Global Health at Harvard Medical School and Harvard School of Public Health
A history of collaboration
GHP @ 50 Symposium, HSPH
Jeffrey S. Flier, Dean of the Faculty of Medicine, Harvard University

First, let me offer my congratulations to the School of Public Health and to the Department of Global Health and Population on this wonderful 50th anniversary event.

It is an honor to participate in this forum with three extraordinary leaders in the field of global health. The remarkable and ongoing contributions to the field of my co-panelists are a gift to the University, to its students and to the countless people whose health and lives have been improved by this work.

Julio, Howard, Barry: Thank you for allowing me to share this moment with you.

The insightful and inspirational work of the Department over five decades has made a remarkable contribution to our shared institutional mission to alleviate human suffering.

First, a little bit of history. In the days before the divergence and specialization of those two intimately related disciplines, some of the founding physicians of Harvard Medical School to an important extent, embodied the values and approaches of both schools. HMS was founded in 1782 by three faculty members, one of whom was Benjamin Waterhouse.

To combat smallpox, Waterhouse not only conducted basic biological research, prepared vaccines and provided medical care to patients, but also designed and implemented public education and advocacy campaigns. He did so at a time when we understood little about the causation of smallpox, there were no labs or funding for research, no guidelines for human experimentation or IRBs and limited means to disseminate new information.

Today, as our understanding of the complex biological and social determinants of health expands exponentially, we rely more than ever not on the

Benjamin Waterhouses, but on highly specialized researchers working deep in their own areas of expertise, and on collaborations and cross-disciplinary approaches to bring that depth and diversity of expertise to bear on the challenges of global health.

John Enders and Thomas Weller provide a more recent example of how members of our community have worked together to combat disease. Their biomedical breakthroughs in culturing the poliovirus paved the way for Jonas Salk and Albert Sabin to develop their vaccines.

Drs. Enders and Weller shared the 1954 Nobel Prize in Physiology or Medicine with Frederick Robbins for their work at HMS. Dr. Enders continued his work at HMS and at Boston Children's Hospital. Dr. Weller joined the faculty at HSPH, where he continued his scientific research and also contributed to public health campaigns around the world.

Since then, polio has been nearly eradicated, with just 223 cases reported worldwide last year, according to the Global Polio Eradication Initiative. This is the way we would like every medical and public health story to unfold.

Of course, during the time that polio was being brought under control, the new threat of HIV emerged and has killed millions of people.

As the case of HIV illustrates, the world of global health is complex and constantly changing.

In the last five decades, with great advances in the field of medicine and with a growing focus on global health delivery both within Harvard and around the world, we have seen an increasingly complex burden of disease. Dean Frenk calls this the triple burden: a mix of illnesses typically associated with poverty, including many infectious diseases and maternal mortality; rising levels of noncommunicable diseases like cancer and heart disease, plus injuries from accidents and violence; as well as what he calls diseases of globalization, like the pandemics of HIV/AIDS and H1N1.

So, what can we do in the face of these complex challenges? The solutions are, not surprisingly, contained in a series of interconnected steps that build upon one another.

Researchers at HMS, at our affiliated hospitals and throughout the University, are conducting biomedical and social science research that is crucial for global health.

We are fortunate to have access to the remarkable work being done at HSPH—not only in epidemiology, but also in basic science.

To cite just one example, Max Essex's pioneering contributions to the characterization of the human immunodeficiency virus have paved the way for numerous breakthroughs in our understanding of the disease as he continues to search for ways to improve the clinical treatment of HIV.

HMS has a vibrant Department of Global Health and Social Medicine. An early act of my deanship was to rename what was then known as the Department of Social Medicine, reflecting the growing focus on global health internationally and among our students.

Paul Farmer, who chairs the HMS Department of Global Health and Social Medicine, and his predecessor, Jim Kim, (both mentored by Howard Hiatt) through the organization that they helped co-found, Partners In Health, have made impressive gains in heath care delivery, particularly in providing world-class care for the treatment of infectious disease, even in areas with extreme poverty. One exciting example of this is the new 300-bed teaching hospital that was just dedicated in Mirebalais, Haiti.

Building on early successes with HIV, Partners In Health began to take on multidrug-resistant tuberculosis. Mercedes Becerra—an HMS associate professor and an HSPH alumna—is leading research to analyze the results of aggressive drug regimens to treat multidrug-resistant TB in Peru.

Her remarkable results on the capacity of these regimens to save lives and reduce recurrence should be powerful tools to help change global MDR-TB treatments and policies.

These programs and others like them, housed throughout the HMS and affiliate communities, are testing new means of delivering care, challenging assumptions about what can be done in resource-poor settings and rigorously analyzing the results to share lessons about what really works in global health.

Another recent program is worthy of note. In November 2012, HMS announced its participation in Human Resources for Health, a consortium of nearly two dozen U.S. medical schools, allied health professional schools and affiliated institutions, all working together to build a self-sustaining medical education system in Rwanda, in an effort led by that nation's ministry of health.

Rwanda has had a miraculous health transformation in the past two decades, doubling life expectancy and achieving universal health coverage.

I was delighted to meet with Agnès Binagwaho, the Rwanda Minister of Health, when she visited HMS recently. Her ambitious plans for health in Rwanda, and the remarkable results they have already achieved, are inspirational.

The goal of Human Resources for Health is to train a generation of Rwandan health care professionals in a variety of specialties, so that they can, in turn, train the next generation, and within seven years, reach self-sufficiency in health education. The bilateral nature of this relationship, which strengthens our work in global health as it builds the health system in Rwanda, is another hallmark of our approach to global health.

HMS faculty, along with clinical faculty from Brigham and Women's Hospital and Boston Children's Hospital, are supporting Rwanda's efforts to overcome an extreme shortage of health care professionals.

We've also launched our new Master of Medical Sciences program in Global Health Delivery, designed to provide practitioners with a diverse set of tools and the flexibility and creativity necessary to use these skills in the most challenging settings imaginable.

The program grew out of a collaboration between HMS and the School of Public Health—the Global Health Delivery Intensive Program—and it relies on faculty from the medical school, the School of Public Health, the Harvard Business School and the faculty of arts and sciences to enable students to develop

their skills in disciplines such as qualitative analysis and management, while also deepening their foundation in the ethical and historical context of global health delivery.

In all, 137 people from 30 countries have graduated from this global health effectiveness program, among them are the head of Kenya's National AIDS and Sexually Transmitted Infections Control Programme and the former president of Médecins Sans Frontières International Council.

The course is now also being taught in Rwanda, broadening the reach of the program beyond the Longwood campus.

The relatively new field of systems biology studies the chemical and mechanistic interactions of molecules and organelles in the dynamic systems inside cells and organisms. Basic scientists like to tell themselves that it is a deeply complex field.

Of course, the most interesting of the organisms we study—people—interact with other people in families and communities. Communities function within nations, and nations exist in complex relationships with one another. All of these relationships have historical, political, cultural and social dimensions that have strong impacts on health.

Our job, working together, is to figure out—in that interconnected system of complex, dynamic relationships—how to enable individuals and the populations they are part of to achieve the best possible health.