

Summit Challenge

THE GLOBAL NUTRITION
CHALLENGE: GETTING
A HEALTHY START



PACIFIC HEALTH SUMMIT
SEATTLE 2008



THE NATIONAL BUREAU *of* ASIAN RESEARCH

Published in the United States of America by
The National Bureau of Asian Research
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Printed in the United States of America

Bottom right cover photo (*Mother and child in Bangladesh*) courtesy of Linear Productions.

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MISSION

The mission of the Pacific Health Summit is to connect science and policy for a healthier world through effective utilization of scientific advances combined with appropriate policy for the prevention, early detection, and early treatment of disease.

PARTICIPANTS

Every June we invite to Seattle top decision-makers from science, policy, industry, medicine, and public health to discuss how emerging science and technology can be connected to global health policy in order to realize the dream of a healthier future.

OPERATIONS

The Summit is a year-round process. In addition to the June meeting, the Summit provides an ongoing forum for world leaders to improve health by working together to grapple with problems and solutions, share best practices, and forge effective collaborations. The NBR Center for Health and Aging manages operations for the Pacific Health Summit.

THEMATIC FOCUS

Each year the Pacific Health Summit focuses on a single theme designed to tackle an important program in global health. In

2007, our theme was “Pandemics: Working Together for An Effective and Equitable Response.”

The 2008 Summit theme is “The Global Nutrition Challenge: Getting a Health Start.” We will tackle the complex challenge of too little of the right nutrition for vulnerable populations and the rapidly emerging health threat of too much of the wrong kind of nutrition in both developed and developing societies.

In 2009, our theme will take up the important topic of tuberculosis.

GEOGRAPHICAL FOCUS

Although our initial focus was on the Asia-Pacific, we are no longer constrained by geography.

LOCATION

The Pacific Health Summit is held in Seattle every June.

ORGANIZATION

The Summit is co-presented by The National Bureau of Asian Research, Fred Hutchinson Cancer Research Center, Bill & Melinda Gates Foundation, and the Wellcome Trust. The Summit is governed by a Senior Advisory Group chaired by George F. Russell, Jr.

THE GLOBAL NUTRITION CHALLENGE

Every ascent has the potential to become a complex and perilous journey involving any number of routes, each one characterized by its own unique terrain, which in turn requires a different strategy of attack. As a result, it takes a team of dedicated climbers who are willing to work together toward a common goal in order to achieve the glory of the Summit.

The aim of the Pacific Health Summit is to connect science and policy for a healthier world. In doing so, we can confront the many nuanced issues of malnutrition, which continue to plague the developed and developing worlds. Reaching this goal is a matter of extraordinary importance to us all.

The Pacific Health Summit Story

MICHAEL BIRT

Executive Director, Pacific Health Summit

Director, Center for Health and Aging, The National Bureau of Asian Research

Welcome to the 2008 Pacific Health Summit. The inspiration for the Summit grew out of a meeting in Seattle in early 2004, when Dr. Lee Hartwell, President of the Fred Hutchinson Cancer Research Center, met with George F. Russell, Jr., Chairman of The National Bureau of Asian Research, and sketched out a vision for how emerging science and technology could transform the future of health. In particular, this vision looked to the use of new diagnostics to prevent, detect, and treat disease early enough to improve health outcomes and reduce the human and financial cost of disease. The following day the three of us met with William H. Gates, Sr., who—just like his friend George Russell—saw the opportunity to launch a major global offensive on disease. From those meetings in early 2004 was born the Pacific Health Summit.

Each year the Pacific Health Summit focuses on a single theme designed to tackle an important problem in global health. At the 2007 Summit, Margaret Chan, Director-General of the World

Health Organization (WHO), announced the creation of a global stockpile of vaccines for the H5N1 avian influenza virus. In conjunction with the WHO's announcement, GlaxoSmithKline also announced at the Summit that it would donate 50 million doses of its pre-pandemic influenza vaccine to help establish the WHO stockpile—with sanofi pasteur pledging to contribute to the effort as well. To combat another global health threat, Eli Lilly announced at the 2007 Summit a \$15 million initiative for “TB Early Phase Drug Discovery” aimed at the rising rates of multi-drug resistant tuberculosis.

...this vision looked to the use of new diagnostics to prevent, detect, and treat disease early enough to improve health outcomes and reduce the human and financial cost of disease.

Our 2008 Summit theme is “The Global Nutrition Challenge: Getting a Healthy Start.” One particular focus will be around how to ensure a healthy start for mothers and children as a way to address the enormous economic and health impact of poor nutrition on vulnerable populations throughout the world. To help prepare for our June meeting we held two Advance Workshops. The first was held in Tokyo on February 15. Entitled “Undernutrition: Creating New Responses,” this event welcomed 50 global leaders to discuss the critical issue of global undernutrition, focusing on the critical importance of maternal and child health as a way to meet the UN Millennium Development Goals (MDGs). On April 7 we addressed the global nutrition challenge from the opposite end of the spectrum at a workshop hosted by the Wellcome Trust in London entitled “Obesity, Associated Diseases, and Personal Health.”

We view the Summit as a process with impact, one where ideas can be translated into plans, and

discussion into action. Toward that end, we hope your time in Seattle will result in tangible projects, actions, and progress toward our stated mission of “connecting science and policy for a healthier world.”

Lastly, I am very pleased to announce that the 2009 Pacific Health Summit—our fifth—will take up the important topic of tuberculosis.

Thank you for joining us. We look forward to working together with you to make a healthier future.

We view the Summit as a process with impact, one where ideas can be translated into plans, and discussion into action.

Earlier is Better: Biomarkers, Nutrition, and Health

LEE HARTWELL

President and Director, Fred Hutchinson Cancer Research Center

The Pacific Health Summit provides a forum in which leaders from government, business, health, and science can discuss the possibilities that science brings for improving healthcare. Over the past year, I have had the opportunity to learn about the clinical challenges of managing diseases like diabetes, heart disease, Alzheimer's, and autism, in addition to cancer. In each case, it is surprising how little information the clinician has at his/her disposal to manage the patient in an effective way. Not only is the patient underserved by this lack of knowledge, but the costs of healthcare are also dramatically increased due to ineffective interventions for late-stage disease. In many cases, we are unable to answer critical questions about whether a person is at risk for disease; whether he or she has early-stage disease; what subtype of disease that may be; what therapy should be used; whether the patient is responding to therapy; if he or she is cured; or whether the disease is recurring.

I am certain that science will one day be able to provide definitive answers to these questions. A

revolution in knowledge-based medicine is already taking place in cancer with DNA biomarkers. Consider chronic myelogenous leukemia, where with a single marker—the BCR-ABL DNA rearrangement—we can answer most of the above questions definitively. Biomarkers are on the horizon for all diseases, and they will enable true knowledge-based medicine.

This year our Summit theme is nutrition—too little of the right kind and too much of the wrong kind. It is difficult to obtain reliable information on nutrition as it relates to a healthy life and the prevention of disease, because randomized intervention studies are nearly impossible due to the inability or unwillingness of people to change their diets for periods long enough to obtain such

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information. What science needs to bring to the table are useful biomarkers that report on and integrate our nutritional status in real-time, such as more biomarkers like HDL and LDL that signal risk for disease.

Newly discovered biomarkers must be validated to be useful for clinical practice. Such validation requires large numbers of high-quality clinical samples obtained in a healthcare system where patient outcomes are followed and recorded, as well as the application of technology in an industry-style setting with high-quality control and high capacity. Validation studies are expensive, and the low return on investment for diagnostics does not encourage companies to make the necessary investment. Consequently, nearly all of the many DNA biomarkers currently known are being marketed to the public through the CLIA approval process, which does not require validation. This will do more harm than good. How will we get the patients, the health records, the technology, and the money to answer

critical questions that forecast risks from diseases and conditions such as malnutrition?

Realizing the enormous potential of science to revolutionize medicine will require new models for bridging research and healthcare. We have begun an experiment to build this bridge. It is called the Partnership for Personalized Medicine. This partnership links enlightened healthcare payers and providers who provide the clinical infrastructure with a biomarker validation center in order to identify, validate, and implement effective biomarkers in disease management.

Realizing the enormous potential of science to revolutionize medicine will require new models for bridging research and healthcare.

Weighty Matters

MARK WALPORT

Director, The Wellcome Trust

Our challenge is to create a healthier world. However, with many populations either too fat or too thin, it is clear that without a determined focus on nutrition, we will lose a major opportunity to improve human health. The two ends of the nutrition spectrum represent different types of malnutrition, which governments, healthcare providers, policymakers, and the private sector must tackle together. In the UK, the government has estimated that nearly 60 percent of the population could be obese by 2050 if there is no change in the rate of increase of the prevalence of obesity. Costs to society, business, and healthcare will have severe economic and social implications. Translating these figures to the developing world could have even more devastating consequences.

There is a strong genetic component to obesity. Identical twins who have been reared apart show remarkable similarity in body mass index (BMI) as adults. We are starting to identify the genetic variation that influences BMI. Importantly, studies of genetic variation are also starting to explain the differing risk profiles between populations, highlighting, for

example, greater susceptibility to obesity, associated diabetes, and cardiovascular disease in populations such as Asian Indians.

Our understanding of the biological mechanisms contributing to obesity will continue to increase. However, it is not our biology that has fundamentally changed over recent times, but our societies. Our balance of energy intake and expenditure has changed, with the former increasing and the latter decreasing. Changes in work patterns, transportation, and the availability of energy-dense, nutritionally poor foods have been working together to drive increased obesity levels. These environmental factors are now manifest in developing countries, where undernutrition and stunting in the young are being compounded

Our balance of energy intake and expenditure has changed, with the former increasing and the latter decreasing.

by nutritionally poor but calorie-rich diets in adulthood.

Tackling obesity and its associated diseases is a major challenge, requiring active collaboration between the public and the private sectors. Only a few examples of effective public health interventions exist. These seem to indicate that straightforward messages addressing diet and physical activity—delivered using community-wide approaches—could work, especially when implemented jointly by both sectors. But this will not be sufficient.

At the Pacific Health Summit, we must focus on the challenges that the public and private sectors need to address together:

1. The combined challenge of reducing food intake and increasing energy expenditure.
2. Interdisciplinary research programs on energy balance.
3. More research on metabolism and responses to food intake, involving active and possibly incentivized participation from food manufacturers.

4. Labelling of food that provides consistent, clear, and practical messages.
5. Policy change as a means of collecting evidence on effective public health interventions.

Food is fundamental to human life; it can not be banned or eradicated. Therefore, governments and industry need to work together to create innovative partnerships that ensure the access of our populations to affordable, high quality foods, as well as to enough nutritional information to help them make informed choices. The relentless drive toward urbanization of human populations creates a parallel set of challenges. The design of the built environment needs to be optimized, but we don't really know how to do this in a way that maximizes health and well-being. This is one of the preeminent challenges to public health research in the 21st century.

Tackling obesity and its associated diseases is a major challenge to society, requiring active collaboration between the public and the private sectors.

Overlooked and Underfed: Nutrition and the World Food Crisis

TACHI YAMADA

President, Global Health Program, Bill & Melinda Gates Foundation

The current food crisis has turned a spotlight on the suffering of hungry children. Yet even if those hardest hit receive enough emergency food aid to survive, many will still lack the nutrition they need to thrive and stave off the risk of disease later in life. These children need the right vitamins and minerals now as much as ever. In the midst of short-term generosity, we cannot afford to relent on our long-term goal to alleviate undernutrition.

A healthy start is critical to long-term health. Young children—especially under the age of two—and pregnant and lactating women are incredibly vulnerable. Poor nutrition plays a role in more than one-third of all deaths among children under five. Perhaps the most unconscionable thing about this situation is that the majority of these deaths are preventable.

Protecting the most vulnerable requires a strategy that cuts across health and development initiatives because undernutrition, poor health, and poverty

are integrally linked. As a community, we must increase the quantity and quality of the foods of the poor, as well as help farmers in the developing world boost productivity and improve the nutritional value of their crops.

The resources of any one organization—government, non-government, foundation, or company—are not enough. A resolute attack on undernutrition will require substantial investments from all sides. Partnering with the private sector in particular helps to improve the nutritional value of staple foods through fortification; to develop new products; to expand distribution systems to reach more people; and to use the power of marketing to educate consumers and create demand. As a global community, we need bigger commitments from

Poor nutrition plays a role in more than one-third of all deaths among children under five.

more sources and a clear road map that accounts for these extremely complex issues.

I believe the road map should include emergency relief, nutritious and fortified foods, and sustainable agriculture. First, we need to get food to the people who need it, especially the women and young children who are most at risk. Second, we should ensure a healthy start to life by promoting optimal breastfeeding and complementary feeding practices, protecting national food fortification programs, and increasing access to and consumption of fortified foods while reducing their cost. We also need to spur more research and development of higher yield, more nutritious staple crops. Ultimately, sustainable agriculture is crucial to ending undernutrition. Millions of farmers in the developing world cannot grow enough food to feed their families, much less have surplus to sell. Farmers need better seeds, soil, training, and access to markets so they can boost yields and incomes and build healthy, productive lives.

The Pacific Health Summit is an important step toward energizing the global health community to tackle undernutrition. Together we can create lasting impact by raising the visibility of nutrition, increasing funding, and reallocating money to ensure that we do not neglect the people who need our help the most.

The food crisis is driving millions of people deeper into hunger and poverty and risks undoing recent progress in global health and development. Let's not compound the risk by neglecting nutrition as well.

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PACIFIC HEALTH SUMMIT

Connecting science and policy for a healthier world