

The Pacific Health Summit

Building Partnerships to Create a Healthier Future

*A Special Report presented by
Foreign Policy Magazine, The
National Bureau of Asian Research,
and the Fred Hutchinson Cancer
Research Center*



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ON THE COVER: A research associate at the Institute for Genomic
Research examines a DNA sample, represented by the pink band.

PHOTO BY KAREN KASMAUSKI/CORBIS

THE GLOBAL HEALTH PARADOX

Great progress, great challenges

In the 1990s, the global economy became interconnected to a degree it had never seen before. Under the catch-all term of globalization, this interconnectivity was propelled by such forces as intensified capital flows, liberalized trade, a telecommunications revolution, the Internet, immigration, and the outsourcing of labor and capital. Today, another common element is shaping globalization: health.

What are the global health challenges today? On the one hand, poor countries continue to be wracked by the persistence of deadly infectious diseases such as AIDS, malaria, and tuberculosis. There are also the potentially even more ominous dangers posed by SARS and the avian flu. Health care costs are skyrocketing in the developed world, which is facing a demographic crunch of rising life expectancy and falling birth rates. And chronic “lifestyle” diseases such as diabetes and cardiovascular disease, which were once confined to the industrialized world, are now spreading to poorer countries reeling from the aftershocks of rapid urbanization.

On the other hand, science has come closer than it has ever been before to understanding the genetic basis of chronic diseases such as cancer, while new technological tools can apply this understanding to treat people who may never have been reached before. It is against this backdrop that a new health paradigm has emerged among scientists and health professionals: mastering early detection rather than waiting to treat late disease. This new paradigm not only promises better health, less suffering, and greater longevity, but it stands to dramatically cut health care costs before they become an even greater drag on productivity and economic growth — already a crisis in a growing number of countries.

This new paradigm is not confined to the West but is also profoundly shaping the growing investment in life sciences and applied technologies in the countries of the Pacific Rim. In growing numbers, Asian scientists are traveling to the West, sharing their findings, and collaborating on research and development with international partners. It was only a matter of time before international leaders in the fields of life sciences, health care, and policy decided last year to hold an Asia-Pacific summit to exchange ideas and discuss how to move their collaboration forward.

That was the genesis of the Pacific Health Summit held on June 8-10 in Seattle, under the auspices of The National Bureau of Asian Research (NBR) and the Fred Hutchinson Cancer Research Center. Gathered at Seattle’s stunning harbor, a diverse group of international experts held a series of panels that covered a sweeping array of topics, including the potential of genomics, the threat of the avian flu, the promise of traditional Chinese medicine, and the merits of comparing different national health systems — just to name only a few. And outside of the panel discussions, participants vigorously debated how to proceed after the summit, so that the ideas that had been generated could be converted into action.

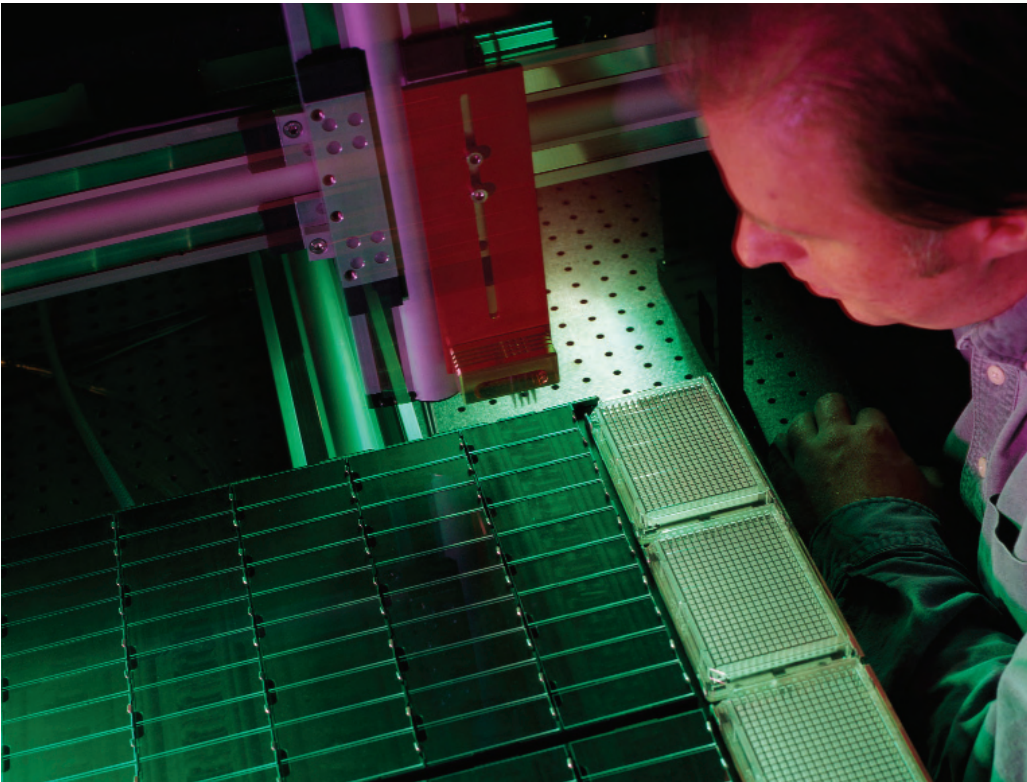
William M. Castell, President and CEO of GE Healthcare, captured the summit’s focus in his keynote address, which was introduced by two pioneers and passionate advocates of poverty reduction and global health initiatives, **George F. Russell, Jr.**, chairman of The Russell Family Foundation, and **William H. Gates, Sr.**, co-chair of the Bill & Melinda Gates Foundation. “The



WILLIAM M. CASTELL



WILLIAM H. GATES, SR.

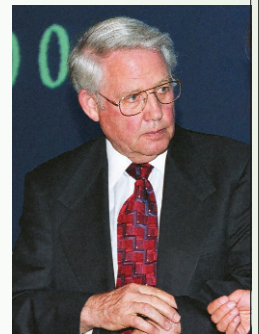


Dr. Jeff Delrow, director of Fred Hutchinson Cancer Research Center's genomics lab, manufactures custom DNA microarrays. These "gene chips" let researchers analyze thousands of genes simultaneously — a development that has accelerated genetic research exponentially.

potential joy of the health care revolution is that it can be achieved without any of the physical traumas of the previous advancements," said Castell, referring to the industrial revolution. "This revolution will be led by information, that most mobile and educative of technologies." But that goal faces a daunting reality, he noted. He went on to say:

Over 90 percent of our resources are devoted to treating post-symptomatic illnesses. Is this a desirable balance? The explosion of obesity and the projections for diabetes are a little short of horrifying and affect all populations adjusting to a more modern, urban lifestyle... The key is to adopt a holistic view toward individual health, to act early before symptoms of disease are allowed to gain the upper hand.

And with Castell's call to action in mind, the summit's participants spent the next two days exchanging ideas and asking each other tough questions on how to advance that model for all the world's citizens.



GEORGE F. RUSSELL, JR.

THE PROMISE OF SCIENCE

Can the 'New Biology' revolutionize health care?

When scientists at the National Institutes of Health (NIH) finished mapping out the human genome in April 2003, they effectively completed the first-ever manual for the human body. With all the genes in a human being now sequenced, scientists can move toward a much more fundamental understanding of disease and disease prevention. Through these advances, geneticists and health care professionals expect to develop a highly targeted "personalized" approach to medicine that uses each person's genetic make-up as its basis for predicting and treating diseases.

The summit's first panel began by fleshing out the potential of genomics to prevent chronic disease. **Steven Burrill**, CEO of the San Francisco-based firm Burrill and Co., set the direction of the discussion by noting that 80 percent of U.S. health care spending goes toward chronic disease care. "If we will fix health care in this country, we will fix it through chronic care," he said. "For that, we need a new preventive, personalized approach toward medicine."



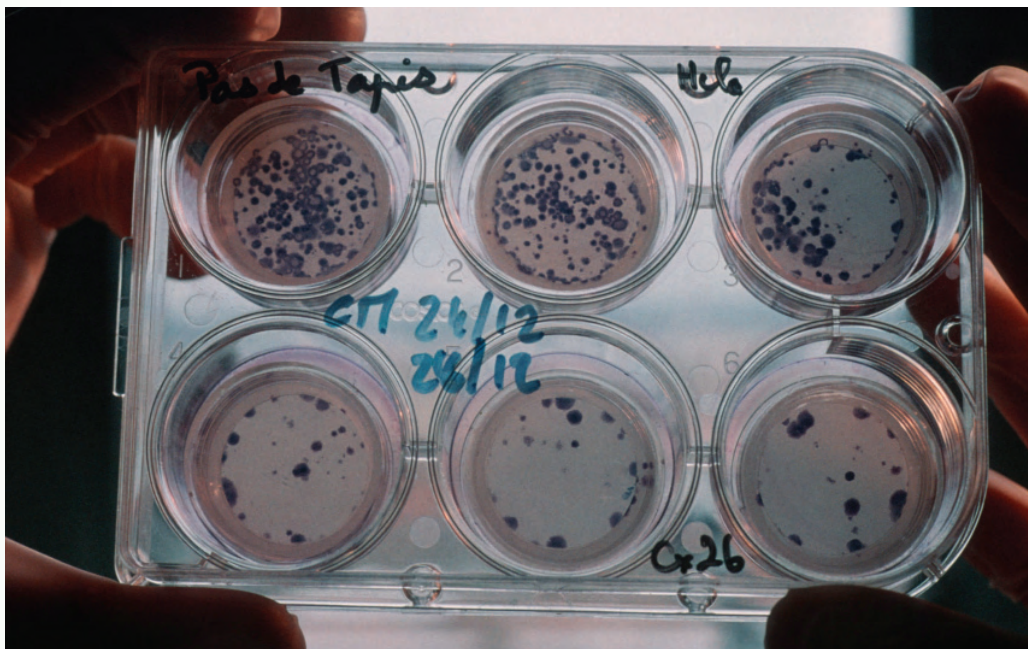
MAYNARD OLSEN AND
ELIAS ZERHOUNI

NIH Director **Elias Zerhouni** expanded the panel's focus to the international level. Not only is chronic disease becoming more prevalent in middle-income nations, he noted, but other destabilizing trends are at work as well, such as aging populations in rich countries and the breakdown of barriers between human and animal pathogens, as seen with the avian flu. In dealing with these "earthquakes," he said, it is knowledge per capita rather than income per capita that offers the

best protection against these shocks. "And if you look at different parts of the world, there is a rapid loss of knowledge per capita when it comes to health science, education, and technology," he added.

But can these new advances in biology be integrated into health care systems? **Lee Hartwell**, president of the Fred Hutchinson Cancer Research Center of Seattle, suggested two key efforts would be necessary. First, a massive public health study should be conducted for scientists to identify the types and frequencies of diseases over time; second, there should be faster development of phenotypic technologies, which test cells and tissues to detect disease early on. But **David Lane**, Executive Director of Singapore's Institute of Molecular and Cell Biology, questioned whether rich countries should pursue advances in genomics if they cannot even tackle the urgent crises of infectious diseases such as AIDS, tuberculosis, and malaria. **Maynard Olsen** of the Department of Medicine at the University of Washington also emphasized caution, noting that "there is a gap between rhetoric and reality" when it comes to delivering on the promise of genomics. "We need goals coupled with deadlines," he concluded.

A scientist compares two groups of culture dishes that show the contrast between cancer cells with high and low concentrations of connexins, the proteins that allow communication between cells. The high concentration cultures are on the top.



Meanwhile, Asian countries are making their own revolutionary advances in preventive medicine. **Yusuke Nakamura**, head of the Human Genome Center at the University of Tokyo, described a Japanese government effort to create a genetic “bio bank” for the country’s entire population. The project aims to collect blood samples from 300,000 patients with at least one of 47 genetic diseases, and scientists plan to use that database to separate genetic risk factors from environmental ones. And **Cheng-wen Wu**, director of the National Health Research Institutes in Taiwan, described his institute’s effort to develop an early detection test for lung cancer, which in Taiwan is usually not smoking-related but very lethal. Through that test, explained Wu, scientists can find out whether anti-cancer therapy works in days rather than the weeks or months usually needed for chemotherapy.

THE ENABLING TECHNOLOGIES

How can technology advance the promise of the ‘New Biology’?

According to **Steven Burrill**, understanding biology is like taking apart an airplane and trying to understand how it works once it is deconstructed on the tarmac. “You couldn’t fully understand that airplane until you knew how its parts communicated with each other,” he noted. “We’ve done a good job of laying out the biology, but where does it lead us?”

It leads to a new “paradigm shift,” with genetics as the window into disease, according to **Leroy Hood**, president of Seattle’s Institute for Systems Biology. Now that scientists know that there are perturbed genetic networks that secrete protein into blood, Hood said, the question is how to “breach those networks and design drugs that prevent these networks from becoming disease.” The new technologies include a system to measure molecular “fingerprints” in blood and nanotechnology tools that measure the interactions of proteins. What all these means, he said, is that “a woman may soon be able to start taking drugs at age 40 to prevent breast cancer at 60.” And **Depei Liu**, President of the Chinese Academy of Medical Sciences, outlined his own institute’s attempts to advance research on the gene regulatory network to further understanding of metabolic networks.

The promise for technology to advance disease prevention is enormous, agreed **Andrew Berlin**, but it has to involve collaboration across fields, just like the human genome project. Berlin, who directs Intel’s Biomedical and Life Sciences Unit, cited the importance of scientists sharing data across networks and digitalizing diagnostic services.

Another representative from the information technology industry, **Carol Kovac** of IBM’s Healthcare and Life Sciences Unit, expressed confidence that such a massive data-sharing effort could happen. “If you have a grand challenge in medicine and you’re willing to formulate that problem, I’ll find you the computing power,” she said.

But what about the promise of today’s technology? **Thane Kreiner**, Senior Vice President of Santa Clara-based Affymetrix, noted how far along cancer research alone has come in just ten years. “400 companies are doing clinical trials now, and ten years ago it was only ten,” he said. “Those who will be remembered are those who apply technology to real problems today.”



DEPEI LIU, LEROY
HOOD AND STEVEN
BURRILL

INFECTIOUS DISEASES

The real and present danger

For all the efforts of organizations such as the U.N. Global Fund for AIDS, Tuberculosis, and Malaria and the Bill & Melinda Gates Foundation, infectious diseases continue to wreak havoc with mortality rates in the developing world. And in Asia, public health officials also have to face new and largely unknown phenomena such as SARS and the avian flu. **Jong-Wook Lee**, Director-General of the World Health Organization, warned that the threat of a global avian flu pandemic is “very real,” perhaps on the scale of the 1918 world flu outbreak that killed up to 50 million. “The number of dead so far is small — 53 dead to date — but human contact with the flu virus has been going on for at least three years,” he said. “What worries me the most is that the infected birds don’t show any symptoms.” Lee also noted that even in a scenario with relatively few victims, the economic impact could run into the billions of dollars, as the SARS example showed.

One difficulty across the Asian scientific community is lack of communication, panelists noted. **Chris Y.H. Tan**, senior counselor at the Asia-Pacific International Molecular Biology Network, urged that Asian nations follow the example of Europe and develop an integrated network to facilitate pan-Asian public health research. He suggested that one way to move toward that goal would be to advance an ambitious project, such as an AIDS vaccine, that would bring together scientists across Asia. **Ding-Shinn Chen**, dean and professor of medicine at National Taiwan University’s College of Medicine, also called for a better communications network among Asian health professionals as a key first step. And **K. Satku** of Singapore’s Ministry of Health stressed the relationship between good communication, basic public health, and comprehensive surveillance, which is especially critical in monitoring a threat such as SARS or avian flu. But **Molly Coye**, CEO of the San Francisco-based Health Technology Center, took a more critical take on Asian public health agencies, which she saw as lagging behind in developing information technology.



JONG-WOOK LEE

Moving to Thailand’s experience, **Pornchai Matangkasombut** of the Thailand Center for Excellence in the Life Sciences, explained how nations such as his are well-positioned to exploit an important niche in the diagnostics and therapeutics fields: developing medicines for tropical diseases. Because the Thai pharmaceutical industry has far lower overhead costs than its Western counterparts, he said, it is far easier for them to develop those drugs inexpensively for poor, tropical countries. Thai public health officials have also made advances in their surveillance capabilities. “We stopped SARS in its tracks. The avian flu will be the next important litmus test,” said Matangkasombut.

CHRONIC DISEASES

Disease as a process, not an event

With aging populations in the rich world and sweeping lifestyle changes in developing countries, how can nations better cooperate with each other in preventing chronic disease? As National Cancer Institute director **Andrew von Eschenbach** explained, the development of a disease such as cancer is best described as a silent trajectory in which molecules become

deranged, not a one-off event. “We need to think strategically about the application of prevention — not just early detection but how to understand the pace of evolution,” he added.

Expanding on the theme of the centrality of lifestyle to chronic disease development, **John Potter**, senior vice-president of Seattle’s Fred Hutchinson Cancer Research Center, noted several paradoxical trends. As stomach cancer rates have declined in both the West and Japan due to better hygiene and nutrition, cancers related to tobacco and diabetes cases associated with rising obesity rates have skyrocketed. As Potter put it, “Now that developed world diseases are shifting to the developing world, the question is whether the ‘new biology’ will allow us to leapfrog to our own solutions, or whether we need economic development.” And **Youlin Qiao**, director of the Cancer Institute at the Chinese Academy of Medical Sciences, underscored the importance of lifestyle choices with a telling statistic: 43 percent of the 6 million cancer deaths a year are preventable through decisions on diet, smoking, and exercise.



ANDREW VON
ESCHENBACH, JOHN
POTTER AND
STEPHEN FRIEND

Prevention aside, cancer drug development also needs vast improvement, according to **Stephen Friend**, executive vice president of Merck’s Oncology and Advanced Technologies unit. Making a vigorous case for more refined methods in drug discovery and testing, he cited crude trial designs, excessive short-term planning, and too much reliance on a trial-and-error approach as some of the main problems hampering drug development today.

Meanwhile, cardiovascular disease offers complexities of its own when it comes to prevention, said **Victor Dzau**, Chancellor of the Duke University Medical Center and Health System. He noted that while some risk factors, such as urbanization, are clear, others are less so. “You can have some early detection, but it’s not easy,” he said. But he pointed to development at Duke of a new, implanted chip now that allows for remote monitoring of cardiovascular health — an especially valuable tool for people living in remote areas in the developing world.



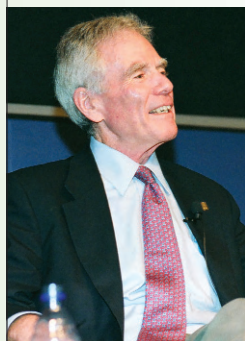
A chicken in West Java, Indonesia, is being vaccinated against the avian flu.

HEALTH CARE SYSTEMS

Getting people to get ahead of disease

The second day of panels started with a vigorous discussion on the best way to craft a system for health care. **Ralph Snyderman**, Chancellor Emeritus of the Duke University Health System, underscored the wide discrepancy between the new capabilities in genomics and personalized medicine on one hand and the willingness of providers and patients to use them on the other. “Our reimbursement system undermines the use of these technologies because it is structured around late-stage acute intervention rather than prevention,” he said. That approach, in turn, undermines an individual’s willingness to act early. In one small but telling example, he described a Duke study that offered early health risk assessments to employees for free. Only a few employees, noted Snyderman, took advantage of it.

Panelists also emphasized the need for better patient education and cutting waste. Snyderman pointed to another example at Duke, in which patients at risk for congenital heart failure were given more thorough instruction on how to take medication properly; the result was a 40 percent drop in treatment costs. But panelists agreed that doctors generally remain too inclined to act autonomously and hold information from each other. According to **Gary Kaplan**, Chairman and CEO of the Virginia Mason Medical Center, half or more of the money spent on health care “has no value” to the patient. His solution: A “team approach” that links the patient to a unified network of health care professionals. **Alan Bernstein**, President of the Canadian Institutes of Health Research, agreed but said that much of the responsibility for a team-focused approach lies with the patient. **Huimin Wang**, Corporate Vice President of Japan and Intercontinental, Edwards Lifesciences, also underscored the key role for personal initiative in the effort to focus on early detection.



RALPH SNYDERMAN

Could there be a model for a “wired” health care system? **John Wong**, Vice President of Research and Life Sciences, National University of Singapore, pointed to his own country as a guide. Singapore spends only two percent of its GDP on health care, in part because it is a single payer system, but also because many of its scientists and doctors communicate with each other. “They are well wired and know each other; most studied in the U.S. and U.K.,” he noted. The picture is much more mixed in China, noted **Mingzhe Chen**, Associate Dean of the Tsinghua University Medical School in Beijing, due to vast differences between the quality and accessibility of health care between rural and urban communities. “You are picking up our bad habits,” responded moderator **Maria Cattai** in partial jest.

EAST MEETS WEST

New questions, traditional responses

While many Asian countries are making advances in areas such as stem cell and cancer research, traditional Eastern medicine continues to be widely practiced. Now that these Asian traditions are spreading in popularity in the West, health professionals need to ask what these practices can teach doctors and scientists outside of Asia.

Huaying Zhang of the Coca-Cola Beverage Institute for Health and Wellness in Beijing emphasized that traditional Chinese medicine (often referred to as TCM) takes an essentially prevention-based approach by fostering healthy diet and lifestyle habits. This approach should not compete with, but rather complement, Western medicine, she said. Citing the health challenges posed by urbanization and economic development, Zhang described the challenge as incorporating tradition with innovation. “We cannot stop history from moving forward, so the question is whether we can go back and capture the ancient system,” she said.

“I see western and TCM coexisting rather than fusing together,” agreed **Shichuo Li**, a senior advisor at China’s Ministry of Health. “But the fact that TCM, with its emphasis on healthy lifestyle, is spreading its popularity in the West shows how popular it is.” Developing that theme, **Yung-Chi Cheng**, Henry Bronson Professor of Pharmacology at Yale University, noted modern technology’s promise with respect to understanding how TCM works on a chemical basis. But it is not just the West that can learn from TCM. Even Japan, with its rapidly aging population, could do more in terms of integrating such a preventive approach into health care, noted **Haruo Shimada**, an economist at Tokyo’s Keio University.

As moderator **Maria Cattau** pointed out, the challenge is to assess economic costs, waste, and then reengineer systems to find out what we want and what political systems can bear. “There are different traditions,” she noted. “And we need to look for factual evidence that they work and not destroy the very essence of the totality of the human.”

So can Westerners change their behavior in a fundamental way that incorporates a more preventive approach? **Edward Hill**, president of the American Medical Association, argued that health habits develop very early in childhood, and even in prenatal stages. He expressed doubt that knowledge and technology alone can change behavior, which in turn is needed to foster prevention-based approaches. Hill’s conclusion: “We need to talk about changing behavior before anything else.”

Turning the focus to how the IT industry can contribute to personalized medicine, **Eric Dishman** of Intel’s Proactive Health Research unit described a cutting-edge personalized care program for Alzheimer patients based on a wireless network. By connecting patients with the home environment as well as the outside world, this system helps prompt memory and human interaction. “Alzheimer patients are terrified by memory loss and as a result go into self-imposed exile. With very cheap technology, we can remind them who’s calling, who’s knocking at the door,” explained Dishman.



HUAYING ZHANG AND
MARIA CATTAU

HEALTH AND PRODUCTIVITY

Getting more health value for the dollar

As is well known, the United States spends more on health care as a percent of GDP than any other nation while leaving millions uninsured. But it is also true that throughout the industrialized world, both private and public sectors have to grapple with the skyrocketing health care costs. Against this backdrop, a group of policy experts and economists discussed

Seniors in Japan engage in a Tokyo gymnastics class aimed at preventing senility.



how inefficient health care systems dampen economic growth in rich countries, and how better health care can improve productivity in poorer countries. As moderator and editor of *Foreign Policy* **Moisés Naím** pointed out, “waste” is a non-technical way of talking about low productivity — which in turn is linked to incentives, namely prices.

In his opening remarks, Princeton’s **Uwe Reinhardt** described what he calls the “misguided” U.S. approach to health care with a colorful metaphor. “It’s like a little boat heading toward the Niagara Falls and the motor conks out,” said Reinhardt, a professor of political economy. “You could jump out and pull it to shore, but Americans wait until it’s 500 meters from the falls, then they call a helicopter to rescue it.” But health care is about far more than numbers, he noted. “It’s a value for your whole family, your employer, and your peace of mind.”

Coming from the perspective of the HMO business, **David Lawrence**, former chairman and CEO of Kaiser Permanente, agreed with Reinhardt that inefficiency is ingrained in the U.S. system. Each American has several different doctors — between six and a dozen by the time he or she retires — yet there are no incentives or mandates for those doctors to share information and collaborate. And a reimbursement system based on fee for service rewards independent actions rather than a long-term care process that could improve quality while lowering costs. Lawrence’s estimate on the percentage of inefficiency in U.S. health care: 30 to 50 percent.

Although the nature of the challenge ranges from country to country, other panelists noted that Asia is also facing a growing crunch in health care costs. Citing South Korea, **Kyeong-ho Lee**, president of the Korean Health Industry Development Institute, lauded the country’s single-payer system that was developed in the 1960s and reaped tremendous gains in health care coverage and life expectancy. Now, however, it is now under intense strain from an aging population. And China has to find a way to bridge the enormous

divide between health care quality and coverage in its poor rural regions and richer urban areas. According to **Dezhi Yu** of China's Ministry of Health, Department of Planning and Finance, only 800,000 of China's farmers are covered by any sort of insurance. The government response: a nation-wide effort to establish community care in rural areas and make sure that township hospitals report to Beijing on outbreaks such as the avian flu.

Taking a broader focus, **Kiyoshi Kurokawa**, President of the Science Council of Japan, urged the audience to not just think of health care efficiency as something that "can let you live until 90 instead of 80." He argued instead that rich countries should radically refocus priorities on the relatively simple and efficient solutions that could save millions of lives in the developing world, as the Bill & Melinda Gates Foundation has done. How much would that cost? Australia's **Peter Andrews**, Queensland Chief Scientist, responded by citing the sum of \$27 billion a year for a global health effort, as estimated by Columbia University economist Jeffrey Sachs.

WHAT IS THE IDEAL SYSTEM?

Do numbers tell the whole story?

While attempts at sweeping health care reform in the United States have been stalled for more than ten years, the issue of cross-country comparisons continues to attract the attention of economists and politicians alike. In this spirit, the summit's final panel weighed in on which country offers the best health care model — or, indeed, whether there is one model that would work as well around the world. **Moisés Naím** again led the discussion.

Koji Omi, former Science and Technology Minister of Japan, noted that even the most widely admired models are coming under strain. Japan can boast the highest life expectancy rates in the world and universal health care coverage, but a budget crunch is looking all more likely given demographic trends. "Thirty-six percent of all Japanese will be over 65 by 2015, and we have to consider our policy choices now," warned Omi, citing such measures as higher taxes, reduced benefits, and higher premiums.

The panel also had a somewhat ambivalent defender of the American system in **Mark Pauly**, professor at the Wharton School at the University of Pennsylvania. Pauly agreed with others there is "much to be humble about" when it comes to U.S. health care, but argued that international comparisons in health spending need to be adjusted for wage and price differences across countries to have any meaning. He also pointed out that one country's higher health care costs are often offset by lower costs elsewhere, such as housing, food, or clothes. "Is Japan a happier country because it has cheaper care but more cramped housing?" he asked.

May Tsung-Mei Cheng of Princeton University's International Center challenged Pauly on the U.S. approach. Noting that most systems in the world are in fact a mix of public and private measures, she pointed to surveys that show that the systems that draw the highest public approval rating — such as Denmark's — also have a strong public component. Even in the United States, she noted, government programs such as Medicare and the V.A. system



MOISÉS NAÍM, SANGITA REDDY AND MARK PAULY

enjoy high support. Pauly's response: "The reason people love Medicare is that it's a good deal — they get it for free."

The discussion then turned to the issue of global solidarity. **Peter Singer** of the University of Toronto's Joint Centre for Bio-Ethics said the issue should not be how much one country spends on health care for its own people, but how it approaches global health challenges. "The ideal health system is one that does not ignore the other five billion people in the world," he added. **Linda Sonntag**, founder of the San Francisco-based Equity Investment Partners, seconded that claim, pointing to the fact that 95 percent of all deaths worldwide today are in the developing world.

The picture may be bleak in the developing world, but there are examples of hope and innovation that can serve as guideposts for broader reform, said **Sangita Reddy**, co-director of the South Asia-based Apollo Hospital Group. In one village alone, said Reddy, her group has spent less than \$2 million over five years to set up a secondary care hospital system that provides health insurance for only \$2 a year per person. The program offers immunization, early cancer detection programs, "telemedicine" links to hospitals, information on clean water and sanitation, and even yoga. "This shows that in India we can have pockets of excellence in an ocean of inadequacy," said Reddy.

SO WHAT?

From rhetoric to action

Close to the summit's conclusion, participants used the final lunch to exchange thoughts on how to move forward once the summit disbanded. The summit was widely praised for its success in bringing together the best minds in science and health care policy across nations, both in East and West. But the themes that resonated most among participants were the persistence of inequity in health care and the mismatch between scientific capabilities and what societies can deliver to their populations — a challenge that is bound to dominate next year's summit, also to be held in Seattle. "We have great science and great genomics, but kids are still dying of polio in the developing world. Work with me on trying to understand this connection," was how **William Clarke**, executive vice-president of GE Healthcare, put it. And **May Cheng**, host of the International Forum at Princeton's International Center, pointed out that even if the political will exists to bring better health care to the developing world, it will not be enough to overcome other formidable obstacles, mainly the lack of health care infrastructure and the lack of access to capital to build up a health care industry.

Indeed, many comments made between the panels and during the lunches underscored the sense of realism pervading the summit's conclusion. But participants agreed, across the board, that the experience was invaluable — a rich opportunity for the leading minds in medicine, life science, and health care to exchange ideas and establish relationships across nations and disciplines. The role of technology in furthering the summit's goals was further reinforced by special presentations by **Louis Burns**, vice president and general manager of Intel's Digital Health Group, and **Craig Mundie**, senior vice president and chief technical officer at Microsoft. Burns cited several of Intel's most recent innovations, including its



MAY CHENG



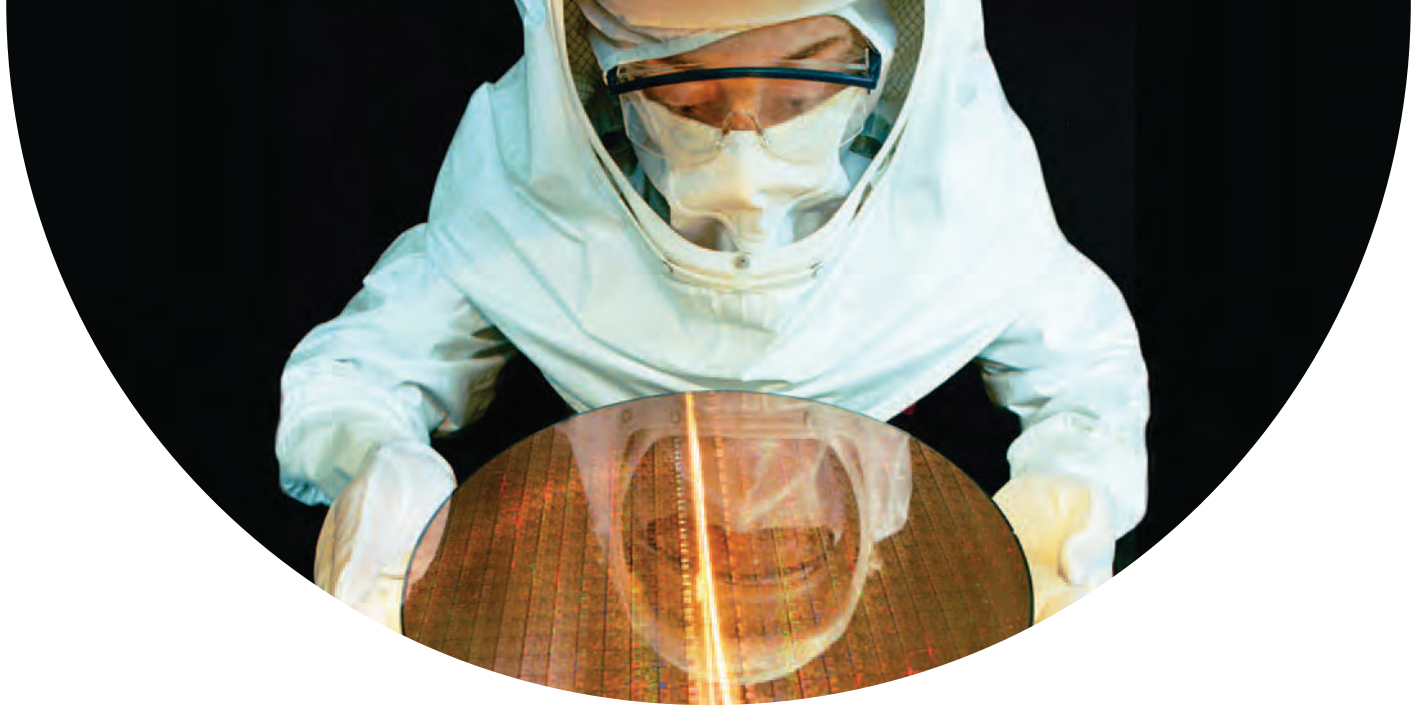
Women and children in Orissa, India, learn about malaria prevention in a program funded by the United Kingdom's Department for International Development.

Raman Bioanalyzer System — a collaborative project with the Fred Hutchinson Cancer Research Center in which researchers apply lasers onto blood serum to understand differences between healthy and diseased cells. Mundie, meanwhile, emphasized the need for a self-help approach, combined with new and cheap technologies such as broadband, as essential elements for a grand strategy of bringing a prevention-based approach to health care to the developing world.

Summit executive director **Michael Birt**, director of the NBR Center for Health and Aging, and NBR President **Richard Ellings** noted that evidence of the summit's success was already clear in the immediate aftermath. Birt cited a number of collaborative projects that run the gamut from major international science initiatives to workgroups focused on key policy issues. A major science initiative led by **Lee Hartwell** of the Fred Hutchinson Cancer Research Center, which has brought together teams from eight countries specializing in biomarkers for the early screening of diseases such as cancer, gained even greater momentum. Another effort, a Pacific Health Summit mentorship program focused on early health promotion, also found financial backing on the spot, as well as a project that plans to use emerging information technology to transmit reports on cytopathology, the study of cell disease, in poor rural regions. In total, Birt noted, more than 10 initiatives emerged that are now being considered for corporate support. These efforts may start out as small in scope, but taken together, they are evidence that the vision laid out by **William M. Castell** in his statement on the summit challenge is taking hold: that the new technologies and advances in the new biology constitute nothing less than a revolutionary opportunity — “to act as a concerted world community, equally participating in innovation.”



LEE HARTWELL



Intel in healthcare.

Prognosis: Progress.



At Intel, we have a passion for problem solving. Throughout our history, we have taken basic science research, applied disciplined systems thinking, and developed solutions to real-world problems. We are excited to bring this expertise to healthcare. At the Pacific Health Summit, we shared our work in India enabling remote patient consultations using village kiosks.

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