

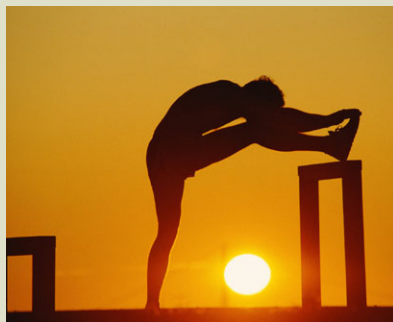
Personal Health Workshop Report

Beijing, China

Responding to the Modern Lifestyle:

October 14–15, 2007

A Personal Approach to Health Using Chinese Medical Sciences



On October 15, 2007 the NBR Center for Health and Aging, the China Academy of Chinese Medical Sciences, and the Shanghai Center for Systems Biomedicine co-presented the “Responding to the Modern Lifestyle: A Personal Approach to Health Using Chinese Medical Sciences” workshop, which explored how traditional approaches to health and medicine could be the key to helping us maintain our personal health while continuing to enjoy the successes of our advancing economies and societies. The event was sponsored by both Coca-Cola’s Beverage Institute for Health & Wellness and Intel and convened over 100 Chinese and international experts from science, medicine, policy, industry, and academia to discuss the integration of traditional medicine with systems biology, technology, and economics and policy.

The event provided an opportunity for Chinese experts to learn how systems biology can facilitate the advancement of Chinese medical science, while also helping Western experts learn more about traditional approaches to early health and disease prevention. Among the participants were the Chinese Minister of Health, **Zhu Chen**, who opened the workshop on October 14, and **Leroy Hood**, President of the Institute for Systems Biology,

who was the Keynote Speaker on the 15th. On the same day as the workshop, China’s President Hu Jintao declared in his keynote speech to the 17th National Congress of the Communist Party of

Panel Discussions

• Personal Health

Responding to the modern lifestyle: A preventive approach to Chinese medical sciences

• Systems Biomedicine and Chinese Medical Sciences

How can we use new scientific developments to help substantiate and advance Chinese medical sciences?

• Behavior and Technology

How can we use technology to educate individuals and facilitate healthy behavior?

• Economics and Policy

How can we incorporate a personal, preventive health approach into healthcare systems? How can policy facilitate this approach to health? How do we make the economic case to policymakers for a “traditional” approach to health?

This workshop was organized through collaboration between the following organizations:



THE NATIONAL BUREAU of ASIAN RESEARCH
Center for Health and Aging



上海系统生物医学研究中心
Shanghai Center for Systems Biomedicine



Zhu Chen, Minister, China Ministry of Health.

Two Equal Wheels of The Same Cart

In keeping with Hu Jintao's message at the National Party Congress, Minister **Zhu Chen**, in his Opening Remarks, described how varied thought processes and approaches to problems can lead to different—but equally valuable—conclusions and solutions, and that the health and science community should recognize the merits of diverse problem-solving techniques. Both systems biomedicine and Chinese medical sciences have a great deal to learn from, and teach, one another. Ongoing, open discussion between practitioners of both approaches can break new ground in science by looking at problems in new ways.

Keynote Speaker **Leroy Hood** reinforced Minister Chen's call to action by discussing numerous opportunities for different approaches to overlap and complement one another through predictive, personal, preventive, and participatory (P4) medicine. For example, the ability to globally analyze human systems responses in a non-targeted way using modern technology is comparable to the holistic diagnostic methods of Chinese medicine. In addition, the concept of designing multiple drugs for modulating biological networks is in harmony with Chinese medicine's practice of using mixed herbal drugs.

China that Chinese medical science and Western medicine are equally important to public health and medical care in China.

Chinese medical science has been evolving for two thousand years, and people continue to choose it as their primary source of healthcare because it is both deeply ingrained in many cultures and easily accessible throughout Asia. In recent years, this traditional form of medical care has generated much attention in areas of the world where it is not as commonly practiced, particularly in the West. Many health experts, industry leaders, and policymakers view Chinese medical science's guiding philosophy of "treating diseases before they occur" as a cost-effective alternative to the late-stage intervention approach often emphasized by Western health systems. As a result, new ideas regarding the integration of Eastern and Western approaches to medicine are emerging and gaining momentum.

Incentivizing Collaboration and Integration

Huaying Zhang, Director for Health & Wellness for Asia at Coca Cola's Beverage Institute for Health & Wellness, acknowledged at the outset of the workshop that the languages of traditional Chinese medicine and modern science have proven difficult to bring together. She asked participants, "Are we ready—on both sides—to have open minds?" If we can bridge the gap between systems biomedicine and Chinese medical sciences, she

continued, we can combine thousands of years of experience and knowledge with new discovery and modern techniques. Such an equation would surely contribute to a positive transformation in health and medicine.

Jeremy Nicholson, Director and Professor of the Imperial College London's Department of Biomolecular Medicine, explained, "what is currently lacking is a modern scientific language we can use to describe the physiological and metabolic effects that underpin traditional Chinese medicine's various modes of action." Systems biology, which focuses on the study of complex interactions, can offer a mechanism through which to understand and articulate the actions and complexities of Chinese medical science, thereby drawing it into the discourse of modern western medicine. This integration offers benefits for both approaches.

With the goal of encouraging greater integration between the approaches, **Brigitte Winklehner**, President of Eurasia-Pacific Uninet, recommended linking more Western universities and research centers with institutes of higher education in China in order to advance knowledge of best practices and innovation on both sides of the globe. She reminded participants that increased international cooperation could help disperse the global supply of ideas, talent, and technologies in science and medicine. She gave the example of existing partnerships between China and Austria's



The West can learn from traditional medicine's low-tech, low-cost, high-touch, person-centered approach to health...On the other hand, China and other developing countries can learn from the decades of extensive experience in the West regarding the application of modern technology to personal health.

Ka-Kit Hue, Director, UCLA Center for East-West Medicine.

universities to explain how Austria is promoting traditional approaches within new healthcare treatments.

In addition to increasing understanding of, and respect for, Chinese medical sciences in the West, participants also considered ways of increasing such understanding among traditional medical practitioners of modern scientific approaches.

When asked whether traditional Chinese medicine is ready to accept new technologies, and whether new technologies have the capacity to substantiate the use of traditional medicine, participants answered with a resounding yes. Given our ever-increasing understanding of human metabolism, for example, as well as the impact of environmental factors on human disease, we are now better able to assess the efficacy of Chinese medical science. Likewise, advances in technology can facilitate the promulgation of traditional approaches. For example **Liping Zhao**, Executive Director for the Shanghai Center for Systems Biomedicine, explained that, "Systems approaches for assessing human health precisely and non-invasively—with high-throughput and low-cost molecular profiling of biological information in the extracellular spaces of human bodies (e.g. blood proteins, urine metabolites, and gut bacteria)—can enable us to conduct large scale cohort studies to discover pre-disease biomarkers associated with the transition from health to disease. Models based on these pre-disease biomarkers can help us monitor human health with predictive power for effective preventive management of public

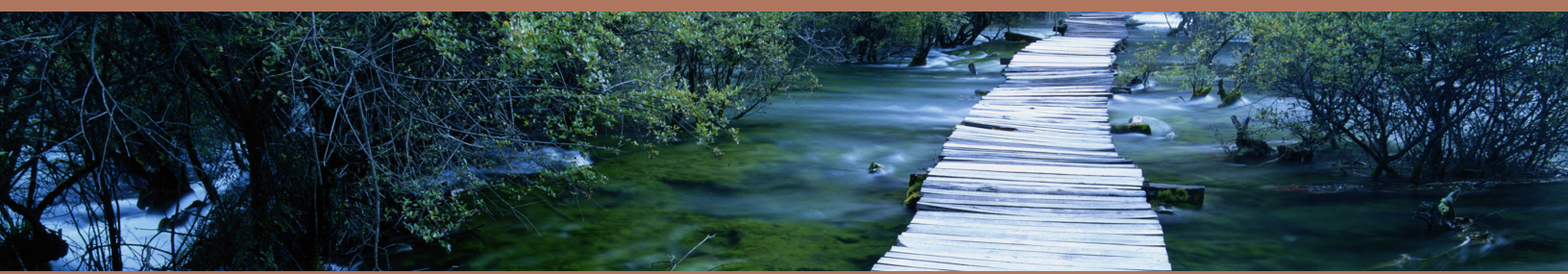
health. This strategy will eventually lead to modernization of the Traditional Chinese Medicine practice of treating diseases before they occur."

Modern Technology and Chinese Medical Science: Acknowledging Common Threads

Victor J. Strecher, Professor and Director of the Center for Health Communication Research at the University of Michigan, explained that much of the data provided by modern technology and the simple behavioral changes facilitated by IT are essentially 21st century interpretations of traditional Chinese approaches to wellness. For example, sensor technology and heart-rate monitoring devices empower us to take personal charge of our health by observing the body when it is healthy and noting minute changes that may facilitate the early detection of potential problems in the process. He noted that "computer tailored programs for managing stress, weight, nutrition, cigarette smoking, and a variety of other health-related issues have already demonstrated positive outcomes, often achieving the same efficacy as trained counselors." Additionally, a key element to personal health is education and information. Tools such as the Internet and mobile



Rhona Applebaum, Vice President, The Coca-Cola Company.



Looking through a historian's lens—How do you make something from a different time and place relevant for medical treatment in today's world?

Volker Scheid, President, International Association for the Study of Traditional Asian Medicine (IASTAM).

electronic devices allow information about diverse techniques, tools, and therapies—both traditional and experimental—to reach a much broader audience than in the past.

While many people tend to view Chinese medical science and technology as two unrelated and incompatible fields, participants discussed what many of them saw as a significant overlap. In fact, the underlying principles of Chinese medical science closely parallel the direction in which advancements in technology must progress in order to help support personal behavior and health systems that are oriented toward early health. As **Hongxin Cao**, President of the China Academy of Chinese Medical Science, explained, “The ‘intervention before sickness’ mantra in Chinese medicine includes preventing disease before it occurs, avoiding the aggravation of disease progression, and preventing the recurrence of disease during rehabilitation.” This principle is reflected in some of the most useful technologies and practices used in modern medicine today, including vaccination, surveillance, and directly-observed treatment. Likewise, the emphasis that Chinese medical science places on close observation to small changes in the health status of individual patients is philosophically compatible with emerging technologies such as personalized diagnostics.

Jeremy Bonfini, Worldwide Digital Health Policy Manager for Intel, reminded panelists that these tools are especially useful for reducing the economic burden associated with costly chronic



Hongxin Cao, President, China Academy of Chinese Medical Sciences.

diseases such as diabetes, and that chronic disease is a very large budget item for health systems around the world. Therefore, if decision makers can leverage technology to disseminate the lessons that Chinese medical science offers for behavior modification and early health, then they can secure notable savings for health systems. While advances in medicine are able to treat increasingly complex conditions, maintaining health through healthy behavior is not limited to the hospital. If patients can harness the

lessons of Chinese medical science and claim ownership over their own well-being through exercise and proper nutrition, entire health systems may experience a reduction of chronic disease.

Making the Case for Early Health

May Tsung-Mei Cheng, Editor and Host of the International Forum of the International Center at Princeton University, asked participants about conveying the value of a more traditional approach to health and medicine. She asked, “How do we make the economic case to policymakers for a ‘traditional’ approach to health?” The value of adopting an early health model is clear, she noted; however, transitioning current health systems that are built around a late-stage disease model is a difficult task for two key reasons: firstly, the economic benefits of investing in early health are not immediately tangible or measurable, and secondly, despite all the potential cost savings early detection promises, focusing resources on prevention requires a system-wide shift in the way we run businesses and health systems, as well as how we reward individuals, institutions, and shareholders. Such vast changes suggest that many players—including patients and doctors—must be involved in the transitional process.



(from left) **Leroy Hood**, **Huaying Zang**, and **Wang Guoqiang**, Vice Minister, Chinese Ministry of Health and Director-General, the State Administration of Traditional Chinese Medicine.

Yangfeng Ge, Deputy Director of the Research Department of Social Development at the Development Research Center of China's State Council, stressed that given the value of public opinion as a force for implementation of policy changes, it is important to promote understanding and appreciation of early treatment among the general population, as well as among that population's leaders. This can be achieved through public education, but must also be complimented by health services that are easily accessible and affordable to patients. To accomplish this, doctors must be incentivized to focus on disease prevention, rather than solely treatment. During the discussion portion of the panel, participants pointed out that although prevention saves money for national economies, hospitals and physicians potentially lose profits from reduced sales of prescription drugs and expensive treatments.

A Need for Evidence-Based Policy

Participants were also keen to discuss the difficulties of incorporating Chinese medical science approaches into the process of policy implementation. While the term evidence-based medicine finds its way into many discussions as the necessary proof of efficacy, we need evidence-based policy to help us understand what kind of regulations and standards work at the broader, national level.

James Flowers, President of the Australian Acupuncture and

Chinese Medicine Association, expressed concern that while policymakers may appreciate the benefits of traditional medicine personally, they are wary of introducing legislation because it may deviate from accepted norms. The process of standardizing traditional medicine can help to legitimize not only the practice of Chinese medical science, but also the philosophical approach it heralds.

Seung-hoon Choi, Regional Advisor for Traditional Medicine at the World Health Organization (WHO), explained that the introduction of standards will raise efficacy and quality, in addition to lowering costs. In fact, the WHO is working to incorporate proper use of Chinese medical science into mainstream medicine by harmonizing traditional approaches and modern medicine through the promotion of research, education, and international regulation.

In addition, many healthcare systems throughout Asia have already formally integrated traditional medical approaches. **William Ho**, Chief Executive Officer at the Tung Wah Group of Hospitals, mentioned the example of Hong Kong, which is working to set standards of excellence by encouraging NGOs to invest in research on Chinese medical science, as well as by subsidizing traditional treatments, thereby making Chinese medical science more affordable to patients. The success of these examples provides evidence for scaling such programs to other localities.

This workshop was made possible by the generous leadership and support from the following organizations:

