

FORUM *for* PERSONAL HEALTH

FORUM CHALLENGE

MOVING BEYOND THE LIMITATIONS OF THE TRADITIONAL HEALTH CARE SYSTEM



THE NATIONAL BUREAU *of* ASIAN RESEARCH
Center for Health and Aging

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Launching The Forum: A Personal Health Manifesto

MICHAEL BIRT, *Director, Center for Health & Aging, The National Bureau of Asian Research*

WELCOME TO THE INAUGURAL MEETING OF THE FORUM FOR PERSONAL HEALTH organized by the Center for Health and Aging at The National Bureau of Asian Research. In keeping with our mission to connect science, industry, and policy for a healthier world, the Forum brings together top-level leaders, such as yourselves, to begin a vibrant global conversation aimed at launching targeted projects designed to meet the challenges of improving personal health.

In so doing, we hope the Forum will become a trusted resource for you to link evidence-based examples of science and technology in health practice with your own efforts to improve the delivery and quality of health care. In support of our mission and goals, we invite you to share our passionate focus on the following elements:

- the importance of evidence-based science;
- use of information technologies to support improved health outcomes;
- cost-benefit analysis of different approaches; and
- the critical importance of collaboration as a platform for mutual benefit.

While we ask you to discuss these basic elements with your fellow Forum participants, we also hope the Forum will stimulate provocative and unanticipated approaches to solving problems and improving health care. In this, our inaugural Forum meeting, we ask you to think and move beyond the limitations of the traditional health care system. What do we need to do to overcome the “tyranny of tradition” and move past our centuries-old care delivery model of the hospital and physician-centric system?

We live in a world where we see evidence of tremendous progress in the use of science and information technology. But in health care, the promise of a new dawn for exciting, transformative science all too often lags disappointingly behind our hopes, expectations,

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and—seemingly—our capabilities. A new era of medicine seemed close at hand a decade ago with the launch of Herceptin, a drug for treatment of HER-2 positive metastatic breast cancer. This drug could be coupled with sensitive tumor markers to target potential responders in an effort to improve outcomes while reducing the human and financial cost of a terrible disease. Unfortunately, such breakthroughs in personalized medicine have been frustratingly difficult to repeat. But there is now good reason to renew our hopes and efforts in that direction.

One place where we can begin is with the Partnership for Personalized Medicine (PPM), a major new initiative that seeks to collaborate with both U.S. and international health care systems to deploy new molecular diagnostics in care settings. The PPM model offers a powerful vehicle to evaluate and validate new diagnostic tests in partnership with the key stakeholders of a health care system—the perfect starting point for the inaugural Forum for Personal Health.

Our Forum Challenge is a call to action. We hope you will join us in this collaborative effort to bring the transformative tools of science and technology to build an entirely new approach to health delivery that will ensure better outcomes and reduce the human and financial cost of disease.

Turning Information Into Insight

JOHN DINEEN, *CEO, GE Healthcare*

HEALTH CARE SYSTEMS THROUGHOUT THE WORLD FACE MANY CHALLENGES THAT THREATEN their sustainability. These include increased migration, aging populations, flu pandemics, and a plethora of lifestyle-related diseases, all of which are changing health care needs and creating new health threats. As a result, in many societies, people live longer but not always healthier. Our health care systems are ill-equipped for these shifts, and they face increased public scrutiny and demand for more higher-quality services. The current global economic crisis will only add to these pressures.

Fortunately, we see a convergence of innovations from across medical technologies and life-sciences, driven by information technology (IT). By increasing consistency, advancing evidence-based medicine, and improving productivity, IT can fundamentally shift the landscape of health care—from the traditional model of treating illness, to a more proactive and efficient system based on prevention, earlier diagnosis, and personalized medicine. To make clinical care more disease- and patient-specific, each country would benefit from an IT infrastructure of comprehensive electronic health records that include evidence-based, clinical decision support and disease management.

To date, most IT applications and infrastructures have been deployed in isolation, suffering from interoperability challenges and making systematic evaluation and enhancement of care problematic. Fortunately, we can learn from early adopters who have integrated IT into their entire care process and are able to show that medical care improves while costs go down. We are also aware that the quality of care is highly dependent on whether medical institutions leverage the latest medical evidence. GE Healthcare is currently working with Mayo Clinic Rochester and Intermountain Healthcare to develop software that will enable “virtual publishing” of evidence-based protocols, so great care is equally available to all institutions.

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The potential gains from fully integrating IT as the backbone of any health care system are enormous, but appropriate deployment is challenging. Intermountain Healthcare found that by optimizing processes, they were able to streamline operations, improve clinical quality, and achieve 80 percent evidence-based care across facilities, compared to a national average of 10-20 percent. Health care requires perhaps the most complex application of IT in any industry. Its intricate workflow interactions make digitization more than just a technical or financial issue; there is, therefore, a compelling need for evidence-based evaluation of these IT systems to define net benefits.

Everyone has a responsibility and contribution to make. We have the technology, but its adoption by providers and payors has been slow, and this recession may slow things even more. To progress faster, governments and payors throughout the world must provide the kinds of incentives for healthcare providers to adopt broad-based integrated IT that were included in the U.S. economic stimulus package enacted in February 2009. To ensure effective use of these funds, health care systems must have “meaningful

change” not by replacing paper but as a first step towards higher performing practice—high quality care at an appropriate cost for as many patients as possible.

At the Forum for Personal Health we will discuss how to instill a drive for innovation and greater evidence-based consistency in the health care delivery and payment industry. I hope we can encourage the increased IT adoption that will help bring about such changes and deliver much needed benefits to patients and the economy sooner.

Improving Outcomes and Reducing Health Care Costs

LEE HARTWELL, *President and Director, Fred Hutchinson Cancer Research Center*

THE PACIFIC HEALTH SUMMIT BEGAN FIVE YEARS AGO WITH THE GOAL of bringing together the latest science with modern health care and appropriate policy to create a healthy world. While science is providing new opportunities for disease intervention, the trend to provide expensive treatments for late stage disease continues, with the resultant unsustainable escalation of health care costs. I am very pleased that the Partnership for Personalized Medicine (PPM) is a founding member of the Forum for Personal Health.

Building on our experience and success with the Summit, I believe the Forum gives us an opportunity to galvanize the forces of science and direct them to improve health outcomes and reduce costs—in every country and health system.

We have rarely been able to marshal the power of molecular medicine to prevent disease, intervene earlier in the disease process, or assess therapeutic response in real time. All of these approaches offer great opportunities for improving health outcomes and reducing health care costs. These advances depend upon improving molecular diagnostics for all stages of disease management, and they are not beyond our technical reach.

Over the past few years, advances in whole genome DNA sequencing, measurement of RNA transcripts and micro RNAs, proteomics, monitoring immune response, targeted-imaging, and new cell imaging have provided powerful new biomarkers that can better inform disease management. However, the financial incentive for developing molecular diagnostics in the commercial sector is low. Furthermore, health care systems currently have neither the capacity to incorporate and evaluate new diagnostic tests nor the economic analysis to motivate evidence-based medicine. These deficiencies can be rectified by engaging health care providers and payors in the advancement of evidence-based

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medicine. Payors need to understand the significant economic benefits that can be gained by applying more definitive evidence to guide each step of patient management. Providers need to incorporate a mentality of continuous improvement in health care through testing and evaluation of new diagnostic and therapeutic interventions in their own systems.

The successful adoption of molecular diagnostics to improve health care will require providers to participate in research to validate new diagnostic markers by collecting outcomes data for all patients. They must do this while testing the efficacy of new diagnostics and therapeutics and establishing capabilities to monitor economic effectiveness of each new intervention. Bringing the science and the clinic closer together in this way will ultimately lead to improved care pathways that are both clinically and economically more effective.

To aid this transformation, we are joining and helping to develop the Forum for Personal Health, which provides a meeting place for

payors, providers, and the research and corporate communities. The Forum will provide an environment for clarifying and creating the infrastructure and best practices for health care reform through the integration of definitive molecular evidence and economic evaluation. I call on you to join us in this effort to transform health systems and make the world a healthier place.

The Balanced Health Care System

DAVID LAWRENCE, *Retired Chairman and CEO, Kaiser Foundation Health Plan, Inc.*

HAVING SPENT A CAREER IN THE TRENCHES OF HEALTH CARE, I would like to offer a few observations on what I consider to be the crucial characteristics of the ideal health care system. My hope is that the Forum for Personal Health will stimulate a provocative discussion and give us the tools to translate a prescription for ideal care into a working model for care in the future.

The ideal health care system enables a population to optimize individual health at the lowest possible cost within the limits of currently available knowledge and technology. This requires six core capabilities:

- prevention and wellness care to help populations and individuals avoid or minimize illness and make healthy lifestyle choices;
- urgent care to treat individuals with simple, self-limited conditions, help them distinguish between these and more serious illnesses, and refer them to appropriate specialists when conditions require;
- chronic disease management to help individuals with diagnosed chronic conditions manage their illness and minimize long-term complications;
- acute care to provide technology-intensive diagnostic and therapeutic interventions for severe conditions;
- navigation support to help individuals navigate diagnostic and therapeutic choices and find the most appropriate care for their condition, values, and finances; and
- cure-to-palliation support to help individuals and families move from curative to palliative care when a cure is no longer probable or possible.

Most health care systems lack one or more of these vital capabilities and usually rely on physicians to make up the difference. While physicians, and the system within which they work may do an excellent job of caring for the acutely ill, in many cases they lack the incentives, culture, training, and organization to manage the other core capabilities well. As a result, individuals misuse the

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acute care system; they become more seriously ill than they should be and require more extensive interventions. Lacking help to find their way through the complex maze of modern acute care when they are sick—from specialists and care options to diagnostic and therapeutic decisions, etc.—they often careen through the acute care system, consuming scarce, expensive resources they do not need.

Bringing in more primary care physicians to the delivery system can provide some balance, but this solution is expensive and suboptimal. Physicians, after all, are the most expensive human resource to educate and employ, and they are best used where their unique knowledge, judgment, and skills are irreplaceable. If other health professionals, supported by appropriate technology, can provide care as well as or better than a physician, then we should make better use of them.

Each core element of the health care delivery system requires a unique delivery platform with distinct objectives, workflow, health professionals, and supporting technologies to carry

out that platform’s intended purpose. Financing and payment solutions are required to integrate all of these elements into one system. When all are operating as designed, the health system is “in balance.” No single element dominates, and individuals and populations receive appropriate, timely care.

The Forum for Personal Health offers an opportunity to explore different ways to achieve the balanced care system, and to examine the issues that surround moving from the acute care-focus of today to the comprehensive system of the future.

Unintended Consequences of Medical Innovation

SCOTT RAMSEY, *Full Member, Fred Hutchinson Cancer Research Center*

MOST HEALTH ECONOMISTS ARGUE THAT THE PRIMARY DRIVER OF INCREASED MEDICAL care expenditures—and thus the source behind the strains that our health system is putting on the national economy—is our propensity to adopt new medical technologies. The laws and regulations governing the development, approval, and reimbursement for these technologies in the United States reflect longstanding and widely-held societal preferences for finding better ways to prevent and treat disease.

Moreover, the training and culture that medical professionals are imbued with and the fee-for-service reimbursement system that dominates healthcare delivery encourages providers to use the newest medical technologies regardless of price and often—unfortunately—in advance of evidence supporting their efficacy or safety. There are many well-known examples of how this culture and system have led us to adopt technologies that are later proven to be more harmful than helpful; Vioxx is a recent one. Even more pervasive and less recognized is how our current system encourages medical innovators to develop technologies aimed at treating severe and advanced diseases rather than those that keep people healthier by preventing them from getting sick (or more sick) in the first place.

There are many reasons why innovators focus on technologies for severe disease. The regulatory “bar” for getting approval is often lower (in the case of orphan drugs, much lower). Very ill patients and their families are increasingly demanding novel treatments and technologies. Physicians are happy to utilize the newest treatments since they increase both their income and prestige with patients and peers. Finally, it is difficult for health insurers to refuse to pay for treatments that might benefit the seriously ill patients.

The problem is not always that these types of technologies do not work, or even that they are grossly unsafe. Rather, because the people who receive them typically have severe, advanced disease, the degree of improvement that is achievable is usually

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very modest. As an example, almost every drug developed for cancer in the last 25 years was initially tested on and later approved for patients with advanced, incurable disease. In such patients, developers will crow about an eight-week improvement in survival. But of course, this is eight weeks for someone who is already very sick and will remain so. In addition, because these gains are seen in the best possible circumstances—experts treating highly selected patients in the context of clinical trials—the actual benefit that “real world” patients achieve is almost always less.

If we assume that there is a finite supply of funding for medical research, is this the type of research that we want? In other words, as a society, do we want to focus on extending life when severe illness strikes or on keeping people healthy? What about maintaining the best possible health for people with chronic conditions? I cannot answer this question, but I do know that the cost-effectiveness of technologies that either prevent a disease from happening or reduce the risk of disease-related complications is almost always superior to the cost-effectiveness of technologies for advanced, incurable problems. In some cases (say, a highly effective smoking

cessation drug), the technology will likely save lives and reduce health expenditures.

Changing the environment so that the “innovation engine” moves in a radically different direction would be a tremendous task, one that will require critical analysis of the fundamental structure of the health care system, incentives for stakeholders, regulatory environment, and the ethical and social underpinnings of our medical culture. Perhaps this is just the type of issue that the Forum for Personalized Health should address.

