



The Long Tail of Global Health Equity

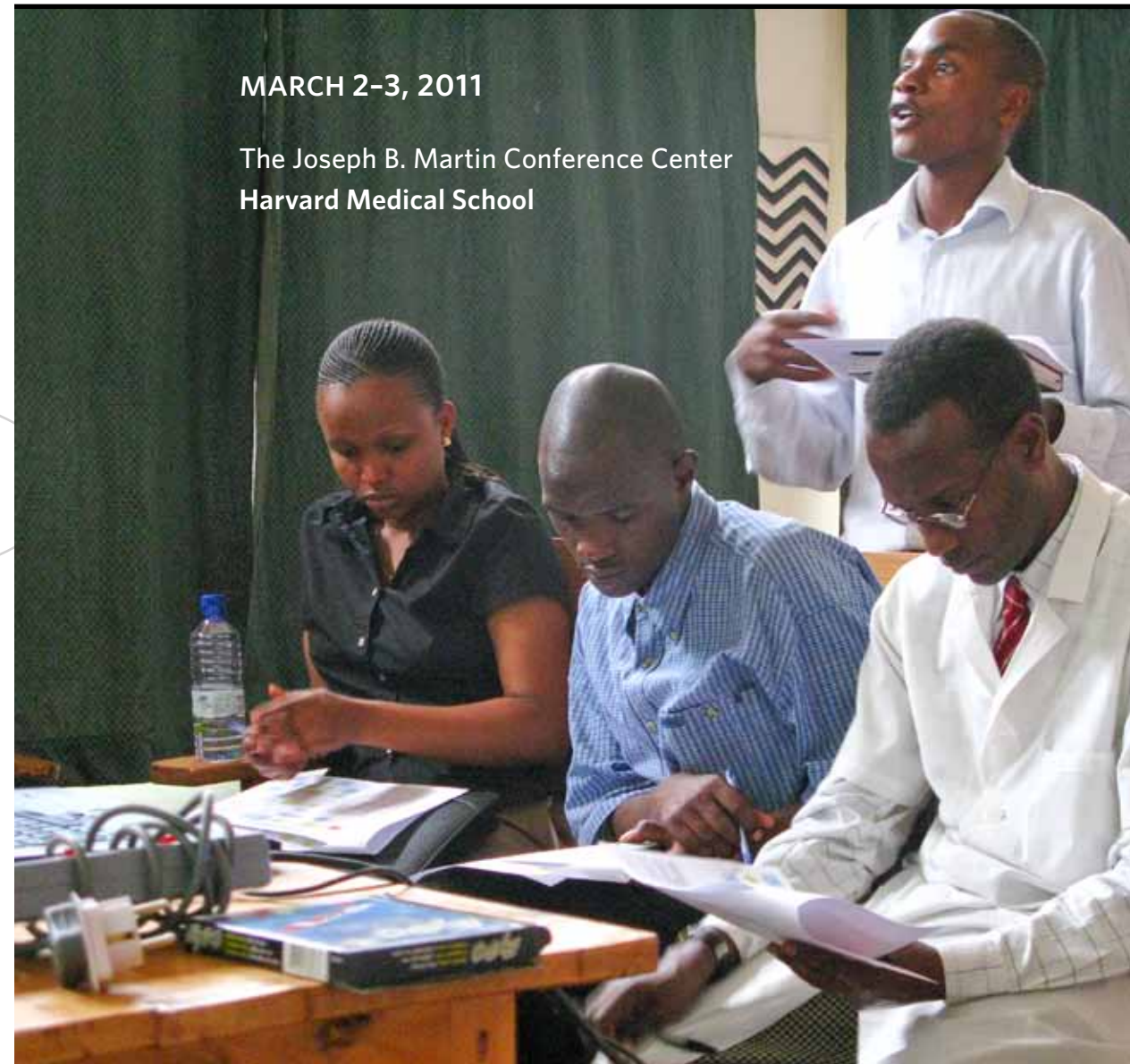
TACKLING THE ENDEMIC NON-COMMUNICABLE
DISEASES OF THE BOTTOM BILLION

MARCH 2-3, 2011

The Joseph B. Martin Conference Center
Harvard Medical School

This conference has been funded through an educational grant from the Medtronic Foundation to the Harvard Medical School Department of Global Health and Social Medicine.

The reception on March 2nd has been funded through the support of the Brigham and Women's Hospital.



WELCOME LETTER

March 2, 2011

Over the last two decades, many people and organizations have fought tirelessly for the inclusion of NCDs on the global health agenda. These efforts have borne fruit in this pivotal year: in September 2011, the United Nations will hold a High-Level Meeting on NCDs to focus the attention of world leaders on these endemic conditions.

The global health landscape is undergoing a profound transformation. In the midst of an economic recession, funding for this work has plateaued, while the range of recognized needs and cost-effective interventions has grown. This conference was conceived to expand the global discourse on NCDs to encompass endemic conditions linked to the environmental, infectious, and other risk factors that have disproportionately impacted the world's poor. These conditions account for nearly 25 percent of the disease burden among the world's poorest billion. There are highly effective ways to prevent and treat many of these diseases, but they have not received the recognition and resources they deserve.

A passionate community of practitioners works to study, prevent, treat, and palliate these conditions. In our discussions on March 2 and 3, we will strive to better link these groups with global advocates focused on both communicable and non-communicable diseases. Together we will highlight specific diseases and develop a prevention agenda for NCDs among the very poor. We will also refine a strategic plan for strengthening clinical service delivery among the poorest communities and populations.

We anticipate two crucial outcomes from this conference: a set of recommendations to the United Nations General Assembly and a roadmap for health systems strengthening, both focused on making the endemic NCDs of the poorest an integrated component of the global health agenda.

We look forward to your participation and thank you for joining us.

Gene Bukhman

*Assistant Professor, Harvard Medical School
Director, HMS Program in Global
Non-Communicable Disease
and Social Change*

Felicia Knaul

*Associate Professor, Harvard Medical School
Director, Secretariat, Global Task Force
on Expanded Access to Cancer Care
and Control in Developing Countries*

Agnes Binagwaho

*Permanent Secretary,
Ministry of Health, Rwanda*

Fernet Leandre

*Director of HIV/TB, Zanmi Lasante
Partners In Health-Haiti*

Julio Frenk

*T & G Angelopoulos Professor of Public
Health and International Development,
Harvard School of Public Health and
Harvard Kennedy School
Dean, Harvard School of Public Health*

Ann Keeling

*Chair, NCD Alliance Steering Committee
CEO, International Diabetes Federation*

Elizabeth G. Nabel

*Professor, Harvard Medical School
President, Brigham and Women's Hospital*

Peter Hotez

*Distinguished Research Professor and Chair,
Department of Microbiology,
Immunology and Tropical Medicine,
George Washington University
President, Sabin Vaccine Institute*

Donna Barry

*Director of Advocacy and Policy,
Partners In Health*

Paul Farmer

*Kolokotronis University Professor,
Harvard University
Chair, Department of Global Health and
Social Medicine, Harvard Medical School
Chief, Division of Global Health Equity,
Brigham and Women's Hospital
Co-founder, Partners In Health*

WELCOME

AGENDA

Wednesday, March 2

8:00 - 8:30 AM

CHECK-IN AND CONTINENTAL BREAKFAST

8:30 - 8:45 AM

WELCOME

Gene Bukhman, Ann Keeling, and Elizabeth Nabel

8:45 - 9:15 AM

KEYNOTE ADDRESS

Paul Farmer, Harvard Medical School, Partners In Health, Brigham and Women's Hospital

9:15 - 10:35 AM

SESSION I

Endemic NCDs: Advocacy for the Long Tail

Among those living on less than \$1 per day, endemic NCDs are most often linked to infectious, hereditary, and environmental risk factors. None of these conditions alone accounts for a significant fraction of disease burden. This session aims to highlight this long tail of conditions, such as rheumatic heart disease, cardiomyopathies, diabetes, cervical cancer, Burkitt's lymphoma, sickle-cell anemia, mental illness, and cooking fuel-associated lung disease. Collectively, one-quarter of death and disability in low-income settings is attributable to these conditions. The session examines how the passion and clinical excellence that comes with a focus on specific diseases can be harnessed to promote health-system strengthening in the poorest countries.

Jeffrey L. Sturchio, Global Health Council
*Facilitator**"Lessons from the neglected tropical disease movement"*
Peter Hotez, George Washington University Medical Center*"Endemic cardiovascular disease in Africa"*
Ana Mocumbi, Maputo Heart Institute, Mozambique*"Inherited non-communicable diseases: the burden of sickle cell anemia in Africa"*
Stella Rwezaula and Julie Makani, Muhimbili University, Tanzania*"A historical perspective on infection and cancer in Africa"*
John Ziegler, University of California, San Francisco

AGGENDA

10:35 – 10:45 AM	STRETCH – COFFEE BREAK				
10:45 – 11:45 AM	SESSION I RESUMES <i>“Diabetes in low-income populations”</i> Jean Claude Mbanya , International Diabetes Federation, Cameroon <i>“Chronic respiratory disease in non-smokers”</i> Sundeep Salvi , Chest Research Foundation, Pune, India <i>“Mental health in chronic and acute disasters”</i> Giuseppe Raviola , Harvard Medical School				middle-income communities. This session explores differences in bottom-billion populations in low- and middle-income countries, as well as increasing collaborations between leaders in these settings.
11:45 AM – 12:15 PM	QUESTION AND ANSWER PERIOD	3:15 – 3:45 PM	QUESTION AND ANSWER PERIOD		
12:15 – 1:15 PM	SESSION II Global Solidarity 1: Survivorship Communities and Endemic NCDs This is one of two sessions that brings together people from different socioeconomic backgrounds whose lives have been directly affected by endemic NCDs, either as patients or care-givers. In each case, access to care for these conditions has made them citizens of a larger community dedicated to health as a human right. Arthur Kleinman , Harvard Medical School <i>Facilitator</i> <i>Conversations with Claudine Manizabayo and Gedeon Ngoga, Rwanda, and Celia Reddick, USA, about rheumatic and congenital heart disease and with Diones Austin, Haiti, and Phil Southerland, USA, about diabetes.</i>	3:45 – 3:55 PM	STRETCH – COFFEE BREAK		
1:15 – 2:15 PM	LUNCH	3:55 – 4:25 PM	KEYNOTE ADDRESS <i>“Framing the diagonal approach”</i> Julio Frenk , Harvard School of Public Health, Harvard Kennedy School of Government		
2:15 – 3:15 PM	SESSION III Links between Middle- and Low-Income Countries for the Bottom Billion Middle-income countries with large urban and aging populations have been the dominant voices in global non-communicable disease advocacy. At the same time, many of these middle-income countries have large populations living on less than \$1 per day in rural areas. Low-income countries also have growing urban and	4:25 – 6:05 PM	SESSION IV Strategy for the Long Tail: Identifying the Right Units for Policy and Planning for Endemic NCDs Some countries have been able to translate investments in vertical global health initiatives for conditions such as HIV into broad improvements in their health systems. Unlike other diseases targeted explicitly by the Millennium Development Goals, the endemic NCDs of the bottom billion are individually low prevalence. This long-tail phenomenon creates a strategic planning challenge for governments with limited capacity in their ministries of health. This panel aims to highlight some very low-income countries that have begun to identify integrated platforms to tackle their endemic NCD burden strategically. These provider platforms include integrated chronic care delivery at health centers and in the community, gynecologic and advanced NCD services at the district hospital level, family and community medicine, and referral level platforms such as histopathology, cancer centers, general surgery, and cardiac surgery.		
			Lawrence Shulman , Dana-Farber Cancer Institute <i>Facilitator</i>		

- "Chronic care integration and cardiac surgery"*
Gene Bukhman, Harvard Medical School; Ministry of Health, Rwanda; Partners In Health; Brigham and Women's Hospital
- Joseph Mucumbitsi**, King Faisal Hospital, Rwanda
- "Moving beyond cervical cancer to integrated gynecological care"*
Frank Taalo, College of Medicine, Malawi
- "Family and community medicine — Acute care at the district hospital"*
Corrado Cancedda, Harvard Medical School, Partners In Health, Rwanda
- "Safe surgery for the long tail"*
Atul Gawande, Brigham and Women's Hospital, Harvard School of Public Health
- "Referral center platforms — Pathology, surgery, cancer centers"*
David Walton, Harvard Medical School, Partners In Health, Haiti

6:05 – 6:35 PM QUESTION AND ANSWER PERIOD

6:35 – 6:45 PM CLOSING REMARKS

6:45 – 8:30 PM CONFERENCE RECEPTION
Joseph B. Martin Conference Center

Thursday, March 3

8:00 – 8:30 AM

8:30 – 9:00 AM

9:00 – 10:40 AM

CHECK-IN AND CONTINENTAL BREAKFAST

KEYNOTE ADDRESS

Dean Jamison, Professor of Global Health, University of Washington

SESSION V

What is Unique about Prevention of Endemic NCDs?

Risk factors for the endemic NCDs of the bottom billion are largely hereditary, infectious, and environmental. In this sense, existing initiatives to address HIV, tuberculosis, malaria, and neglected tropical diseases are already a major part of the prevention agenda for endemic NCDs. Endemic NCDs are also driven by less prevalent streptococcal and viral infections that may require specific control strategies. At the same time, there are opportunities for prevention of emerging NCDs through tobacco policy and managed urbanization. This session looks at what is unique about prevention strategies for NCDs in the poorest populations. The session also highlights countries that are making prevention integral to their health system-strengthening strategies.

Johanna Ralston, World Heart Federation
Facilitator

"Biomass fuels"
Kirk Smith, University of California, Berkeley

"Impact of streptococcal disease on the global poor"
Jonathan Carapetis, Menzies School of Health Research, Australia

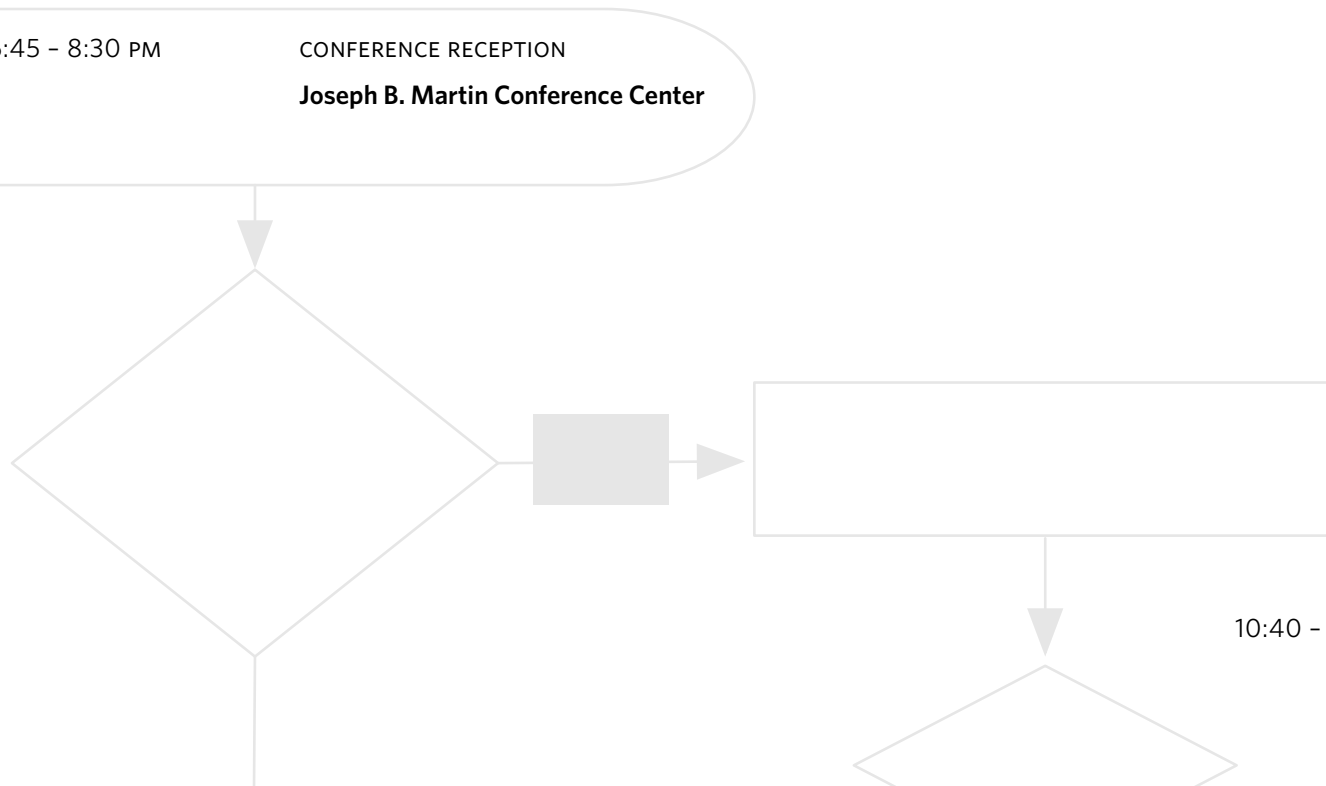
"Splenomegaly and more — The legacy of malaria"
Imelda Bates, Liverpool School of Tropical Medicine, UK

"Infectious risk factors for epilepsy"
Amadou Gallo Diop, Université Cheikh Anta Diop, Senegal

"Prevention for emerging NCDs"
Thomas A. Gaziano, Brigham and Women's Hospital

10:40 – 11:10 AM

QUESTION AND ANSWER PERIOD



11:10 – 11:20 AM STRETCH – COFFEE BREAK

11:20 AM – 12:20 PM SESSION VI
Global Solidarity 2
 This session continues our discussions of global solidarity and endemic NCDs.

Felicia Knaul, Global Task Force on Expanded Access to Cancer Care and Control in Developing Countries, Harvard Medical School
Facilitator

Conversations about cancer and sickle cell anemia with Claudine Humure and Sara Stulac, Rwanda, and Arafat Salim Said, Tanzania

12:20 – 1:50 PM LUNCH

1:50 – 3:10 PM SESSION VII
Global Health Governance and Financing for Endemic NCDs
 In 2001, the attention given to HIV during the United Nations general assembly was followed by the establishment of the Global Fund to Fight AIDS, TB, and Malaria. The attention given to NCDs in 2011 has led to expectations of new global financing mechanisms for NCDs as well. At the same time, there are still large gaps in financing to achieve the existing Millennium Development Goals. This panel will examine the outlook for supporting low-income countries desiring to tackle the long tail of endemic NCDs as part of their national health sector strategic plans. The panel includes experts in global health governance and financing, as well as corporate social responsibility.

Kyle Peterson, FSG Consulting
Facilitator

Felicia Knaul, Global Taskforce on Cancer Care and Control, Harvard Global Equity Initiative, Harvard Medical School

Rachel Nugent, Center for Global Development

Gail Cassel, Eli Lilly and Company (ret.)

Ann Keeling, NCD Alliance, International Diabetes Federation

3:10 – 3:40 PM QUESTION AND ANSWER PERIOD

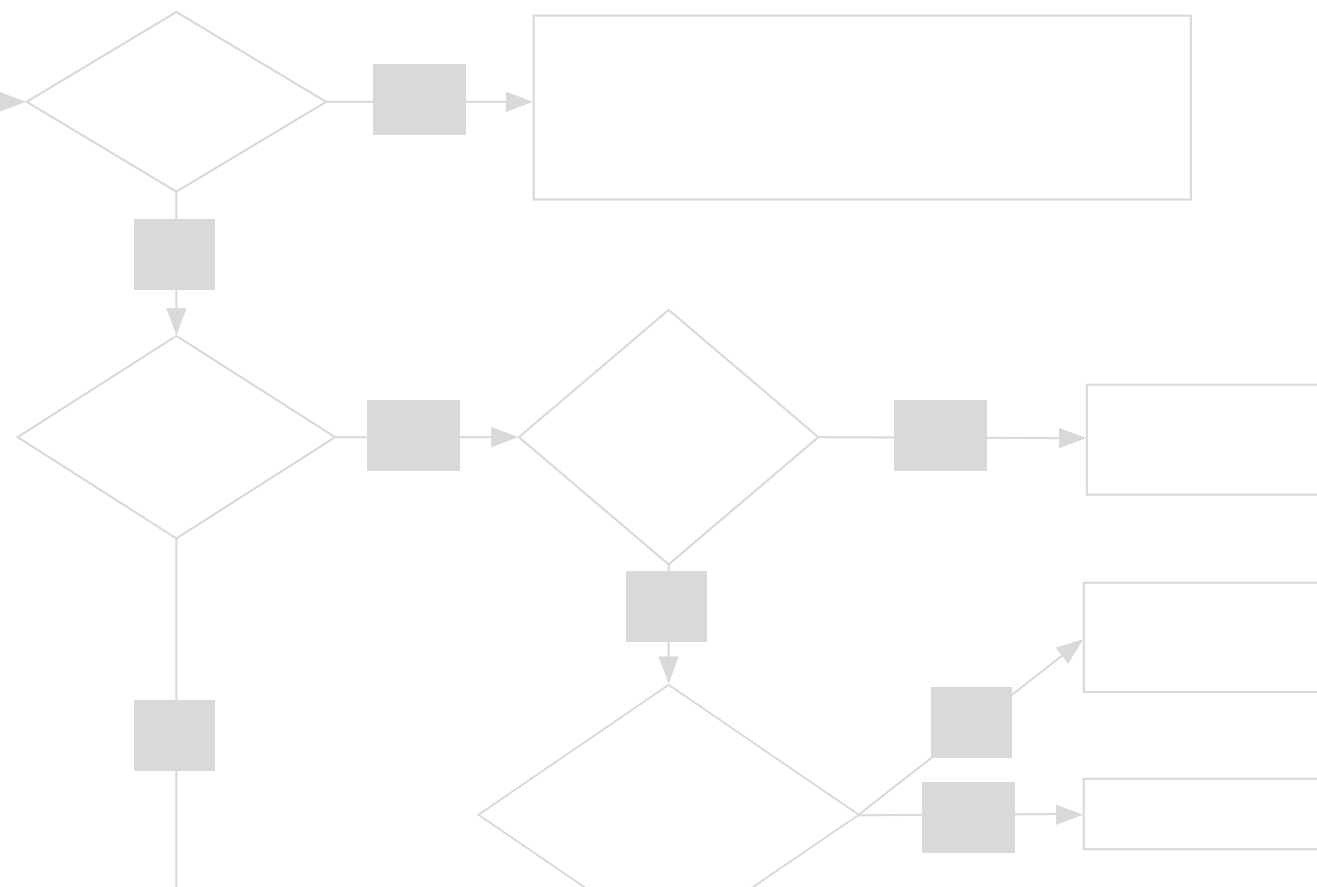
3:40 – 3:50 PM STRETCH – COFFEE BREAK

3:50 – 4:20 PM SUMMARY OF CONCLUSIONS
Srinath K. Reddy, Public Health Foundation of India

4:20 – 4:40 PM CLOSING COMMENTS
Paul Farmer

4:40 – 5:00 PM DECLARATION
Gene Bukhman, Felicia Knaul, and Elizabeth Nabel

5:00 PM CONFERENCE ADJOURNMENT



HOSTING INSTITUTIONS

BRIGHAM AND WOMEN'S HOSPITAL



(BWH) in Boston is a world-renowned teaching hospital of Harvard Medical School and an international leader in virtually every area of adult medicine.

Our leadership in patient quality and safety and the development of state-of-the-art treatments and technologies, biomedical research, and investment in teaching the next generation of caregivers, has improved the health of people in New England, the United States, and around the world. A pioneer in treatment and research in cardiovascular disease, neurological illness, bone and joint diseases, oncology, women's health, and organ transplantation, BWH is a top recipient of research grants from the National Institutes of Health, with an annual research budget of more than \$537 million. BWH is internationally known for its clinical, translational, bench, and population-based research studies, including the landmark Nurses' Health Study, Physicians' Health Studies, and the Women's Health Initiative. The BWH Biomedical Research Institute (BRI) includes eight disease-focused research centers and five resource- and technology-based programs that enable BWH clinicians and scientists to collaborate on research aimed at curing, treating and preventing a host of human diseases and conditions.

Brigham and Women's Hospital is committed to addressing health disparities locally and globally through direct patient care, education, and research. Our Center for Community Health and Health Equity develops, implements, manages, and evaluates initiatives, which address and minimize disparities in health status in our immediate neighborhoods. Our Division of Global Health Equity, in close collaboration with Partners In Health and the Department of Global Health and Social Medicine at Harvard Medical School, uses insights from anthropology, history, sociology, epidemiology, statistics, economics, and other social sciences to improve medical

care in the world's poorest areas. Brigham and Women's Hospital is a founding member of Partners Healthcare System, the largest integrated health care system in New England.

THE HARVARD GLOBAL EQUITY

INITIATIVE (HGEI) seeks to advance the understanding and tackle the challenges of equitable development, with a particular focus on the dimension of health. As an interfaculty research program at Harvard University, it addresses these issues by conducting research, engaging in policy discussions, and producing and disseminating evidence, education, and training with an interdisciplinary approach. Global inequity among people—based on gender, ethnicity, health status, culture and between and within nations and regions—is one of the greatest challenges of our times. Severe disparities exist not only in wealth, but in health, education, economic opportunity, human security, and democratic freedom. Despite its urgency and importance, our understanding of the forces behind, the consequences of, and the remedies for severe inequity continue to be critically limited. The path to a fairer and more just world is far from clear.

HGEI brings together scholars, policy-makers, advocates, and practitioners from around the world to address these challenges through interdisciplinary dialogue and by contributing evidence and research. The Initiative also supports the next generation of scholars and researchers: young leaders who will bring a passionate and professional commitment to promoting equitable development. The HGEI team offers substantial experience garnered in developing countries, undertaking research, participating in developing and evaluating policy and programs, and working for and with governmental and non-governmental



organizations, particularly on the issues of health system strengthening, as well as women and health. This interdisciplinary group has demonstrated capacity to translate research into policy recommendations. The global experience will make it possible for HGEI to reach out to key actors and informants throughout the world.

THE GLOBAL TASK FORCE ON EXPANDED ACCESS TO CANCER CARE AND CONTROL IN DEVELOPING COUNTRIES (GTF.CCC)



was convened by the Dana-Farber Cancer Institute, the Harvard Global Equity Initiative, the Harvard Medical School and the Harvard

School of Public Health in November of 2009. The Task Force is a 27-member body combining leaders in cancer and global health, and is co-Chaired by Julio Frenk, Dean of the Harvard School of Public Health and Lawrence Shulman, Chief Medical Officer and Vice President for Medical Affairs at the Dana-Farber Cancer Institute. Her Royal Highness Princess Dina Mired of the Hashemite Kingdom of Jordan and Lance Armstrong serve as Honorary co-Presidents. The Harvard Global Equity Initiative serves as the Secretariat for the Task Force.

The GTF.CCC is predicated on the conviction that solutions to barriers exist and that the reasons for rapidly scaling-up cancer treatment are compelling enough to merit an invigorated global response to cancer. It focuses on areas that have largely been neglected, working from the perspective of health-system strengthening. The Task Force works with partner programs that are locally entrenched and independently sustainable. These innovation initiatives are implemented through Partners In Health, based in Rwanda, Malawi and Haiti, and in collaboration with the Dana-Farber Cancer Institute and the King Hussein Cancer Foundation and Center in Jordan, where

there is a focus on breast and pediatric cancers. In Mexico, the Task Force focuses on breast cancer, working through the National Commission of Social Protection for Health, the Ministries of Health of the states of Morelos, Jalisco, and Nuevo Leon, the National Institute of Public Health of Mexico, the National Cancer Institute of Mexico, the Mexican Health Foundation, and the program Cáncer de mama: Tómatelo a pecho.

The Task Force calls for large-scale pilot programs to define and build new infrastructure, train health professionals and paraprofessionals and harness the opportunities of technology and especially telecommunications to leapfrog over many of the on-site limitations in resources. Carefully designed evaluation and monitoring of these experiences will enable identification of the most effective measures to alleviate cancer burdens in different parts of the developing world and expand the volume of health services, as well as providing lessons for all health systems, including the developed world.

THE NCD ALLIANCE was launched in May

The NCD Alliance

Putting non-communicable diseases on the global agenda

2009 by the International Diabetes Federation,

Union for International Cancer Control and the World Heart Federation to represent the millions dying and affected by NCDs across both the developing and developed world and prevent further spread of the NCD epidemic. The Alliance originally organized around four demands: for the UN General Assembly to hold a Summit on NCDs; for the inclusion of indicators of NCDs in the MDGs at the September 2010 UN MDGs Summit, and inclusion of NCDs in the successor goals to the MDGs in 2015; access to affordable, quality, essential medicines for NCDs in poor and middle-income countries; and for integration of NCDs into health systems, especially at the primary

health care level. In 2010, The International Union Against Tuberculosis and Lung Disease joined the NCD Alliance as a full partner. Gratified that its first goal, a UN summit meeting, will come to fruition in September 2011, the NCD Alliance will continue its focus on a number of key “asks” for the UN Summit: for governments to be accountable; for a global commitment to prevent the preventable; sufficient resources allocated to NCD interventions; globally agreed-upon approaches to NCD treatment and care; full implementation of the WHO Framework Convention on Tobacco Control; and NCDs to be built into global targets for the future. In addition to its many planned tasks and strategies, the IDF, UICC, The Union and the WHF will continue to be the unique global voice for the major NCDs and continue to encompass over 170 countries and territories, grounding their global advocacy in the reality of diverse context and cultures.

PARTNERS IN HEALTH works in some of the poorest corners of the world to deliver high-quality health care to the poor and marginalized. By establishing long-term relationships with sister organizations based in settings of poverty, PIH strives to achieve two overarching goals: to bring the benefits of modern medical science to those most in need of them and to serve as an antidote to despair. PIH draws on the resources of the world’s leading medical and academic institutions and on the lived experience of the world’s poorest and sickest communities and is dedicated to providing the highest level of clinical care possible while alleviating the crushing social and economic burdens of poverty that create obstacles to health.

In 1987, Partners In Health was founded in Massachusetts to support activities in Cange, Haiti; at the same time Zanmi Lasante (Creole for Partners In Health)

was founded as PIH’s sister organization in Haiti. The small clinic in Cange has become the largest hospital in Central Haiti, and beyond Cange, Zanmi Lasante provides comprehensive medical care through more than a dozen public health centers and hospitals in the Central Plateau and the Artibonite Valley. PIH has expanded beyond Haiti and collaborates on comprehensive, integrated primary care and infectious disease treatment programs in three African countries: Rwanda, Malawi, and Lesotho. In Peru, Russia, Lesotho, and most recently Kazakhstan, PIH conducts treatment and training programs for multi-drug-resistant tuberculosis and works to address health care problems in rural Mexico, Guatemala, and Burundi. In Massachusetts, PIH has developed an effective disease management model for patients with multiple chronic diseases, taking lessons learned in Haiti to improve health utilization patterns among poor and marginalized patients in the United States.

The **DEPARTMENT OF GLOBAL HEALTH AND SOCIAL MEDICINE** is an interdisciplinary basic social science department at Harvard Medical School. Our faculty of social scientists and physicians teaches and conducts research in the social sciences and humanities relevant to health, health care delivery, and the professional culture of medicine. We are concerned with historical, social, and cultural aspects of health care, poverty, and other adversities intimately interconnected with disease, as well as the moral issues that arise in the practice of medicine today. We help to organize global health activities at Harvard Medical School. We and our partners have established the Global Health Delivery program to promote a more effective transfer of the great array of services, knowledge, and other resources for prevention and treatment of disease to the many in need of this help, with particular emphasis on those

living in resource-poor settings. Our teaching and research programs contribute to the education of undergraduates, medical students, postdoctoral trainees, clinicians, and policy makers. Collaborations among physicians and social scientists worldwide lead to research and interventions that promote better health both in the United States and globally.

The overarching mission of the **HARVARD SCHOOL OF PUBLIC HEALTH** is to advance the public’s health through learning, discovery, and communication. To pursue this mission, the School produces knowledge through research, reproduces knowledge through higher education, and translates knowledge into evidence that can be communicated to the public, policy makers, and practitioners to advance the health of populations. Our objectives are: to provide the highest level of education to public health scientists, practitioners, and leaders; to foster new discoveries leading to improved health for the people of this country and all nations;

to strengthen health capacities and services for communities; and to inform policy debate, disseminate health information, and increase awareness of health as a public good and fundamental right.

The field of public health is inherently multi-disciplinary. So, too, are the interests and expertise of the School’s faculty and students, which extend across the biological, quantitative, and social sciences. With our roots in the basic sciences, we are able to confront the most pressing diseases of our time—AIDS, cancer, and heart disease—by adding to our knowledge of the biological, chemical, genetic, and societal forces underlying disease. Core quantitative disciplines like epidemiology and biostatistics are fundamental to analyzing the broad impact of health problems, allowing us to look beyond individuals to entire populations. And, because preventing disease is at the heart of public health, we also pursue the social sciences to better understand societal influences of health-related behaviors and to inform public policy.

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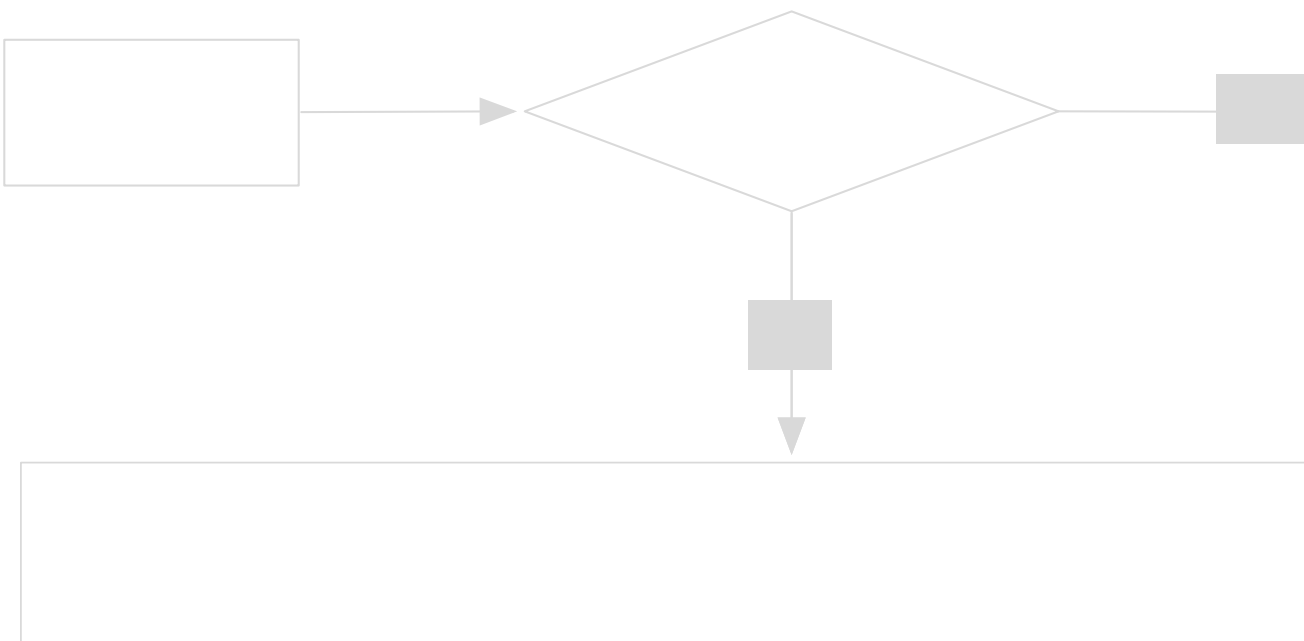
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SPONSOR STATEMENT



Medtronic
FOUNDATION

March 2, 2011

Addressing the NCD Needs of the Bottom Billion

The rapid rise of non-communicable diseases is one of the major challenges to global health and development. But while there is increasing advocacy to curb the growth of NCDs linked to unhealthy lifestyles (tobacco use, lack of physical activity and unhealthy diet), there has been little discussion about the burden of endemic NCDs, such as rheumatic heart disease, among the poorest populations that make up 'the bottom billion'. In this population, NCDs remain, for the most part, unrecognized and untreated.

The Medtronic Foundation is proud to sponsor the "NCDs of the Bottom Billion" conference, to highlight these unique issues with global policy makers, to foster a shared sense of purpose among those working on NCDs, and to create a global network of partners focused on NCDs endemic to low-income countries.

Thanks to the efforts of this conference's host institutions—Partners in Health (PIH), Harvard Medical School, Brigham and Women's Hospital, the NCD Alliance, the Global Taskforce on Expanded Access to Cancer Care and Control in Developing Countries, and the Harvard School of Public Health—we have a critical opportunity to encourage the U.N. NCD Summit to address the timely diagnosis, treatment, and long-term management of NCDs at *all* levels of society.

We believe it is critical to develop plans for effective and affordable interventions that integrate NCDs into primary care systems, which are being rebuilt in poor and low-income countries by vertical interventions that target TB, HIV and malaria. By doing so, the NCD community can propose concrete, tested solutions to the U.N. Summit and to government policy makers in the months following the Summit.

The Medtronic Foundation is committed to supporting the prevention, diagnosis and management of NCDs globally through the strengthening of health systems in some of the world's most underserved regions.

We are announcing new grants to support the integration of NCDs into primary healthcare systems in developing countries. The grants are made in preparation for the U.N. Summit on NCDs in September 2011, and are part of a comprehensive Medtronic commitment to drive a meaningful reduction in NCD mortality and morbidity, working across the healthcare continuum, in partnership with NGOs, academia, governments, healthcare professionals, and industry.

Our strategies are straightforward:

1. **Contribute to policy and advocacy for NCDs on a global and national level.** In addition to this conference, our grants are supporting the NCD Alliance to create a unified voice for NCD civil society.
2. **Develop tools and innovative health system delivery models to integrate NCDs into primary healthcare.** We are supporting NGOs and academics investigating innovative ways to address key issues, such as leveraging HIV programs to strengthen chronic care, and exploring the best low-cost tools to diagnose NCDs. We are pleased to have supported the development of the *PIH Guide to Chronic Care Integration for Endemic NCDs—Rwanda Edition*, which we hope can be adapted for use by other countries.
3. **Create and strengthen open-access NCD Knowledge Centers** for the global development and sharing of best practices and collaboration.
4. **Prevent Rheumatic Heart Disease (RHD).** RHD is one of the more prevalent, neglected NCDs of the poor, a disease that has been virtually eradicated in developed countries. We are supporting advocacy and awareness of this disease among policy makers, health professionals, and the public, and the development of best practices for screening and treatment.

We look forward to working in continued partnership with leaders around the globe on this critical health issue.

Gary Ellis
Chairman of the Board, The Medtronic Foundation
March 2011

The Medtronic Foundation is the philanthropic arm of Medtronic Inc., a global leader in medical technology—alleviating pain, restoring health, and extending life for millions of people around the world.

SPEAKER BIOGRAPHIES

IMELDA BATES is a clinical tropical hematologist based at the Liverpool School of Tropical Medicine, UK. Following her general medical and specialist hematology training, she spent several years living in Ghana and Southeast Asia, where she worked as a clinician, teacher and researcher. Through partnerships with collaborators in several African countries, she has been able to pursue her research interests, which include the links between infections (such as malaria) and non-communicable diseases, and health systems research focusing on anemia, blood transfusion and capacity development

DAVID BERAN has been the Project Coordinator of the International Insulin Foundation (IIF) since its establishment in November 2002. The Foundation was established to investigate barriers to care for people with diabetes in resource-poor countries. For this work, the IIF developed a protocol in order to provide a framework for reassessing health systems with regard to the provision of diabetes care. To date, the IIF has carried out assessment and implementation of projects in Kyrgyzstan, Mali, Mozambique, Nicaragua, the Philippines, Vietnam and Zambia. Beran obtained his MSc in Public Health at the London School of Hygiene and Tropical Medicine; his master's dissertation concerned the prevention of Type 2 diabetes in children. He is currently based at the Centre for International Health and Development, Institute of Child Health, University College London, where he is a Senior Research Fellow.

GENE BUKHMAN is an Assistant Professor of Medicine and an Assistant Professor of Global Health and Social Medicine at Harvard Medical School. He is a cardiologist in the Division of Global Health Equity at Brigham and Women's Hospital and in the Boston VA Healthcare System. By training, Bukhman is a medical anthropologist and a cardiologist with special competence in

echocardiography. He is the cardiology director for Partners In Health. Bukhman is an expert on strategic planning for non-communicable disease control and serves as the Senior Technical Advisor on Non-communicable Disease to the Rwandan Ministry of Health. His research has focused on the political and historical context of intervention in this area, as well as the evaluation of programmatic outcomes. He has worked in Rwanda since 2006. In 2010, Bukhman was appointed the Director of the Program in Global Non-communicable Disease and Social Change at Harvard Medical School.

CORRADO CANCEDDA currently spends most of his time in Rwanda where he is a Poorvu Family Faculty Fellow through the Division of Global Health Equity, Brigham and Women's Hospital. In addition to direct patient care, he provides close clinical supervision and mentorship to rotating Harvard residents as well as Rwandan physicians and nurses. His interest lies in the development of high-quality and sustainable post-graduate training programs for health care providers in developing countries through the creation of academic partnerships between local and international academic institutions. Cancedda has been involved in the development of several post-graduate nursing training programs in Rwanda and has launched a Family and Community Medicine Residency program for Rwandan medical graduates. He earned his MD and PhD in clinical immunology from the University of Genoa.

JONATHAN CARAPETIS is Director of the Menzies School of Health Research in Darwin, Australia. His research interests include group A streptococcal and pneumococcal diseases, other vaccine-preventable diseases, vitamin D deficiency in refugees and urinary tract infections in children. For his doctoral work, Carapetis conducted a study into a group A streptococcal disease in the Aboriginal

population under the supervision of Bart Currie and John Matthews. This led to the establishment of Australia's first rheumatic heart disease control program in the Top End. In 1999 he returned to Melbourne and co-founded the Centre for International Child Health at the University of Melbourne Department of Pediatrics, the only Australian WHO Collaborating Centre in Child Health. A chief investigator on many NIH and other grants, he is the recipient of an NHMRC Career Development Award and a 2001 Glaxo SmithKline Award for Advanced Research in Infectious Diseases.

GAIL H. CASSELL is a Visiting Professor in the Department of Social Medicine, Harvard Medical School, and Vice President of TB Drug Discovery for the Infectious Disease Research Institute in Seattle. Dr. Cassell has recently retired as Vice President, Scientific Affairs and Distinguished Lilly Research Scholar for Infectious Diseases, Eli Lilly and Company. While at Lilly, Cassell initiated and led the nonprofit Lilly TB Drug Discovery Initiative, and helped launch the Lilly Multidrug Resistant Tuberculosis Partnership. The partnership yielded \$135 million in corporate support, the largest philanthropic effort in Lilly's 125-year history; it now involves over 20 partners, including WHO and CDC. Also at Lilly, as Vice President of Infectious Diseases Drug Discovery and Clinical Development, Cassell led the program that took a hepatitis C protease inhibitor from the discovery phase to clinical candidate, now in Phase III trials at Vertex. She served as Professor and Chair of the Department of Microbiology at the University of Alabama Schools of Medicine and Dentistry, where she obtained her PhD in microbiology.

AMADOU GALLO DIOP is Professor of Neurology at the University Cheikh Anta Diop and the University Hospital of Fann in Dakar, Senegal, with special expertise in epileptology, neurobiology, and public health. In his roles as founder and president

of the Senegalese League Against Epilepsy, Vice Chairman of the Africa Committee of the World Federation of Neurology, and Chairman of the African Affairs of the International League Against Epilepsy, Diop has been a leading voice in developing neurological training and services in Africa. He has played a key role in the WHO Global Campaign Against Epilepsy, and was the primary author of the WHO report "Epilepsy in the WHO African Region: Bridging the Gap." Besides his advisory role to the WHO in Geneva, he also serves as consultant to the WHO in Guinea, Niger, Chad, Burkina Faso and Congo Brazzaville. He received a Doctorate in Medicine from the University Cheikh Anta Diop, a Diploma of Clinical Neurophysiology from the University of Pierre and Marie Curie-Paris VI, Pitie-Salpetriere, and a Doctor of Science in Neurobiology from the University of Limoges.

PAUL FARMER is a medical anthropologist, physician and founding director of Partners In Health (PIH), an international nonprofit organization that provides direct health care services and has undertaken research and advocacy activities on behalf of those who are sick and living in poverty. He is the Kolokotronis University Professor at Harvard University, Chair of the Department of Global Health and Social Medicine at Harvard Medical School, and Chief of the Division of Global Health Equity at Brigham and Women's Hospital. Writing extensively on health, human rights, and the consequences of social inequality, his most recent book is *Partner to the Poor: A Paul Farmer Reader*. Other titles include *Pathologies of Power: Health, Human Rights, and the New War on the Poor* and *AIDS and Accusation: Haiti and the Geography of Blame*. Farmer is the recipient of many awards including a John D. and Catherine T. MacArthur Foundation Fellowship, and, with his PIH colleagues, the Hilton Humanitarian Prize. He earned his MD and his PhD at Harvard.

JULIO FRENK became dean of the Harvard School of Public Health on January 1, 2009. Prior to coming to HSPH, he served as a senior fellow in the global health program of the Bill & Melinda Gates Foundation and as president of the Carso Health Institute in Mexico City. From 2000–2006, Dr. Frenk was Minister of Health of Mexico where he pursued an ambitious agenda to reform the nation's health system, with an emphasis on redressing social inequality and establishing a program of comprehensive national health insurance, known as Seguro Popular. Frenk was founding director of the Center for Public Health Research in Mexico's Ministry of Health, founding director-general of the National Institute of Public Health in Mexico, and executive vice president of the Mexican Health Foundation and director of its Center for Health and the Economy. At WHO, he served as Executive Director of Evidence and Information for Policy. Frenk holds an MD from the National Autonomous University of Mexico, and an MPH, MA (Sociology) and PhD from the University of Michigan, and is a member of the U.S. Institute of Medicine and the National Academy of Medicine of Mexico.

ATUL GAWANDE is a general and endocrine surgeon at Brigham and Women's Hospital and the Dana-Farber Cancer Institute. He is also Associate Professor in the Department of Surgery at Harvard Medical School and the Department of Health Policy and Management at the Harvard School of Public Health. In 2007, he became director of WHO's global campaign to reduce surgical deaths. Gawande served as a senior health policy advisor in the Clinton presidential campaign and in the White House from 1992–93. He has been a staff writer for *The New Yorker* magazine since 1998. In 2006, he received a MacArthur Award for his research and writing. His latest *New York Times*-bestselling book is *Complications: A Surgeon's Notes on an Imperfect Science*, which was a 2002 finalist for the National Book Award and has been published in more than

20 languages. Gawande has an MA from the University of Oxford, an MD from Harvard Medical School, and an MPH from Harvard School of Public Health.

THOMAS A. GAZIANO is an Assistant Professor of Medicine at Harvard Medical School and the Harvard School of Public Health. His research interests are in the treatment of cardiovascular disease in developing countries, including the epidemiology and management of its risk factors and the development of decision analytic models to assess the cost-effectiveness of various screening, prevention and management decisions. He has served as a consultant and author for the Disease Control Priorities Project of the World Bank, WHO and the Fogarty International Center. He is the co-principal investigator of the United Health and NHLBI Collaborating Center of Excellence at the University of Cape Town, where he holds an Honorary Senior Lectureship. He is co-leader of the Chronic and Cardiovascular Disease Working Group at the Harvard Institute for Global Health. He is certified as a Diplomat in Internal Medicine and Cardiovascular Diseases.

PETER J. HOTEZ is Distinguished Research Professor and Walter G. Ross Professor and Chair of the Department of Microbiology, Immunology and Tropical Medicine at George Washington University, and serves as president of the Sabin Vaccine Institute, a nonprofit research and advocacy organization. Hotez's research focuses on vaccine development for parasitic disease, especially recombinant vaccines for hookworm and schistosomiasis. Committed to increasing control of NTDs, Hotez co-founded the Global Network for Neglected Tropical Diseases with the mission to facilitate access to essential NTD medicines. He has a PhD from Rockefeller University and an MD from Weill Cornell Medical College. Hotez founded the journal *PLoS Neglected Tropical Diseases*, and is currently

president of the American Society of Tropical Medicine and Hygiene.

DEAN JAMISON is Professor in the Department of Global Health at the University of Washington. His research interests are economic theory, public health and education. Recently, he led the Disease Control Priorities Project and served as the senior editor of *Disease Control Priorities in Developing Countries* (Oxford University Press, 2nd ed., 2006). Prior to his appointment at the University of Washington, he was a Visiting Professor of Public Health and International Development at the Harvard Kennedy School and the Harvard School of Public Health, while serving as a Professor in Global Health Sciences at the University of California-San Francisco. Prior to joining academia, Jamison was at the World Bank as a senior economist and in other education and health roles, authoring the Bank's 1993 World Development Report, *Investing in Health*. Jamison earned a master's in engineering science from Stanford and a PhD in economics from Harvard. In 1994 he was elected to membership in the Institute of Medicine/National Academy of Sciences.

ANN KEELING has served as Chief Executive Officer of the International Diabetes Federation since 2008. Currently, she chairs the Steering Committee of the four federations (IDF, WHF, UICC, The Union) that comprise the NCD Alliance. Before joining IDF, she was head of Gender Equality for the UK Government. Prior to this, Keeling was director of health, education and gender at the Commonwealth Secretariat and, before this, headed the Policy Department of Europe, Middle East and the Americas at the UK Department for International Development. Keeling advised the BBC on international development and served as vice-chair of the board of the NGO Womankind. She spent many years working in Papua New Guinea, Pakistan, Indonesia and the Caribbean with several diplomatic

posts held on behalf of the UK. Keeling has a master's in politics, philosophy and economics from Oxford.

ARTHUR KLEINMAN is the Esther and Sidney Rabb Professor of Anthropology in the Faculty of Arts and Sciences and Professor of Medical Anthropology and Professor of Psychiatry in the Faculty of Medicine at Harvard. From 1990–2000 he chaired the Department of Social Medicine at Harvard Medical School, which is now the Department of Global Health and Social Medicine. A psychiatrist and anthropologist, Kleinman has conducted research for over four decades on depression, on psychological and social consequences of chronic medical conditions, on stigma, and on care-giving. He is a member of the Institute of Medicine of the National Academy of Sciences and just rotated off the Council of Councils at the US National Institutes of Health.

FELICIA KNAUL is director of the Harvard Global Equity Initiative (HGEI) and Associate Professor at the Harvard Medical School. She also serves as the director of the Secretariat for the Global Task Force on Expanded Access to Cancer Care and Control in Developing Countries. After being diagnosed with breast cancer in 2007, Knaul founded *Cáncer de Mama: Tómatelo a Pecho*, a Mexican nonprofit corporation promoting research, advocacy, awareness and early detection initiatives for breast cancer in Latin America. Her book *Tómatelo a Pecho* recounts her personal experience with breast cancer and as founder of the program. An author of many publications, Knaul holds visiting academic appointments at the National Institute of Public Health of Mexico and the Mexican Health Foundation. In addition to government posts in Mexico, she has also worked for WHO, the World Bank, the Inter-American Development Bank, and UNICEF. Knaul earned a PhD in Economics from Harvard.

JULIE MANKANI is a Wellcome Trust Research Fellow and Senior Lecturer in the Department of Hematology and Blood Transfusion at Muhimbili University of Health and Allied Sciences in Dar-es-Salaam, Tanzania. She also holds an appointment as a Clinical Research Fellow at the Nuffield Department of Medicine, University of Oxford. Tanzania has recognized sickle cell disease as a public health problem and as a priority condition in the national strategy for non-communicable disease in the Ministry of Health and Social Welfare. Muhimbili has developed through global partnerships a systematic framework for comprehensive research integrated into health care provision with development of evidence-based policies to improve practice and the health of affected individuals. The aim is to use sickle cell disease as a model to establish scientific and health care solutions in Africa with local and global significance.

BONGANI MAYOSI is Professor of Medicine and Head of the Department of Medicine at Groote Schuur Hospital and University of Cape Town. His research interests include the genetics of heart disease, treatment of tuberculosis pericarditis and prevention of rheumatic fever. He is the immediate past president of the South African Heart Association, currently the Vice President of the Pan African Society of Cardiology and the President of the College of Physicians of South Africa. Mayosi was also a research fellow in cardiovascular medicine at the University of Oxford. An author of many published articles, in 2009 he received the Order of Mapungubwe in Silver from the President of South Africa for his contributions to medical science. Mayosi earned his medical degree from the University of Kwazulu Natal in Durban.

JEAN CLAUDE MBANYA is president of the International Diabetes Federation (IDF) and Professor of Medicine and Endocrinology at the Faculty of Medicine and Biomedical

Sciences, University of Yaoundé I, Cameroon and Consultant Physician and Director of the Health in Transition Research Group. He also directs the National Obesity Center and is Chief of the Endocrinology and Metabolic Diseases Unit at the Hospital Central in Yaoundé. His research focuses on cultural diabetes-related factors, which are often unique to the African countries and communities he studies and places where non-contagious diseases like diabetes are often overlooked. He led the IDFs "Unite for Diabetes" campaign, which led to passage of the United Nations Day Resolution on Diabetes in December 2006. He now steers IDF strategic direction to encourage governments to implement policies for the treatment, care and prevention of diabetes.

JAIMES MIRANDA is an Associate Professor at the School of Medicine at Universidad Peruana Cayetano Heredia in Peru and director of the CHRONICAS Center of Excellence for Chronic Diseases there. His interest areas include collaborations in the nonprofit sector, public sector and academia in Peru and abroad, teaching, and conducting research studies in resource-limited settings. Prior to his current role and while in the UK, Miranda was associated with the International Health and Medical Education Centre at University College London, where he influenced education curricula in clinical topics of international health. He is the recipient of the Beca de Retorno and he serves as a member of the WHO's Expert Advisory Panel on Clinical Practice Guidelines and of the PLoS International Advisory Group. Miranda earned his MD at Universidad Peruana Cayetano Heredia, Lima, Peru, and an MSc and PhD in epidemiology at London School of Hygiene and Tropical Medicine.

ANA OLGA MOCUMBI is a cardiologist with a special interest in neglected cardiovascular disease and pediatric cardiology. Her research interests include endomyocardial fibrosis, rheumatic heart disease and pulmonary hypertension. In her native

Mozambique, she has worked in rural areas of the country, while managing national programs for control of endemic disease. She was a founding member of the Heart Institute in 1999 and its Deputy-Director and head of the Division of Research from 2001 to 2010. Mocumbi earned her medical degree at the University Eduardo Mondlane and a PhD from Imperial College London. She holds a diploma of pediatric cardiology from the University René Descartes, Paris V in France and is a lecturer at Eduardo Mondlane University at the Superior Institute for Science and Technology in Mozambique.

JOSEPH MUCUMBITSI is a pediatrician and cardiologist at King Faisal Hospital, Kigali, Rwanda and a senior lecturer at the medical school of the National University of Rwanda. He coordinates Rwanda's national cardiac surgery program in partnership with visiting surgical teams from Boston, Brussels, Sydney and Spokane, Washington. He has devoted himself to improving access for children to advanced medical care and addressing a severe shortage of locally trained doctors. He is one of fewer than 20 pediatricians available to over 9 million Rwandans and led efforts to try to eradicate preventable causes of heart problems, such as rheumatic fever and rheumatic heart disease. His current work is focused on transferring knowledge and skills to young physicians, nurses and allied health professionals. Mucumbitsi received his medical training in Butare, Rwanda, and his training in pediatrics and subspecialty training in cardiology in Belgium.

ELIZABETH G. NABEL, a cardiologist, is a Professor of Medicine at Harvard Medical School and the President and CEO of the Harvard University-affiliated Brigham and Women's Hospital (BWH) and Faulkner Hospital in Boston, a position she assumed in January 2010. Nabel has made significant contributions to the understanding of molecular genetics of cardiovascular disease, specifically the regulation of the proliferation

of vascular cells in blood vessels. Nabel joined the National Heart, Lung and Blood Institute in the early 1990s. First hired to direct NHLBI's clinical intramural program, she was named director in 2005 and oversaw a research budget of approximately \$3 billion. At NHLBI she launched new scientific programs in genetics and genomics, stem and progenitor cell biology, global health and support for young investigators. Nabel earned her medical degree from Cornell and did her residency training at the BWH in cardiovascular disease. An author of many papers, she is a member of the American Academy of Arts and Sciences and is on the editorial board of *The New England Journal of Medicine*.

GEDEON NGOGA received his advanced diploma in nursing from the Kigali Health Institute in 2007 and is currently doing his bachelor's degree at the University of the West of Scotland. Before working for Partners In Health, he worked in post-cardiac surgery follow-up in a rural district hospital in Rwanda's Eastern Province and as the Head Nurse in the Theatre and Surgical Department at Rwinkwavu Hospital. He joined Partners In Health in 2006, providing patient care in rural communities in Rwanda. Today, Ngoga manages the Non-communicable Diseases Program for Partners In Health in Rwanda. He has developed regular patient education sessions for those with diabetes, empowering patients to self-monitor and conduct their own ongoing care. He has spent time working with the Salam Center for Cardiac Surgery in Khartoum, Sudan and participated in a six-week course in palliative care, including a training of trainers in Kampala, Uganda.

RACHEL A. NUGENT is Deputy Director of Global Health at the Center for Global Development. With a particular interest in the link between health and economic development, she has advised the World Health Organization, the US government and nonprofit organizations on the

economics and policy environment of non-communicable diseases. She was a member of the Institute of Medicine Committee on the Cardiovascular Disease Epidemic in Developing Countries, and a contributor to *Disease Control Priorities Project in Developing Countries, 2006*. Prior to this she was Director of Health and Economics at the Population Reference Bureau and Program Director of Health Economics Programs at the Fogarty International Center of the US National Institutes of Health. Her recent work includes tracking donor funding on NCDs. She received her M. Phil and PhD in economics from George Washington University.

KYLE PETERSON leads FSG Consulting's global health and economic development practices. His partial client list includes the Gates Foundation, Abbott Labs, Pfizer, Inc., Merck, the International Trachoma Initiative, and PATH. Prior to this, Peterson was a strategy consultant at Monitor Consulting focused on domestic and international economic development. He led a competitiveness-consulting project in Rwanda where he advised President Paul Kagame on the country's future economic strategy. Prior to this, Peterson was the country director in Zimbabwe and Rwanda for Population Services International with responsibility for a program of products and services focused on HIV/AIDS prevention, family planning and malaria prevention. This work involved managing a complex health product delivery operation from procurement to distribution. Peterson has an MBA and an MPA from the University of Texas-Austin.

JOHANNA RALSTON was named the Chief Executive Officer of World Heart Federation (WHF) on February 1. WHF, headquartered in Geneva, is one of the founding members of the NCD Alliance, the lead civil society organization focusing on NCDs leading up the UN general assembly high-level meeting on NCDs and beyond. WHF, which

comprises over 200-member organizations in 120 countries, leads the global fight against heart disease and stroke, with a focus on low- and middle-income countries. Ralston was Vice President, Global Strategies at the American Cancer Society, which she first joined in 1999. In 2001, she launched ACS University, a global cancer control capacity-building program, which has trained 1,000 emerging leaders, aimed at increasing the skills and awareness to prevent and treat cancer in lower-resource settings. Previously, she has overseen or led tobacco control projects in Vietnam, China and Africa; was co-principal investigator on the African Tobacco Control Consortium; and a founding member and treasurer of Cervical Cancer Advocacy.

GIUSEPPE "BEPI" RAVIOLA is an adult and pediatric psychiatrist who works as Director of Mental Health at Partners In Health, Director of the Program in Mental Health and Social Change in the Department of Global Health and Social Medicine at HMS, and Medical Director of Patient Safety and Quality in the Department of Psychiatry at Children's Hospital Boston. In his role with PIH he works to integrate mental health services into the care provided at PIH sites, supporting local mental health team leaders on issues related to mental health care delivery, with the goal of building lasting, community-based systems of mental health care. To that end, he oversees clinical, training and research efforts relating to mental health throughout PIH sites.

K. SRINATH REDDY is President of the Public Health Foundation of India. Until recently he headed the Department of Cardiology at All India Institute of Medical Sciences. Having trained in cardiology and epidemiology, Reddy has been involved in several major international and national research studies, including the INTERSALT global study of blood pressure and electrolytes and the INTERHEART global study on risk factors of myocardial

infarction as well as national collaborative studies on epidemiology of coronary heart disease and community control of rheumatic heart disease. He is Coordinator of the Initiative for Cardiovascular Health Research in the Developing Countries (IC Health), a global partnership programme, which promotes research for prevention of cardiovascular diseases in developing countries. He has served on many WHO expert panels and is on the board of directors of the World Heart Federation. A recipient of many awards, he was recognized with the Queen Elizabeth Medal in 2005, conferred by the UK Royal Society of Promotion of Health.

STELLA RWEZAULA is a hematologist in the Department of Hematology and Blood Transfusion at Muhimbili National Hospital and the Muhimbili University of Health and Applied Sciences in Dar-es-salaam, Tanzania. Rwezaura has co-led a program integrating clinical care and research for a cohort of over 2,500 sickle-cell disease patients. The program has focused on laboratory diagnosis of hemoglobinopathies in countries like Tanzania where resources are severely limited. In this context Rwezaura conducted a pilot study on newborn screening (NBS) for hemoglobinopathies, screening over 2,000 births and establishing the feasibility of the introduction of NBS in Tanzania. Sickle cell is a common example of disease arising from a genetic defect; it is estimated that over 70% of carriers can be found in Africa. This work was funded by a centenary scholarship award she received from the Royal Society of Tropical Medicine and Hygiene in 2009. Rwezaura trained in hemoglobinopathy diagnosis at Quest Diagnostics Nichols Institute, as part of an ASH visiting scholar award she received in 2008.

SUNDEEP SALVI is the Director of Chest Research Foundation, an academic institute dedicated to research and education in the field of respiratory diseases in Pune, India.

Salvi is also an Honorary Visiting Senior Lecturer at the Imperial College, London and a PhD mentor in the Faculty of Science at the University of Pune. After completing medical school, he spent eight years at the University of Southampton in UK, where he researched the impact of air pollution on the human lung. A member of many boards, he is currently a member of the editorial board of *Frontiers in Pharmacotherapy of Respiratory Disease*. Salvi earned his PhD at the University of Southampton UK and his medical degree from the University of Pune, India.

LAWRENCE N. SHULMAN is Chief Medical Officer, Senior Vice-President for Medical Affairs, and Chief, Division of General Oncology, Department of Medical Oncology at Dana-Farber Cancer Institute (DFCI). A specialist in the treatment of patients with breast cancer, his research includes the development of new cancer therapies. He oversees clinical services for both adult and pediatric care at the Dana-Farber Cancer Institute and its partners, Brigham and Women's Hospital and Children's Hospital Boston. Dr. Shulman is Director of Network Development for Dana-Farber/Brigham and Women's Cancer Center, and oversees DFCI ambulatory oncology units at several regional sites. Serving on many boards, he is Chair-elect of American Society of Clinical Oncology's Quality of Care Committee and co-chairs the Clinical Research workgroup for the Certification Commission on Health Information Technology. He works closely with Partners In Health, leading the development of a structured cancer program for their resource-limited healthcare sites in Rwanda, Malawi and Haiti. He is co-chair, together with Dr. Julio Frenk, Dean of the Harvard School of Public Health, of the Global Task Force on Expanding Access to Cancer Care and Control in the Developing World, a Harvard-based, international task force committed to the improvement of cancer care worldwide.

KIRK SMITH is Professor of Global Environmental Health at the University of California at Berkeley. He was founder of the Energy Program of the East-West Center in Honolulu, where he still holds an appointment as an adjunct senior fellow. His research interests include environmental and health issues in developing countries, especially those arising from biomass and coal uses. He has conducted health-effects studies in India, China, Nepal, Mexico and Guatemala, demonstrating the association between exposure to pneumonia and adverse birth outcomes and that biomass fuel cycles contribute to greenhouse gas emissions. He is the recipient of the 2009 Heinz Award in Environment and a lifetime achievement award from the Mrigendra-Samjhana Medical Trust, Nepal. Smith has an MPH in environmental health sciences and a PhD in biomedical and environmental health from UC-Berkeley.

SARA STULAC has spent the past six years working in Rwanda with her colleagues at Partners In Health and in the Rwandan Ministry of Health to develop systems of rights-based, comprehensive medical care for children and families there. She is the Clinical Director of Partners In Health-Rwanda, an Instructor in Medicine in the Division of Global Health Equity at Brigham and Women's Hospital and a Research Associate in Medicine at Harvard Medical School. As clinical director she oversees the management of all clinical programs with a focus on developing programs for pediatric HIV prevention and treatment, as well as for malnutrition care, inpatient pediatrics, and pediatric oncology. Stulac works at a network of hospitals and health centers in three rural districts and has helped develop a primary health care infrastructure and community-based HIV care. She graduated with degrees in medicine and public health from Tufts University in 2002.

JEFFREY L. STURCHIO is President and CEO of the Global Health Council. In 2008–2009,

Sturchio was Chairman of the US Corporate Council on Africa, whose mission, in concert with its 150 corporate members, is to improve the trade and investment climate in Africa and its relationship to the US business community. He served as Vice President of Corporate Responsibility at Merck & Co. Inc., and President of The Merck Company Foundation, whose array of funded programs include childhood asthma, HIV/AIDS access programs and science education. He is currently a Visiting Scholar at the Institute for Applied Economics, Global Health and the Study of Business Enterprise at Johns Hopkins University, a Fellow of the AAAS and a member of the Council on Foreign Relations. Sturchio is also a member of the Global Agenda Council on Health of the World Economic Forum. He earned a PhD in the history and sociology of science from the University of Pennsylvania.

DAVID WALTON is an Instructor of Medicine at Harvard Medical School and an Associate Physician at the Brigham and Women's Hospital, Boston. His clinical research includes HIV/AIDS, tuberculosis, the care and treatment of NCDs in resource-poor settings, and the study of emerging infectious diseases in Latin America. While a medical student, Walton made his first trip to Haiti as a research assistant to Paul Farmer and was part of a team that helped transform a nearly defunct public clinic in Haiti's Central Plateau into a fully functioning center for primary care, women's health care, and chronic disease management. Later his group put in place a hospital of clinical care, primary care, and women's health services for an area of over 60,000 people. He represents Partners In Health as the Deputy Chief of Mission to Haiti. He earned his MD at Harvard Medical School and an MPH from the Harvard School of Public Health.

Research conducted by **JOHN ZIEGLER**, Professor of Medicine and founding director of the University of California-San Francisco AIDS Clinical Research Center, was

instrumental in the discovery of viral causes of Burkitt's lymphoma and Kaposi's sarcoma. In 2007 he was named the Director of the Global Health Sciences Graduate Program at UCSF, drafting a curriculum for a master's in global health sciences, the first of its kind in the US. His association with the AIDS research center produced significant work on HIV-associated malignancies in the US and Uganda. Ziegler began his cancer research career with the National Cancer Institute. In 1967, he founded the Uganda Cancer Institute and after years of research there, he received the Albert and Mary Lasker Award for improving the cure rate of Burkitt's lymphoma. An author of many papers, he has been the recipient of two Fulbright awards, allowing him to teach clinical medicine for eight years at Makerere University in Kampala. Ziegler earned his MD from Cornell and a master's in epidemiology at the London School of Hygiene and Tropical Medicine.

We would like thank our guest speakers, who are coping with the impact of living with non-communicable disease, for sharing their stories.

CLAUDINE HUMURE is an 18-year-old Rwandan girl who was diagnosed with osteosarcoma in 2005 while living at Imbabazi Orphanage in Rwanda. With support from Partners In Health, she was sent to the US and treated at Massachusetts General Hospital. During her time in Boston, she learned English while living with a host family. After completing treatment, Claudine returned to Rwanda where she has excelled academically. This year she began 10th grade in Greenwich, Connecticut, where she is on the honor roll. Claudine's favorite subject is biology and she hopes to attend college and medical school in the US and to become a pediatric oncologist so that she can treat other children with cancer in Rwanda.

CLAUDINE MANIZABAYO is an 18-year-old girl born in a poor family. She has two brothers and three sisters. Claudine is the first-born of the family and is a father orphan. Her family has a difficult life, performing daily field work for other people. When Claudine was school-aged, she had several episodes of fever and joint swelling, which remained untreated and was then made worse by malaria. Her family was unable to afford medical care due to poverty and Claudine continued to suffer from that insidious disease, which deteriorated her health and left her unable to go to school. During the clinical visit for coughing and dyspnea, this was confused with asthma, yet Claudine got the opportunity to consult a cardiologist who confirmed the existence of rheumatic heart disease. Since then she was followed until presently by the clinical team of the Non-Communicable Chronic Disease clinic at Kirehe. Claudine's heart has been operated on, and she is reintegrated at school and currently studying at the primary school P2. Claudine is committed to study and is performing well. She also feels that she will bring significant changes in her family when she finishes her studies.

CELIA REDDICK spent many early hours pushing a doll's pram around the inpatient cardiology ward at Boston Children's Hospital. Born with a single ventricle and transposed great vessels, these hallway walks in hospital boots have shaped Celia's path since. During her ongoing visits to Children's she met fellow patients from around the world whose parents had given up everything to gain medical care, and families from the United States whose financial standing made treatment an ongoing uncertainty. She saw that unearned privilege had brought her health as others went untreated. After studying in the College of Letters at Wesleyan University, Celia joined the NYC Teaching Fellows. Teaching English to 9th and 10th grade new immigrants in the South Bronx, she and her students bustled through metal detectors in search

of the “American Dream.” But for students from as far afield as the Ivory Coast, Dominican Republic and Vietnam, this goal was often elusive: the 16-year-olds occupying her classroom frequently boasted only the most basic literacy skills. Many had never been to school. Others had experienced childhood illness that left them years behind. As a result, they and their families often failed to break the cycle of poverty.

In an effort to better understand the intersection between a lack of education, poor health and poverty, as demonstrated in her students’ stories, Celia joined Voluntary Services Overseas, working at a rural primary teachers’ college in Uganda. It soon became clear that trained teachers could provide only partial support to a child suffering from HIV and that child-centered methods have a limited effect on literacy without basic nutrition. After watching students leave school for treatable diseases, Celia realized that at the heart of a successful struggle for human rights—including access to education—lies a commitment to a strong health care system. Today, Celia works with the Department of Medical Education and Training at Inshuti Mu Buzima, Partner In Health’s sister organization in Rwanda. She collaborates with the Rwandan team to design curricula and enhance training methodology in the health sector. She is thrilled to work alongside extraordinary colleagues as they strive to extend the same quality of care to rural communities in Rwanda as she received herself.

ARAF SALIM MOHAMED SAID was born on March 16, 1987, in Dar-es-salaam, Tanzania and grew up there. She says: “I was diagnosed with sickle cell anemia eight months after birth. Luckily, my parents never gave up, they did all that they were advised by the doctors and also encouraged me to go to school. Their encouragement drove me to excel. I graduated from high school and joined Learn IT Institute of Business and Information Technology, and earned an

advanced diploma in business administration. No obstacle was too great for me to overcome. My plan is to start my degree this year. My accomplishments were not easy to achieve with frequent visits to the hospital. Having to live with sickle cell anemia life can be very challenging. In general, growing up with sickle cell disease affects the whole range of social activities from education, relationships and employment. Pain as the most common symptom facing me gives me problems with self-concepts like low self-esteem, depression, dissatisfaction with the body image, poor school performance, social isolation, decreased participation in normal activities of daily living, and poor peer and family relationships. By 2005, I came to realize that I was not alone and that the community surrounding me is populated with victims of sickle cell anemia, yet with no knowledge of it; thus I dedicate my experiences to help my community and raise awareness to everyone on the dangers of sickle cell disease and also the achievements you can accomplish despite having sickle cell anemia. I am an encouragement to my fellow sickle cell patients.”

PHIL SOUTHERLAND, the founder and CEO of Team Type 1, became violently ill and was diagnosed with type 1 diabetes when he was only seven months old. His mother was told that he would likely not live past 25. Now 29 years old, Southerland is reading, riding and keeping his A1C under control with diet, exercise and a disciplined insulin regimen. At the helm of Team Type 1, Southerland is changing the way the world manages and views type diabetes. In 1994 at the age of 13, Southerland began competitive cycling. In 2004, Southerland with his friend Joe Eldridge founded Team Type 1 with the goal of sharing their experience managing their diabetes as athletes and showing the world that people with type 1 diabetes were capable of competing in athletics just as well as “normal” people. Southerland has expanded

Team Type 1 to include over 101 competitive athletes, many with diabetes, who make up an elite cycling team, a women’s cycling team, a triathlon team, a running team, a Team Type 2 and an International Cycling Union Professional Continental Cycling Team.

The programs of Team Type 1 race and advocate throughout the world to spread their inspirational message of hope and encourage proper diabetes management. Today, Southerland has assembled a 21-member professional men’s squad of athletes from 11 different countries and, with the appropriate licensing in hand, hopes to secure an invitation to the Giro de Italia and someday the Tour de France. Team Type 1 works in partnership with the International Diabetes Federation with the goal of providing donated supplies to the children in resource-poor countries. The first target in this effort is Rwanda. Southerland has also developed a diabetes research platform along with endocrinologists Dr. Juan Frias and Dr. Bruce Bode that will help launch the Team Type 1 Sports Research Institute. The top doctors in the world will evaluate the performance of athletes and individuals with diabetes and develop research and studies that will help everyone have a better understanding of the disease and how to control it.

CONFERENCE INFORMATION

CONFERENCE CENTER

Please consult the illustration of the layout of the conference center. Note that the conference center uses the term “ground floor” to designate what would normally be considered the first floor in most US buildings. The amphitheater’s main entrance is located on the ground floor at street level. Check-in of attendees will take place both days immediately outside of the amphitheater.

Additional seating is available in the balcony accessed from the first floor (one flight up). An elevator is found at the opposite end of the ground floor behind the stairs.

Restrooms are located on the ground floor at the entrance to the theater. Additional restrooms are found one floor up by passing by the Elements Café and walking toward signs to the Bray Room.

HOW LUNCH WILL BE SERVED

Box lunches will be available for pick-up on tables outside the amphitheater. You are welcome to seat yourself in the lobby area or on the first floor at the Elements Café. There is additional comfortable seating located in the balcony on the second floor. Use any available open seating space in the conference center for lunch, breaks or impromptu small group discussions.

THE COFFEE BREAK—A “STRETCH”

Due to a very full agenda and our desire to have ample time for each question and answer period, we have opted for a “stretch,” rather than a full break. Since there will be no formal “breaks,” please feel free to leave the conference room for coffee or restroom breaks, etc. as needed. Refreshments will be continuously available. If you are concerned about re-entering, use the balcony (ask staff to guide you).

TAXI

If you need a taxi, ask the security officer in the lobby to call you a cab.

QUESTION AND ANSWER PERIOD

Our priority with the question and answer portion of the conference is to enable as many questions as possible. We also have a remote audience eager to hear our planned discussions. Thus, please keep your question to under two minutes and limit a comment to no more than one sentence. The standing microphones in the aisle must be used. Feel free to queue up for your question at any time. The facilitators or the conference emcee will enforce the time limit for each question. Please be considerate of others who are waiting their turn.

PIH GUIDE TO CHRONIC CARE INTEGRATION FOR ENDEMIC NCDs

We would like to direct you to the conference web site www.pih.org/harvardncd for an electronic version of the *PIH Guide to Chronic Care Integration for Endemic NCDs*. This guide is designed for district-level health care providers and policy makers designing a health system for care of NCDs in very low-income populations. This guide is based on experiences and collaboration between Rwandan and international specialists over the course of four years. Funding for this guide was provided by the Medtronic Foundation through a grant to Partners In Health. We expect that a revised, international version of this guide will be published in the next 3 months. Please send any comments to gbukhman@pih.org.

STAFF OF THE CONFERENCE

Staff of Partners In Health, the Brigham and Women's Hospital Division of Global Health Equity, the HMS Department of Global Health and Social Medicine and a number of medical students are giving generously of their time to ensure that this meeting

goes smoothly. The staff are wearing name badges that display a blue, round sticker. Speak to them about any concerns or requests you have.

CALL IN BY JULIE MAKANI AND BONGANI MAYOSI

On the first day of the conference we will have two guest speakers who will be calling in from S. Africa, who could not join us in person. Thus, slides will be on the screen along with a photo. We expect that audio will be very clear and we hope this will be a productive way to include them in our discussions.

WORKING GROUPS

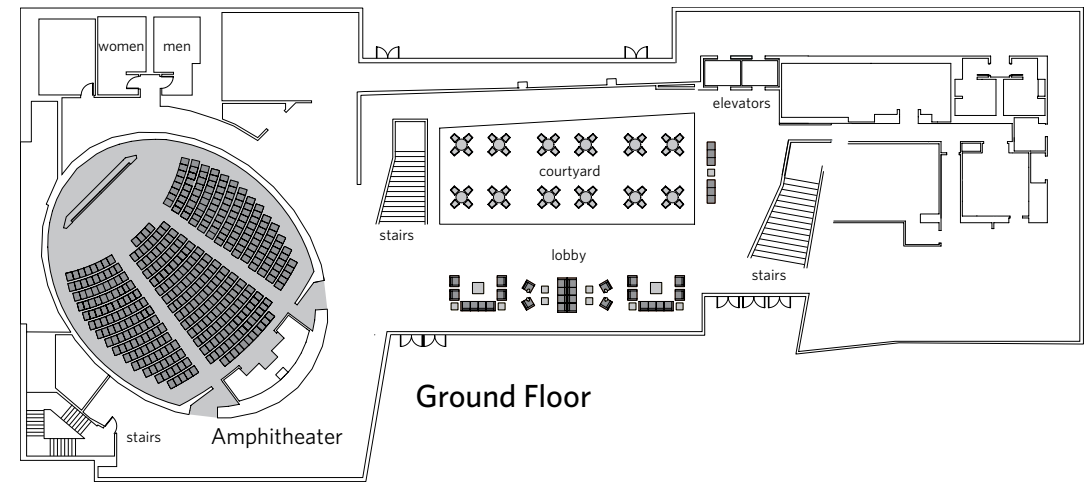
Three groups have been assembled to consider special policy issues. The groups will meet in breakout rooms during lunch on Thursday, March 3 to formulate recommendations, which they will report back to the plenary at the end of the day. These recommendations are expected to be put in to discussions at the UN general assembly meeting on NCDs in September 2011. You may provide any feedback during or after the presentations to Gene Bukhman at harvardncd@gmail.com.

RECEPTION FOLLOWING DISCUSSIONS ON MARCH 2

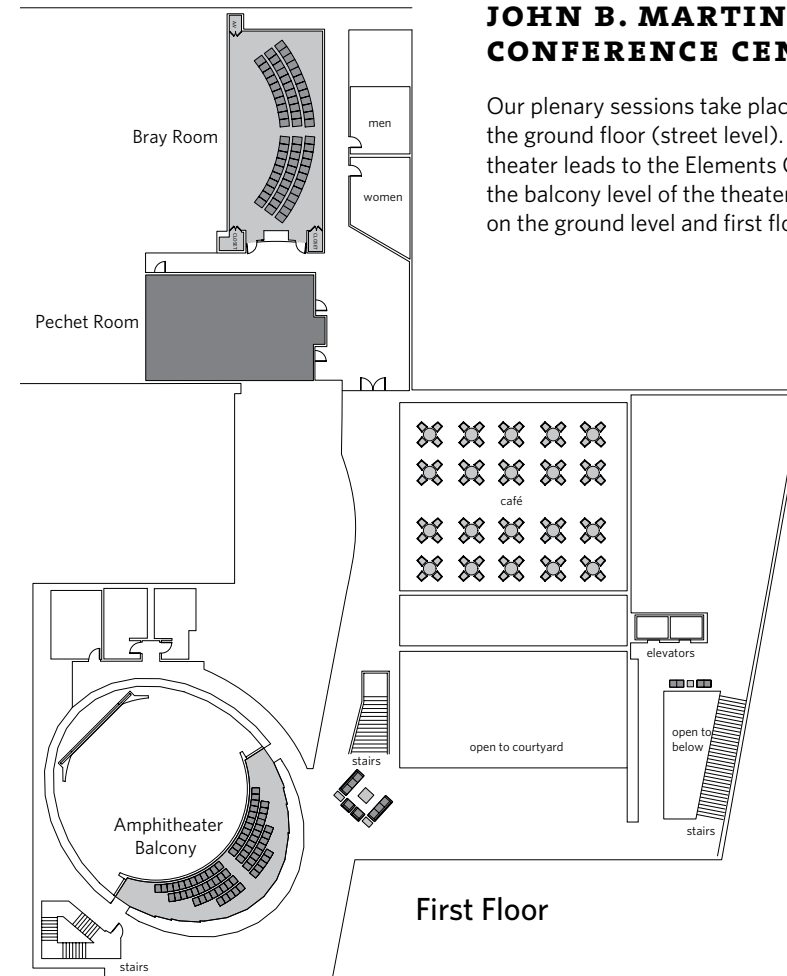
All registered guests are welcome to attend the conference reception immediately following our program on Wednesday, March 2. This reception is graciously hosted by the Brigham and Women's Hospital.

WEB CAST

The web cast, broadcast live during the conference, will be archived for viewing later. Encourage interested colleagues to access this in the future through the conference web site.



Ground Floor



First Floor

JOHN B. MARTIN CONFERENCE CENTER

Our plenary sessions take place in the amphitheater on the ground floor (street level). A stairway up near the theater leads to the Elements Café and also access to the balcony level of the theater. Restrooms can be found on the ground level and first floor.