with the International Development Research Centre and the Canadian Institutes of Health, Grand Challenges Canada will revolutionize our country's approach to international assistance and transform our contribution to global health. Funding will come through the Development Innovation Fund - \$225 million over five years.

So why the title "Grand Challenges Canada"? The concept of grand challenges was first introduced over a century ago by the German mathematician, Dr. David Hilbert. He listed 23

mathematical problems - all unsolved at the time. But by defining the challenges, he inspired a generation. And today, almost all of “Hilbert’s problems” have been solved.

Today, the “grand challenges” are barriers that, if removed, would help to solve an important health problem in the developing world. Providing solutions that could have a global impact if implemented widely. Grand Challenges Canada will identify five such challenges over the next five years.

Specifically, its mission is to: identify global challenges to health; fund organizations and researchers both in Canada and in developing countries; and support the implementation - and commercialization - of discoveries.

This is a significant departure from past practices. For the first time, a country’s international assistance budget will include a large-scale commitment to innovation and global health.

Bringing the best of science and innovation to our program of international assistance and defining ourselves as a country that creates breakthrough innovations, long-term health solutions.

We will use an approach we call integrated innovation. What we mean by that is we will combine scientific and technological innovation, with the social and business innovation needed to bring the technologies to scale in the health system.

This novel approach will be matched by a novel structure - Grand Challenges Canada will operate as an independent not-for-profit, governed by a Board of Directors and guided by a

Scientific Advisory Board made up of distinguished scientists not only from Canada and the United States, the United Kingdom and France, but also from India and Columbia and Malaysia and Japan and Tanzania and Thailand.

Grand Challenges Canada is committed to unlocking the potential of scientists in the developing world, working with Canadian scientists to tackle health challenges. After all, local scientists know their countries best, bring unique skills and provide important insights.

Once a solution is identified, governments, the private sector and philanthropists will be encouraged to step up and invest, making the solution broadly available to the people who need it most. This focus on commercialization is critical and will be built in to every project that gets funding.

As you can see, Grand Challenges Canada is not just a conventional government program or institution. It's a bold new approach - focused on innovation, directed at long-term solutions and committed to building capacity in the developing world. And, in the process, it will re-brand Canada to the world.

The first grand challenge we'll tackle is point of care diagnostics. One of the biggest challenges in averting child deaths in the developing world is the lack of effective diagnostic services. Does the child with a fever have the flu? Pneumonia? Or malaria?

Each requires a different treatment, and getting it wrong - treating empirically - can be costly and

even cause resistance. Indeed, we're seeing a very troubling trend emerge of resistance to artemisinin combination therapy.

To find improved diagnostic tests that can be implemented in remote and impoverished areas, Grand Challenges Canada is joining with the Bill & Melinda Gates Foundation. Our goal is to create a low-cost tool that can be used by minimally trained staff, stored without refrigeration and provides rapid detection without the need for specialized lab equipment.

In fact, Nature Magazine has reported that creating an effective diagnostic tool could avert 100,000 malaria-related deaths every year - and avoid 365 million unnecessary treatments, saving precious medication for those who truly need it.

Imagine the profound effect this would have, not only on the people of Africa, but on the diagnosis and treatment of disease throughout the entire developing world. Saving lives. Making a unique contribution. And demonstrating Canada's ability to improve global health through innovation.

As I mentioned a moment ago, Grand Challenges is committed not simply to developing Canadian innovation, but to innovation that occurs in the developing world. After all, if you asked yourself the counterfactual question, "how would we make sure that a country stayed poor forever?"; if you wanted to make sure that the health outcomes of people in developing countries remained dependent on charity from rich countries, what would you do?

Well, you'd make sure that they *couldn't* translate the brains and talents of their citizens into products and services. And that's a pretty good description of what's happening in many developing countries.

One of the really creative things we've done in Canada is to bring together some of our best scientists, our best entrepreneurs and far-sighted investors at the MaRS Centre here in Toronto - to translate ideas into products and services.

What if you created a "MaRS Africa" in a country like Tanzania? Imagine if you could provide a way of developing African science, African entrepreneurship, African ideas and African innovation to address African health problems!

Well, guess what? It's starting to happen. As Tanzania's Science Minister, Professor Peter Msolla, told a recent World Bank conference, his country is planning a Life Sciences Convergence Centre, which "is expected to strengthen its health innovation system and, in particular, commercialize health biotechnology products." It will "co-locate science, business and capital providers for the very first time in Tanzania to enhance the commercialization of life science-related technologies."

What will this mean? It would mean breaking the impasse that keeps these countries poor. It would mean unlocking that continent's potential. And it would provide a pathway to prosperity, jobs and better health.

Well, you may say, all well and good, but what's in it for us? Why strive to position ourselves as a country which helps solve global health challenges through innovation?

Four quick points.

First, Canada will help solve important problems plaguing five billion people in the developing world. And, in the process, address one of the most critical issues of our times - the disparities in health and well-being between the rich and poor countries. It is simply unconscionable that a child born in Canada will live to 80 years of age, while a child born in many parts of sub-Saharan Africa will only live to age 40. We can change that.

Second, Canada will develop solutions that will benefit us domestically, especially with respect to shared threats such as H1N1, climate change and chronic disease. In particular, some of these solutions will apply to Canada's Aboriginal communities. Indeed, addressing the challenges of our own Aboriginal population will reinforce our credibility as a country that helps developing communities abroad by first addressing needs at home.

Third, traditional models of international development are increasingly being called into question - Dambisa Moyo's book "Dead Aid", which argues for more innovative ways to foster

development, is a prime example. Grand Challenges Canada offers that kind of new approach – one based not simply on extending aid, but on building capacity.

And finally, this is not just a humanitarian exercise, important as that is. It's also a commercial exercise that will benefit Canadians. Reinforcing trade relations. Helping to market Canadian companies abroad. Creating jobs and growth here at home. It used to be that emerging economies were rather dismissively labeled as “the rest of the world” in pharmaceutical circles. Well guess what? The “rest of the world” has most of the people, most of the health problems and most of the economic growth. Today, “the rest of the world” *is* the world. And if Canadian companies are not in Shanghai or Mumbai they're missing out on significant commercial opportunities.

What is true of global health is equally true of other challenges as well. Why not use innovation to unlock sustainable solutions to agriculture? Or water? Or energy? Or the environment?

Why not leverage Canada's strengths in science and technology, in information and communications technologies, in energy and environmental technologies? All that's needed is a willingness to think creatively, imagine boldly – and act decisively. Connecting the potential of science to the genius of public policy.

And that's where you come in. You who know public policy best. Who understand the mechanics of moving issues forward. Of turning the ideas in our heads into solutions on the ground.

So what might be Canada's role in the world? One that uses science to solve large problems. Saving tens of thousands of lives. And making innovation our signature to the world.

Just as peacekeeping defined an earlier generation of Canadians, Grand Challenges Canada will re-shape both how the world views us and how we see ourselves. Think of it as expanding beyond blue helmets to white lab coats.

That's the role Grand Challenges Canada will play. That's the difference we can make. And that's the unique contribution Canada can bring to the world.