



PACIFIC HEALTH SUMMIT
EAST MEETS WEST WORKGROUP



Integrating People and Approaches Toward Early Health



June 2006



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Foreword

This publication traces its origin back to a plenary panel discussion titled “East Meets West: Personal Health” at the inaugural Pacific Health Summit in June 2005. The Summit gathers top leaders in science, policy, public health, medicine, and industry to discuss how emerging science and technology can be connected to global health policy in order to realize the dream of a healthier world. That spirited panel discussion explored how vastly differing Western and Eastern approaches to human health could be bridged and integrated to promote wellness and better disease management. An East Meets West Workgroup was launched from that discussion and this publication represents the first fruit of that group’s collaboration.

These essays examine the benefits of integrating Western and Eastern approaches to health and medicine, as well as how that integration can occur at the government as well as at local levels, between doctor and patient. Additionally, this publication offers suggestions for how evolving science and technology can work to create a broader understanding of the chemical components and metabolic mechanisms of Eastern medicine.

Importantly, the publication also acknowledges that collaboration and the mutual exchange of ideas and experiences will be critical to the successful integration of these vastly different approaches to health and disease. As Dr. Jilan Liu reminds us in her contribution, the Workgroup could just as appropriately be called West Meets East.

Every June the Pacific Health Summit (www.pacifichealthsummit.org) welcomes 250 of the best minds in healthcare, policy, and industry to discuss how we can build a global health model that will prevent, detect, and treat disease early enough to keep people healthy and dramatically reduce the human and financial cost of disease. Co-presented by The National Bureau of Asian

Research and Fred Hutchinson Cancer Research Center, the Summit is guided by a senior advisory group co-chaired by George F. Russell, Jr. and William H. Gates, Sr. Sponsors for Summit 2006 include GE Healthcare, Microsoft, Coca-Cola's Beverage Institute for Health and Wellness, Intel, Pfizer, Fujitsu, National Cancer Institute, Amgen, Roche Diagnostics, Affymetrix, GlaxoSmithKline, Miraca, and the Canary Foundation.

We are particularly grateful for the strong financial support and leadership provided by Coca-Cola's Beverage Institute for Health and Wellness for the Pacific Health Summit East Meets West Workgroup.

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Chinese and Western Medical Science Complement Each Other to Promote Human Health*

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The Relevance of Chinese Medicine in the 21st Century

Despite the major advancements of science and the world economy in the 21st century, the issue of human health remains a problem that challenges every nation. Finding effective methods to prevent and treat disease and to maintain and improve human health continues to be a permanent topic of discussion at the highest leadership levels. In its 1998 World Health Report, “Life in the 21st Century—A Vision for All,” the World Health Organization (WHO) stated that in the 21st century disease would no longer be its primary object of study, but instead the institution would focus medical research on human health.¹ Interestingly, this attention to wellness is also one of the distinguishing characteristics of Chinese medicine, which continually emphasizes the importance of health, preservation of life, and individual patient treatment.

Chinese medicine is not just a medical practice. It encompasses thousands of years of empirical wisdom that Chinese people obtained by pursuing health. More than 2,000 years ago, ancient Chinese practitioners developed a set of comprehensive theories guiding their effective medical practices by seamlessly combining science with humanity. Such theories and medical practices have been improved upon and enriched throughout Chinese history and this process continues today, drawing attention from all corners of the globe due to the foresight of Chinese medicine. This approach to medicine will play an increasingly important role in the pursuit of health maintenance and improvement in the 21st century.

Advanced Thinking in Chinese Medical Theory and Practice

Established more than 2,000 years ago, Chinese medicine is very advanced in its systemic thinking, both in its theory and in its practice. In theory, Chinese medicine approaches health from a holistic point of view and supports treatment according to thorough understanding of the root of symptoms. Chinese

¹ World Health Organization, “Life in the 21st Century—A Vision for All,” World Health Report, 1998, <http://www.who.int/whr/1998/en/index.html>.

medicine also maintains that the preservation of life is of paramount importance and as a result advocates the practice of treating the patient before he or she becomes ill and aims at achieving *yin-yang* balance in life. In practice, Chinese medicine pays a great deal of attention to the unique needs of individual patients and adjusts treatment plans according to individual health conditions and reactions.

The Concept of Oneness

Chinese medicine regards each person as an organic whole, in which various organs constantly influence the function of other organs and vice versa. This approach also emphasizes the unity of body, mind, and spirit, and maintains that a healthy body is key to a healthy mind. In keeping with this philosophy, strained emotions are believed to directly impact physical health.

Chinese medicine also holds that human beings originated from the evolution of nature and advanced with the development of society; as a result, humans are integral parts of nature as well as society. In keeping with that belief, unusual changes of seasons, climate, and society can all represent real challenges to the maintenance of health. As far as health is concerned, Chinese medical science focuses on harmonious unity of body and spirit, as well as the unity of human beings, nature, and the social environment.

Leverage of Yin and Yang for Balance

The concept of *yin* and *yang* balance is of paramount importance in the practice of preventive Chinese medicine and disease treatment. True to this practice, efforts to enhance the overall health condition and combat disease are inextricably linked. They are integral parts of the treatment as a whole, which aims to improve overall quality of life. Using interventions such as Chinese herbal formulations,

acupuncture, massage, and food therapy, Chinese medicine can help individuals reach a balanced state—the healthy state—by adjusting overall body functions.

Because Chinese medical theory focuses on each person's health condition and patterns of disease occurrence and development, this medical approach can uniquely capture early signs of substandard health and enable disease interventions at the earliest stages. Indeed, Chinese medicine often has a distinct advantage over Western medicine in effectively treating complicated diseases that are caused by unknown pathogens or multiple factors, in part because of its long-held attention to early health.

Systemic Diagnosis and Treatment

Chinese medicine utilizes primarily observational techniques by means of seeing, hearing, smelling, questioning, and recording the pulse to collect health information. This approach combines symptoms with the geographical, environmental, seasonal, and climatic information of each individual patient to achieve a thorough understanding of his or her state of health. Based on such comprehensive understanding, treatment principles and schemes are selected to appropriately address the corresponding group of symptoms observed.

Life Preservation and “Treating the Un-Diseased”

In working to maintain health, Chinese medicine places equal emphasis on the importance of both preserving life and “treating the un-diseased.” Preserving life is one of the unique practices of Chinese medicine, which uses a host of techniques from acupuncture to herbal drinks in order to pursue balance in physical conditions, emotions, and the spiritual state. This approach posits that such balance will improve each person's capacity to adapt to both physical and mental changes and ultimately achieve perfect health. Prevention, early diagnosis, and early treatment are also critical in Chinese medicine as each plays an

important role in stopping the process of disease formation and helping people return to their healthy state. According to *The Ancient Yellow Emperor's Classic Internal Medicine*,² the best doctor treats the patient before he or she is sick, meaning that wise doctors will take effective intervening measures when a patient starts to show the slightest signs of imbalance instead of waiting for disease to take the upper hand.

Individualized Diagnostic and Treatment Model

Chinese medical science pays a great deal of attention to health and disease indicators, such as individual differences in physical condition and mental state, and the time and space in which an individual lives. In Chinese medical practice, it is important to establish appropriate treatment protocols that correspond to each patient's overall condition. Based on the analysis of all observations, Chinese doctors may develop different treatment plans for each patient even while all may be suffering from the same disease. Despite their similar afflictions, unique treatments may be necessary. Meanwhile, even if several patients' overall health conditions are different, Chinese medical practitioners may recommend the same treatment. In this latter case, while people may suffer from different illnesses, similar symptoms may warrant similar treatment. Furthermore, Chinese medicine fully recognizes the dimension of constant change in disease processes and matches those changes with continued adjustments to treatment regimens until the optimal balance is restored to bring the patient back to his or her healthy state.

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² The exact date of publication of this seminal Chinese treatise on medicine (and oldest extant medical work) is unknown, although the period of Huang Ti, the Yellow Emperor, is established in Chinese chronology as covering the years 2697–2597 B.C.

Chinese and Western Medical Science Complement Each Other to Promote Human Health

Mainly as a result of historical and cultural differences, Chinese and Western medical sciences have evolved into two distinctly different systems. Although both take human beings as their object of study, the two medical systems are noticeably different in their understanding of, and approach to, life, health, and disease, as well as the measures they employ to prevent illness and maintain health. Working together complementarily, Chinese and Western medical sciences can promote human health with great success, using the respective advantages of each to offset the other's shortcomings.

In China, the integration of Chinese and Western medicine has a history of over fifty years. As a fundamental part of the national health policy, integrated Chinese and Western medicine has enjoyed support and protection from the government. Chinese medical science enjoys the same legal status as that of Western medicine in China. People may choose either one according to personal preference. This combination of resources, experiences and cooperation, and co-promotion and co-development of people and ideas are strategic choices modern China has made in developing its medical system and resolving its health issues. Indeed, this integrated medicine has become a new discipline and claimed many successes through continuous exploration. In fact, many people prefer to use integrated Chinese and Western medicine treatment as their primary way to deal with health problems.

In China and Western countries alike, a great deal of progress has been made in developing effective disease treatment schemes by using Chinese and Western medicine synergistically. For example, an integrated approach in treating cancer patients reveals that several Chinese medicines can strengthen the bodies of cancer patients and help them deal with aggressive chemotherapy or radiotherapy treatments. Other traditional Chinese methods such as acupuncture, anesthesia, and pain relief have also made many leaps and bounds in reducing pain and suffering. Furthermore, many new drugs have been developed

for wide-spread use based on Chinese medicine, such as Artemisinin, an anti-malaria drug derived from *Herba Artemisiae Annuae* listed by the WHO.

After many years of trial and error, the integration of Chinese and Western medical sciences has evolved from using Chinese and Western diagnostics and treatment on just a few patients to establishing entirely new medical theories, creating a new methodology, and building a new scientific discipline: Integrated Chinese/Western Medical Science. Today, the scientific and medical communities seek to deepen their structural and functional understanding of the human system and its relationship with the environment—both natural and social.

Conclusion: Integration as a Medical Research Guide

In the search for better understanding of health and disease issues, this integration also provides an opportunity for Chinese and Western medical sciences to learn from one another, ultimately promoting mutual development. Due to globalization and the increasing speed of communication, trade, and travel, Asian and Western cultures will inevitably blend with each other in the future, and scientific development will cross over and integrate to such a point that modern medical science will evolve entirely into new disciplines that are even more systemic, international, and diversified.

Chinese and Western medicine can complement each other to guide us in medical research using health as a primary endpoint. More importantly, such research can provide us with new medical theories and help improve our health care models to ensure that we have the ability, capacity, and effectiveness to support health for people around the world.

West Meets East in Search for Best Practices: A Pilot CME Program in Chengdu, China

Jilan Liu

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Introduction

The exchange of knowledge about and approaches to science and medicine makes possible great advances in health care. Indeed, much of the modern medical technology and methodology first developed and deployed in Western countries paved the way for modern medical practice and the organization of health care delivery worldwide from the 1900s onward. In recognition of these Western advancements in modern medicine, medical professionals from Asian countries have frequently pursued further study in the United States or Europe in order to improve systems back home.

Over much of the last century, Asia has been playing catch-up with the United States and Europe in modern medicine and health systems development. Some Asian economies, such as Japan, Singapore, South Korea, Taiwan, and Hong Kong have, in many ways, already caught up. Others, such as mainland China and India, are fast approaching comparable levels of sophistication in their preeminent institutions. Indeed, medical knowledge and experience, once the sole domain of Western countries, is now disseminated and developed on a much broader scale worldwide.

For the past hundred years, when American medical professionals have visited Asian countries, it was often because they had been invited to give lectures. While many of those lectures were extremely helpful to their Asian counterparts, some missed their mark. Commonly, the U.S. lecturers were unable to grasp the foreign culture or simply the rapid changes and developments in the places they visited, such as mainland China. At times, the American lecturers could only present information through the lens of their own cultural, political, ecological, and historical contexts. Finally, many incorrectly assumed their audiences' knowledge and experience to be extremely basic and rudimentary, informed by Western news media stereotypes of developing countries. As a result, the expertise some U.S. medical professionals have sought to share frequently did not translate to the needs and expectations of their Asian audiences.

Today, due to a myriad of recent political, economic, and technical developments, medical professionals in both Asia and the United States have an enhanced understanding of one another. There is increasing recognition that 1) all parties have valuable knowledge and experiences to contribute and 2) learning and exchange is bi-directional, from East to West and West to East. Each side needs to become much more attuned to the situations and expectations of their audiences in the 21st century. This recognition and change is very similar to the pattern of transition when Europeans and Americans began to exchange knowledge and experience more equally after the U.S. economy, political system, infrastructural capabilities, and medical science and technological advancements caught up with development in Europe in the 19th century.

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Medical professionals from Asian countries will certainly continue to come to Western countries to further their medical education. In the meantime, an increasing number of medical professionals in the West are also interested in learning about developments in Asian medical systems. These professionals are particularly interested in China and India, not only as case studies for rapid health system development, but increasingly as cutting-edge resources for medical and scientific advances.

West Meets East: A Pilot Project

In order to offer Western medical professionals a unique opportunity for exchange with their Chinese counterparts, JR & Associates, a Seattle-based health care consulting practice developed a pilot

continuing medical education (CME) course, in collaboration with the CME Department of the West China Hospital of Sichuan University in Chengdu, China, to showcase the transformation of health care systems and medical practices in the country. Through the CME Department of Group Health Cooperative of Puget Sound, JR & Associates offered the pilot course to the medical staff members of Group Health Permanente, headquartered in Seattle, Washington. Twenty-four members from 17 clinical specialty departments participated in this pilot program from March 27-31, 2006.

The goal of the course was to help the participating group of American multi-specialty medical and surgical professionals develop a broad understanding of:

- The current Chinese health care system's challenges and opportunities;
- Chinese medical education systems and the role of the physicians in health care delivery; and
- The potential for integration of the Traditional Chinese Medicine (TCM) and Western medicine in China.

This CME program offered participating medical professionals an opportunity to share their own experiences with their Chinese colleagues on a wide variety of common interest topics, including:

- The search for best practices using evidence-based medicine;
- The socio-economic and cross-cultural differences in clinical practices (e.g., physician-patient communication and relationships, resource utilization, and medical leadership); and
- The evolution of an ideal health care system.

Over five days in March, participants toured one of China's most prestigious medical facilities and exchanged experiences and ideas with Chinese counterparts in Chengdu. Each day started with two hour-long presentations by the Chinese faculty on the country's health care systems and the medical practices with topics such as:

- An overview of current Chinese health care delivery and financing systems;

- The history and current practice of Chinese traditional medicine;
- The current practice of internal medicine;
- The current practice of surgical medicine; and
- Evidenced-based medicine as a basis for clinical and organizational policymaking.

Presentations were followed by two hours of extensive discussion, in which everyone participated. The other half-days were used to pair U.S. participants with local colleagues in the same specialty, tour clinics, hospitals wards, and/or operating rooms. Following the CME pilot program, most of the participants toured other parts of China to experience more of the history and culture. This essay describes the context of this exchange, impressions the U.S. participants were left with and the impact this trip had on them, as well as the implications for further integration and exchange of people and ideas.

American Physicians in China

Context

West China Hospital of Sichuan University, the host organization for this pilot CME program, is a 4,300-bed modern hospital—the largest number of beds contained in a single hospital worldwide. It is one of the China’s centers of medical excellence with a national reputation and is also the referral center for five provinces in southwestern China.

All hosting physicians were fluent in English and had spent extensive time in the United States, which made for unusually fluid communication and exchange. The U.S. participants were impressed with the clinical competency of the physicians and surgeons that they met in West China Hospital and were amazed by similarities in how Western medicine is practiced between institutions of excellence in China and in the United States. For example, after spending an entire day with the anesthesia department of

West China Hospital, the two anesthesiologists from the Seattle area were struck by the similarities to their own practices. One participant reported that his Chinese counterpart and he could easily jump into each other's shoes without much orientation. Not only do they use the same equipment and the same medication, but they also use the same protocols.

The surgeons from the CME group commented that the operating suites in West China Hospital were in fact more modern than their Group Health-contracted hospitals. The participants' surprise at the state-of-the-art Chinese facilities called into question their preconceived perceptions about China's development and the advancement of its health care system. Many foreigners visiting China tend to expect realities in the context of the lower end of the spectrum, carrying perceptions informed by media and other sources of the least advanced parts of society. Certainly, West China Hospital represents some of the best medical professionals, services, and facilities in China, but the participants were also informed that many rudimentary facilities without such grand architecture or sophisticated technology and staff exist throughout the country. Considering the enormous size of both the land and population and the various levels of economic hierarchy among China's people, it is not astonishing that such a spectrum should exist. While it is important to focus attention and resources on areas that need improvement, acknowledging the most advanced resources a country has to offer is also critical.

First Impression: Enormity of Scale and Magnitude of Patient Population

What struck U.S. participants during their first visit through the outpatient lobby was not anything medical or scientific; it was the enormity of the number of patients and the modernity of the facilities. Participants likened the experience to walking through a shopping mall at Christmas time in Seattle. Unlike what they had expected, they were immediately captivated by the cleanliness of the facilities, the modernity of the architecture, and the enormous numbers of people walking through the lobby. West

China Hospital's outpatient facilities provide 8-10,000 outpatient visits per day. In fact, as families generally accompany patients, the outpatient sections of the hospital accommodate an average of around 20,000 people per day.

Beyond the lobby and into the interior of the hospital, the CME participants visited operating theaters, radiology labs, administrative departments, and patient rooms. Some participants rounded with Chinese physicians and many spoke at length with their Chinese counterparts to get a sense of Chinese procedures and protocols.

Learning about day-to-day operations at this state-of-the-art hospital with more than a 100 percent occupancy rate helped participants appreciate the scale and speed with which their Chinese counterparts deploy solutions. For example, when a new facility was ready to accept patients, the hospital organized a transfer of 1,700 patients from its old facilities into the new building within an eight-hour period without a single incident. This transfer of a large volume of patients over such a short period of time was exceptionally well orchestrated. Having to execute plans that involve an enormous number of people is not unique to West China Hospital. It is a frequent necessity for the Chinese government and other organizations in the country. Over time, they have gained considerable expertise in organizing such large-scaled operations.

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Second Impression: Complexity

Of course, not every medical facility in China deals with tens of thousands of people per day, but with a population of over 1.3 billion, the huge volume of people and medical services China's health care

system must provide for is far greater than that of any other economy. And these greater numbers mean higher costs. Prior to their trip to Chengdu, U.S. participants read articles from *The New York Times* and other Western sources regarding the inequality of access to medical care and services in China. Seeing the large number of patients cared for by West China Hospital and realizing that there are hundreds of millions more Chinese citizens who cannot access care in this kind of facility helped participants put into perspective some of the challenges China's health care system faces.

While the Chinese economy is experiencing unprecedented growth, the government still cannot afford comprehensive universal health care. Nor can governments of the United States or other, even smaller, countries. Indeed, considering the rise in aging populations combined with improvements and increased costs in medical treatments and technologies that prolong life, even many European countries—all with well-established welfare systems—are moving away from universal health provision.¹

While all the U.S. participants were extremely impressed by the physicians and surgeons, as well as the facilities of West China Hospital, it was obvious that many issues of concern persist with regard to Chinese medical training and resource allocation. Along with uneven access to medical care, the variation of medical professional competencies and skills range from one extreme to the other. Physicians and surgeons who practice at different levels of medical institutions have various levels of training and experience. Even though China has instituted a licensing system for physicians, there are no specialty boards that provide certification. Specialists in most of the hospitals have not participated in residency training programs. While this is changing and these mechanisms are being introduced in China, these systems have a long way yet to go.

¹ TCM appears to be one low-cost solution, and the Chinese government certainly seems to promote it, especially in rural areas. People in those areas tend to seek these more holistic and affordable services from TCM providers primarily to address pain and chronic conditions. U.S. participants were pleased to hear about positive research results of herbal treatments for acute pancreatitis. However, the lack of funding that impedes well-designed clinical trials for TCM is a major barrier to promoting this approach to medicine both within and outside of Asia.

One interesting finding that fascinated U.S. participants, which also stems from the need to scale health care to the needs of China's vast population, is how all outpatient medical records at West China Hospital are given to patients to manage. The hospital keeps all the inpatient records but does not retain any copies of outpatient records, not even of diagnostic test results. This is common practice in China. The huge numbers of patients in China makes storage and organization of medical records for each patient in China not only very difficult, but also extremely costly. This cost and complexity is compounded by the fact that patient populations are extremely fluid and totally free to choose any medical practitioner and institution throughout the country, as long as they have insurance to cover the cost or can afford to pay from their own pockets. Certainly, there is strong merit in patients having copies of their records, especially if they are free to go to any medical practitioner and institution. However, relying solely on patients to maintain and transport their records creates challenges for continuity of care, especially when patients lose records or do not recognize the need to store or transport records.

The participants explored many other questions about health care quality, access, and costs. The answers were almost always multifaceted and intertwined, and the sheer size of some of the issues can be daunting. Fast, simple fixes are not always appropriate solutions.

Difficult Reality: Resource Allocation

Much of the complexity of health care in every country reflects decisions about resource allocation and the framework and processes that inform those decisions. In addition to being struck by the degree to which China's health system must scale its facilities in order to serve its huge population, all U.S. participants were struck with the similarity of basic challenges in health care between the United States and China, particularly regarding the sense of insufficiency of health care dollars and the choices each system is making in what to buy with those dollars. However, for the United States, "lack of money" is different

than for China, it has significantly more dollars to spend on health care for a far smaller population. If a combined government and private spending of over \$5,274 per year per capita in the United States cannot solve the issue of universal access to care for 298 million Americans, how could China begin to provide appropriate access to over 1.3 billion citizens with public and private spending of less than \$100 per capita per year on health care? About 55 percent of total Chinese health care expenditure is out of pocket.²

In a country where so many people lack health care coverage, there is a contrasting abundance of modern technologies in urban hospitals. Those with good insurance or who can afford to pay from their savings account demand state-of-the-art technology; because of their wealth, they usually get it. That

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is why China has become a large and profitable market for many medical technology companies. However, most large, modern Chinese hospitals are designed to serve populations at all socio-economic levels. The fact that there are different types of patient rooms, different treatment options, and different nursing ratios is a reflection of Chinese economic reality—all based on

what individual patients are able to pay. In West China Hospital, most of the hospital wards are configured for the general public where many people share one room with little or no privacy, according to Western standards. There is also a VIP wing that takes care of patients with high ranking and prestige. In addition, a “Gold Card” section exists for patients who are relatively wealthy and have paid an annual premium to guarantee good care.

About 20 years ago when China was very poor, there were very limited resources for the health care system. As a result of a primarily closed economy and political isolation, advanced medical technology was simply unavailable during those years. However, people were content, unaware of what

² Veronica Walford, “China Health Briefing Paper,” Department for International Development Resource Centre for Health Sector Reform, July 2000, available from: http://www.dfidhealthrc.org/Shared/publications/Country_health/China.pdf.

was possible elsewhere. And through its emphasis on public health, the Chinese government was able to equitably allocate limited resources in order to provide rudimentary care and improve the health status of the population. As the Chinese economy has gained strength and Chinese society has become open and market-driven, people with more resources and access to information are unwilling to accept the limitations they did 20 years ago. Now, many demand the same medical technology the rest of the world enjoys. The hospital industry relies on that demand to upgrade their facilities, clinical excellence, and professional experiences and compensation. Who has the right to say that those with more financial resources should not be able to buy the care they want? And furthermore, who is to say that the medical industry should not provide the care as demanded by those patients, and by doing so seek such goals of advancement?

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Unfortunately, having resources available to meet the demand from people who can afford to pay makes the reality much harsher for people who cannot afford the same services. It all comes back to the widely-debated issue of whether health care is a right or a privilege. Modern health care—with its ever-increasing capacity to prolong life—is simply too expensive to be every single person's birthright. Yet, denying appropriate care simply because of a patient's inability to pay seems unethical. Considering how much medical knowledge and technology is now visible to all, it becomes painful for more and more people to learn that the benefits of those advancements are beyond their financial reach.

Both physicians and patients in China are challenged daily by the harsh reality that many sick individuals simply cannot afford effective treatment, as even basic diagnostic or treatment options often cost more than many people in China can afford despite some basic level of insurance coverage. Some blame the government for not instituting a system that provides comprehensive care to more people; many

in China also blame physicians and hospitals for not being more generous with their services. However, a population's needs often increase more quickly than a government's resources or capacity to address them. Occasionally, medical facilities such as West China Hospital have been known to provide some charity care, but clinics and hospitals cannot offer such charity for all of the hundreds of millions of people who are not adequately covered. As a result, Chinese physicians and hospitals are, to use the colloquial expression, caught between a rock and a hard place, with lack of compensation being the rock and an overwhelmingly large population and territory being the hard place.

Continuity of Care and the Primary Care Physician

One major difference the CME participants from Group Health Permanente observed between U.S. and Chinese health systems, looking through the lens of the West China Hospital, was management of a continuum of care (e.g., health care at every step of the way, from prevention and primary care to acute care, long-term care, home care, and hospice). In China, medical care and services are delivered purely on episodic bases and most medical decisions are determined by patients and their ability to pay. While inadequate continuity of care and a scarcity of funds are indeed issues in the United States as well, the fate of a patient's health rests less on money in United States than it does in China. Coming from traditional managed care institutions, U.S. participants were struck with the apparent lack of coordination of care in China. Except for a small, privileged portion of the population, there is no general "population management" mechanism, either from government insurance agencies or clinical delivery systems to coordinate patient care across the continuum for the majority of patients.

For a select few however, continuity of care is possible. U.S. participants coming from family practices visited the "Gold Card" section of the West China Hospital—a section with more expansive care and a manifestation of the start of a "managed care," "population-based care," or "concierge medicine" model in

China. Those in southwestern China who can afford to pay \$500 per year to enroll in this program from West China Hospital receive preventive and primary care visits for free, as well as other services at a discounted rate.³ Importantly, these privileged few are entitled to have a physician assigned to them, in addition to being treated in a better facility. Such physicians in the Gold Card section of the hospital end up practicing what is essentially primary care, even though they may be previously trained in cardiology, pulmonology, gastroenterology, or other specialties. Gold Card physicians help patients identify individual health-care needs and channel through different specialist consultations, diagnostic tests, and therapeutic interventions. Gold Card holders still have to pay for their care and treatment in addition to their annual premium, but having a distinguished primary care physician in a state-of-the-art institution like West China Hospital, who follows patients and manages their care across the continuum, is a very unique benefit in the country. The Gold Card concept is new in China, and West China Hospital is one of its pioneers, but similar programs are expanding.

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In addition to the immensity of the Chinese population and the scale of enormous challenges presented by insufficient health care dollars, one of the challenges to introducing better and more consistent care across the continuum is the negative stereotyping of primary care physicians. While rural health care facilities (e.g., small clinics and hospitals without the equipment and financial or human resources of West China Hospital) offer a form of primary care, there is no curriculum for primary care physician training. In the United States, primary care is a specialty in itself provided

³ In China, this is a significant amount of money as per capita income is less than \$2,000.

mostly by physicians who are board-certified in Family Practice or General Internal Medicine. By contrast, in China primary care is considered the default area of practice for physicians who

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have inferior training and are willing to practice in rural areas. In fact, the clinical competency of medical professionals in China is currently directly correlated to the level of sophistication of the institutions that employ them. In other words, whereas one can find extremely qualified and respected physicians practicing in underserved medical institutions in the United States, doctors practicing in underserved areas

in China are seldom there by choice. If they are, it is at the expense of their reputation, contrary to the situation in U.S. institutions.

While primary care has traditionally been equated with lower quality care in China, the increasing need to provide coordinated care for well-to-do patients (e.g., the Gold Card holders described above) has given rise to the realization that well-trained and highly qualified primary care physicians are needed. Primary care as a specialty itself will be in increasing demand and will receive greater respect in the near future in China. This is a positive trend, where the “good” hospitals are helping to change the perception of primary care and primary care physicians across the country.

Conclusion

“...grant me the serenity to accept the things I cannot change, courage to change the things I can, and the wisdom to know the difference.”

—Saint Francis of Assisi

No country can make changes as quickly and as substantially as China has without some bumps along the way. As is true for people in any other country, there is no guarantee that people in China will not repeat some of the mistakes that Western countries—including the United States—have already made, as the Chinese health system modernizes. The hope is that the people have the courage and capacity to advance while recognizing shortcomings along the way, to mitigate the negative impact of those shortcomings, and the willingness to make improvements.

One of the interesting concluding comments from a participating American pediatrician is that she always perceived the Chinese to be particularly resilient people. After witnessing first-hand the sheer volume of patients that her Chinese colleagues have to work with and how accepting they were with the lines of people waiting for care and attention, she decided to stop complaining about the volume of patients she has to work with at home. Her advice to physicians and patients in the United States was not to take anything for granted. Indeed, for all participants in this pilot program, some of the important lessons of the trip were gaining perspective on the things people simply have to learn to live with and the importance of improvising with constrained resources such as money, people, and space.

U.S. participants in this CME pilot program learned a great deal in China, especially about the importance of hands-on experience and personal exchange in achieving a true understanding of other people and systems. The health care challenges China faces came into focus while the extraordinary advances China has made also impressed everyone involved. The participants have developed relationships with

their Chinese colleagues and are interested in keeping in touch and returning for more in-depth learning and exchanges in the future. In the meantime, they recommend that more health care professionals and managers in the United States adopt a similar approach in order to learn from their Chinese colleagues on how to deploy new, large-scale solutions in their organizations with the rapidity and success of institutions like West China Hospital.

Comprehension and Integration of Eastern Medicine Among Physicians to Promote the Benefits of Western Medicine

Shin-Ping Tu

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Background: Things Are Not Always What They Seem

Mrs. T shared a secret with me ten years ago as I reviewed her medications during a routine outpatient medical visit. She explained it this way: in addition to the medications doctors had prescribed her, she also took a traditional Chinese medicine to maintain her health. She was reluctant to share this information with “foreign” doctors because she worried they would not understand and scold her.

When I became Mrs. T’s primary care doctor, for the first time she was able to communicate with a doctor in her native language—Chinese. While I received my medical education and training in the United States, I was not surprised that Mrs. T was taking Chinese medicine. Growing up, I had been familiarized with the key concept of traditional Chinese medicine—a need to balance *yin* and *yang*. I was also aware of the availability of Chinese herbs in Seattle. Once Mrs. T disclosed this new information, we discussed her perceptions of health and health maintenance, which differed significantly from my American patients’ perceptions.

Mrs. T’s case is not unique. After getting Mr. M’s hypertension under control with three different medications, I was surprised when his blood pressure spiked despite his insistence that he was taking the medications as prescribed. So I specifically queried whether he was taking non-Western medications. An elderly Filipino, Mr. M informed me that a good friend had given him Korean ginseng to make him feel better and he had been taking it for a couple of months. After discontinuing the Korean ginseng, Mr. M’s blood pressure returned to a healthy level.

Traditional Chinese Medicine in Asian American Culture: Culturally Appropriate Interventions

The earliest Chinese pharmacopoeia on Traditional Chinese Medicine (TCM) was compiled over 2,000 years ago in China, explaining *yin* and *yang* and providing indications for each medicinal substance. Major works on other aspects of TCM, acupuncture, and pulse-reading also date back to that time. This tradition of healing forms an integral part of Chinese culture, and provides a foundation for the basic concepts of Chinese philosophy.¹ For this reason, health practices rooted in TCM concepts persist among Asian immigrants to the United States.

In 1992, Dedra Buchwald, a professor and medical doctor who conducts research on chronic fatigue and pain at the University of Washington and Harborview Medical Center in Seattle, published an article with her colleagues describing the use of traditional health practices among Southeast Asian patients that included coining, cupping, and moxibustion.² Coining is performed with the edge of a coin or stone to firmly stroke lubricated skin until the area is bruised. With cupping a small, heated cup is placed over the skin then allowed to cool so that the negative pressure results with a circular bruised area on the skin. Moxibustion consists of making a small circular superficial burn by touching the skin with burning incense or by igniting a combustible material placed on the skin. Bruises resulting from these traditional healing practices had been misinterpreted as signs of physical abuse among clinicians who were unfamiliar with these practices. Buchwald's paper was significant because it elucidated for many Western medical practitioners traditional health techniques about which very little was known and cleared up important misunderstandings between those physicians and some of their Asian-American patients.

One of the fastest-growing ethnic groups in the United States, the number of Asian Americans increased from a little over one million in 1970 to nearly seven million in 1990, exceeding 10 million by

¹ Peng Yoke Ho and F. Peter Lisowski. *A Brief History of Chinese Medicine and Its Influence*, 2nd ed. (River Edge, N.J.: World Scientific, 1998).

² Dedra Buchwald, Sanjiv Panwala, and Thomas M. Hooton, "Use of Traditional Health practices by Southeast Asian Refugees in a Primary Care Clinic," *Western Journal of Medicine* 156, no. 5 (1992): 507-11.

2000.³ Since the 2000 U.S. Census, the number of people identified as Asian has increased by nine percent, the highest growth rate of any group.⁴ In fact, by 2050, the Asian and Pacific Islander population in the United States is likely to reach 33.4 million.⁵ Among this population, it is estimated that 52 percent are foreign born and that a majority of these individuals have come to the United States within the past 20 years.⁶

Increased funding and research targeting minority health issues in the United States have elucidated many traditional health beliefs and practices of the Asian Americans. To date, most of this research has focused on the two predominant Asian ethnic groups in the United States—the Chinese and Vietnamese—representing more than 30 percent of the Asian American population. Based on 2000 Census data there are more than 2.7 million Chinese and about 1.2 million Vietnamese in the United States.⁷ Due to continued immigration and high fertility rates, there will be an estimated four million Vietnamese in the country by 2030, and they will ultimately constitute the second largest Asian sub-group.⁸

³ Robert W. Gardner, Bryant Robey, Peter C. Holloran, “Asian Americans: Growth, Change, and Diversity,” *Population Bulletin* 40 (1985): 1–42; US Department of Commerce, 1990 Census of Population—Asians and Pacific Islanders in the United States (Washington, DC, 1993).

⁴ U.S. Census Bureau, “Facts for Features: Asian/Pacific American Heritage Month,” May 2004, http://www.census.gov/Press-Release/www/releases/archives/facts_for_features_special_editions/001738.html.

⁵ U.S. Census Bureau, “Census Bureau Projects Tripling of Hispanic and Asian Populations in 50 Years; Non-Hispanic Whites May Drop To Half of Total Population,” U.S. Department of Commerce, March 2004, <http://www.census.gov/Press-Release/www/releases/archives/population/001720.html>.

⁶ U.S. Census Bureau, “Facts for Features: Asian/Pacific American Heritage Month,” May 2005, http://www.census.gov/Press-Release/www/releases/archives/facts_for_features_special_editions/004522.html.

⁷ U.S. Department of Commerce, Economic and Statistic Administration Foreign Trade Division, “U.S. Summary: 2000,” 2002, <http://worldlibrary.net/CensusBureau.htm>.

⁸ LF Bouvier, and AJ Agresta, “The Future Asian Population of the United States,” in *Pacific Bridges: The New Immigration From Asia and the Pacific Islands*, eds. James T. Fawcett and Benjamin V. Carinō (Staten Island, NY: Center for Migration Studies, 1987); and S.J. McPhee, J.A. Bird, T. Davis, N.T. Ha, C.N. Jenkins, and B. Le, “Barriers to Breast and Cervical Cancer Screening Among Vietnamese-American Women,” *American Journal of Preventive Medicine* 13 (1997): 205-213.

Studies on Asian populations' health beliefs have examined the traditional Chinese medical concept that foods induce "heat" or "coldness" in those who ingest them.⁹ Traditional postpartum practices of both Chinese and Vietnamese women in these studies are derived from the related concept that food can help to balance *yin* ("cold") and *yang* ("heat"). For example, during the postpartum period, a woman's body is considered vulnerable ("cold"), therefore, it is important for Chinese and Vietnamese women to ingest foods and soups that are "hot" and can replenish the body. An extension of this concept came to light regarding the causes of colorectal cancer in another study designed to increase colorectal cancer screening. Interviewees of the study described how, when a patient is constipated, the retention of stool results in the rise of "toxins" or "heat" within the body, which in turn leads to colorectal cancer.¹⁰

In an ongoing study begun in 2003 to promote hepatitis B testing among Chinese populations in the United States and Canada, the qualitative phase revealed a strong influence of TCM on beliefs about liver disease and general health within these communities.¹¹ Many commonalities emerged between findings from this collaborative study run by the Fred Hutchinson Cancer Research Center, the University of Washington, and British Columbia Cancer Agency, and the results of another study on Vietnamese Americans.¹² One example is the association of liver disease with an imbalance of internal energy (known as *qi* in Chinese and *khi* in Vietnamese). In both studies, a "hot" liver, imbalances in diet, "toxins", and overwork or inadequate rest were associated with liver problems.¹³

⁹ Giovanni Macciocia, *The Foundations of Chinese Medicine: A Comprehensive Text for Acupuncturists and Herbalists* (New York, NY: Churchill Livingstone., 1989); G. G. Harrison, M. Kagawa-Singer, S. B. Foerster, H. Lee, L. Pham Kim, T. U. Nguyen, A. Fernandez-Ami, V. Quinn, and D. G. Bal, "Seizing the Moment: California's Opportunity to Prevent Nutrition-Related Health Disparities in Low-Income Asian American Population" *Cancer* 104, no. 12 suppl. (2005): 2962-2968.

¹⁰ J.H. Choe, S. P. Tu, J. M. Lim, N. J. Burke, E. Acorda, and V. M. Taylor, "'Heat in Their Intestine:' Colorectal Cancer Prevention Beliefs Among Older Chinese Americans," *Ethnicity & Disease* 16 (2006): 248-254.

¹¹ H. Chen, S. P. Tu, C. Z. Teh, M. P. Yip, J. H. Choe, T. G. Hislop, V. M. Taylor, and B. Thompson, "Lay Beliefs About Hepatitis Among North American Chinese: Implications for Hepatitis Prevention," *Journal of Community Health* 31, no. 2 (2006): 94-119.

¹² N. J. Burke, J. C. Jackson, H. C. Thai, F. Stackhouse, T. Nguyen, A. Chen, and V. M. Taylor, "'Honoring Tradition, Accepting New Ways:' Development of a Hepatitis B Control Intervention for Vietnamese Immigrants," *Ethnicity and Health* 9, no. 2 (2004): 153-169.

¹³ Chen, H, et al; Burke, N.

Findings from the research studies mentioned above have contributed to the development of culturally appropriate interventions that promote cervical cancer screening, breast cancer screening, colorectal cancer screening, and more recently, hepatitis B testing.¹⁴ While promoting Western health advice, the interventions take into account traditional Eastern beliefs about health and provide a culturally appropriate context for patients. Evaluation of these interventions illustrates the effectiveness of incorporating traditional health beliefs with Western medical advice.

Influences from Asia to the West have contributed to greater knowledge and availability of traditional Asian medicines, practices, and treatments in the United States and other Western countries.

Evaluation of these interventions illustrates the effectiveness of incorporating traditional health beliefs with Western medical advice.

Such influences continue to emerge as research in this area expands. In a qualitative study of Chinese American female cancer patients, participants discussed their use of traditional Chinese medicines to improve their chances of surviving the disease.¹⁵ Two types of fungus, *Lin zhi* and *Yun zhi*, were discussed as traditional Chinese medicines that led to good outcomes among cancer patients. The cancer patients also mentioned frequent use of other traditional Chinese medicines in organic—rather than pill—form. As one Chinese woman undergoing chemotherapy treatments described during her interview for this study:

¹⁴ V. M. Taylor, T. G. Hislop, J. C. Jackson, S. P. Tu, Y. Yasui, S. M. Schwartz, C. Teh, A. Kuniyuki, E. Acorda, and A. Marchand, “A Randomized Controlled Trial of Interventions to Promote Cervical Cancer Screening Among North American Chinese Women,” *Journal of the National Cancer Institute* 94 (2002): 670–677; V. M. Taylor, J. C. Jackson, Y. Yasui, A. Kuniyuki, E. Acorda, A. Marchand, S. M. Schwartz, S. P. Tu, and B. Thompson, “Evaluation of an Outreach Intervention to Promote Cervical Cancer Screening Among Cambodian American Women,” *Cancer Detection and Prevention* 216 (2002): 320–327; S. J. McPhee, “Promoting Breast and Cervical Cancer Screening Among Vietnamese American Women: Two Interventions,” *Asian American Pacific Islander Journal of Health* 6, no. 2 (1998): 344–350; and S. P. Tu, V. Taylor, Y. Yasui, A. Chun, M. P. Yip, E. Acorda, L. Li, and R. Bastani, “Promoting Culturally Appropriate Colorectal Cancer Screening through a Health Educator: A Randomized Controlled Trial,” *Cancer*, forthcoming 2006.

¹⁵ S. P. Tu, H. Chen, A. Chen, J. Lim, S. May, and C. Drescher, “Clinical Trials: Understanding and Perceptions of Chinese American Female Cancer Patients,” *Cancer* 104, no. 12 suppl. (2005): 2999–3005.

“When Dr. C did the surgery, he asked me if I was taking any Chinese medicines and I said yes, I was. At the time I started taking it [Chinese medicines], I did not do any acupuncture. I just got some medicines from a Chinatown herbal store. Those medicines maintain my body’s energy and strengthen my body’s constitution. Also, at that time my stomach and intestines did not feel that good, so I asked them [herbalists at the Chinese herbal store] to give me some medicine for that. So, hopefully, when I got chemotherapy I can eat better and absorb [the food] better, in order to have the strength to do the chemo. I was using the Chinese medicines to nourish my stomach and my intestines.

I would just cook some soup to neutralize it [the effects from chemotherapy]. For example like the American “ginseng” soup. If I felt I’m really hot [Chinese concept of internal heat], I would drink that kind of stuff [soup]. Or sometimes I would cook some soup, like, winter melon soup, bean soup; they are all pretty helpful. I would cook a “qing” soup [to relieve the Chinese concept of internal heat]. After I drank that soup, I felt much better because [my] inside felt like fire. After I drank the soup, it seemed to calm it [the feeling of fire] down.”¹⁶

East Meets West Yields Benefits For All Parties

The availability of traditional Asian medicines, practices, and treatments in the United States has benefited the general U.S. population, as well as Asian immigrants to this country. For instance, the use of acupuncture treatment in the United States has extended well beyond Asian communities into the mainstream population. In fact over the past two decades, acupuncture has grown significantly in popularity in the United States. A report from the Consensus Development Conference on Acupuncture held at the National Institutes of Health (NIH) in 1997 stated that acupuncture is being “widely” practiced—by thousands of physicians, dentists, acupuncturists, and other practitioners—for relief or prevention of pain and for various other health conditions.¹⁷ Additionally, according to the 2002 National Health Interview Survey—the largest and most comprehensive survey to date of complementary and alternative medicine

¹⁶ Ibid.

¹⁷ P.D. Culliton, “Current Utilization of Acupuncture by United States Patients” (paper presented at the National Institutes of Health Consensus Development Conference on Acupuncture, Bethesda, MD, November 3–5, 1997).

(CAM) use by American adults—an estimated 8.2 million American adults had used acupuncture at least once, and an estimated 2.1 million American adults had used acupuncture since 2001.¹⁸

Clinical studies have shown that acupuncture is also an effective treatment for nausea caused by surgical anesthesia, cancer, and post-surgery dental pain.¹⁹ Additionally, acupuncture has also been found to complement conventional drug therapies to control surgery-related pain.²⁰ Moreover, acupuncture can lower the need for conventional pain-killers both after surgery and for chronic conditions such as osteoarthritis.²¹ As a result, acupuncture is useful in combination with conventional drugs and can reduce the need for those drugs, which often have severe side effects. This contribution by a traditional Asian medical approach to pain reduction has changed the practice of pain management in many areas in the United States by expanding the treatment modalities available and creating less risky alternatives for treating pain.

Similarly, the influx of scientific, technological, and medical advances from the West to Asia has resulted in remarkable changes within Asian countries. As standards of living increase in Asian countries and more and more Asians adopt Western diets and health habits, people in Asia are also being forced to deal with unintended consequences like increases in cardiovascular disease, diabetes, colorectal cancer, and obesity. In order to address the rise of “Western diseases” in Asia,²² efforts among Asia-Pacific countries and international experts are needed to implement successful strategies to prevent or treat these diseases.

¹⁸ P.M. Barnes, E. Powell-Griner, K. McFann, and R. L. Nahin, “Complementary and Alternative Medicine Use Among Adults: United States: 2002,” *Advance Data Report* 343 (2004):1-19.

¹⁹ National Institutes of Health Consensus Panel, “Acupuncture National Institutes of Health Consensus Development Statement,” Office of Alternative Medicine and Office of Medical Applications of Research (Bethesda, MD, 1997).

²⁰ J. S. Han, “Acupuncture Activates Endogenous Systems of Analgesia,” (paper read at the National Institutes of Health Consensus Development Conference on Acupuncture, Bethesda, MD, November 3–5, 1997).

²⁷ G. T. Lewith and C. Vincent, “On the Evaluation of the Clinical Effects of Acupuncture: A Problem Reassessed and a Framework for Future Research,” *Journal of Alternative and Complementary Medicine* 2, no. 1 (1996): 79–90, discussion 91–100.

²² Cardiovascular disease, obesity, diabetes, and some forms of cancer have traditionally been associated with Western diets and lifestyles but are now also becoming major problems in Asia.

A prime example of a disease relatively new to Asia is colorectal cancer. Over the past few decades, there have been remarkable increases in colorectal cancer incidence in Asian countries, particularly in countries more developed and Westernized. For example, in Hong Kong, colorectal cancer incidence in men increased from almost 30 people out of every 100,000 in 1983 to almost 60 people in 2002.²³ Significant increases in colorectal cancer incidence have also been reported in China, Japan, South Korea, Singapore, and Taiwan.²⁴ In fact, 1993-1997, data from the International Agency for Research on Cancer shows that colorectal cancer is more common in Singapore and in several areas in Japan than in the United States.²⁵

Conclusion

In their 2005 review of the increasing incidence of colorectal cancer in Asia, Joseph Sung—a medical doctor and head of the Gastroenterology and Hepatology Division at Prince Wales Hospital at the Chinese University of Hong Kong—and his colleagues highlighted a need to increase prevention efforts against colorectal cancer in the region and to detect the disease at a stage early enough to treat effectively.²⁶ Acknowledging cultural elements that impact colorectal cancer screening (such as the belief that constipation and the retention of toxins lead to colorectal cancer)²⁷ as well as strong variance in the policies of different Asian health care systems, these experts emphasized a need to promulgate strategies that suit the needs of Asian countries based on guidelines from international organizations and professional societies, as well as data from local research.²⁸ For example, in the United States, the U.S. Preventive

²³ Hospital Authority of Hong Kong Special Administrative Region, Key Statistics: Hong Kong Cancer Registry, statistics compiled by the Hong Kong Cancer Registry March 9, 2006, <http://www3.ha.org.hk/cancereg/>.

²⁴ Joseph Sung, J. Y. Lau, K. L. Goh, and W. K. Leung, “Increasing Incidence of Colorectal Cancer in Asia: Implications for Screening,” *Lancet Oncology* 6, no. 11 (2005): 871–876.

²⁵ D.M. Parkin, S.L. Whelan, J. Ferlay, and H. Storm, *Cancer Incidence Five Continents*, Vols I–VIII (Lyon: IARC CancerBase No. 7, 2005).

²⁶ Sung et al.

²⁷ Choe et al.

²⁸ Sung et al.

Services Task Force, the American Cancer Society, and the American Gastroenterological Association all recommend colorectal cancer screening for average-risk persons aged 50 and over using one of the following techniques: annual Fecal Occult Blood Test (FOBT); sigmoidoscopy every five years; annual FOBT combined with sigmoidoscopy every five years; barium enema every five years; or colonoscopy every 10 years.²⁹ While guidelines such as these—developed for the US population—can be replicated to help develop strategies for Asian countries, outcome-oriented discussions by experts and policymakers in those countries are still necessary to assure the translation of scientific technologies to benefit public health.

Through international collaborative efforts, Pacific Rim nations can mutually benefit from the application of scientific and technologic advances as well as from the centuries old healing practices of Asia. An intersection of the best from these two worlds holds the promise of a healthier future based on the model of health promotion, early detection, and early treatment.

²⁹ U.S. Preventive Services Task Force, "Screening for Colorectal Cancer: Recommendation and Rationale," *Annals of Internal Medicine* 137, no. 2 (2002):129–31; Thomas E. Read and Ira J. Kodner, "Colorectal Cancer: Risk Factors and Recommendations for Early Detection," *American Family Physician* 59, 11 (1999):3083–3092; Robert A. Smith, Vilma Cokkinides, and Harmon J. Eyre, "American Cancer Society Guidelines for the Early detection of Cancer," *CA: A Cancer Journal for Clinicians* 54, 1 (2004):41–52; and S. Winawer, R. Fletcher, D. Rex, J. Bond, R. Burt, J. Ferrucci, T. Ganiats, T. Levin, S. Woolf, D. Johnson, L. Kirk, S. Litin, and C. Simmang, "Colorectal Cancer Screening and Surveillance: Clinical Guidelines and Rationale, Update Based on New Evidence," *Gastroenterology* 124, 2 (2003): 544–60.

The Pacific Health Summit and Polychemical Medicine: Revisiting Traditional Chinese Approaches*

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* This essay is based on a paper the author published in *Innovation* magazine. Cheng, Yung-Chi, “Polychemical Medicine: Revisiting Chinese Medicine,” *Innovation* 6 (2006): 42–43. <http://www.tcmedicine.org/en/default.asp>.

The Potential of TCM Today

The pharmaceutical industry currently invests significant funds in the development of drugs that benefit large numbers of patients with advanced, complex conditions. This conventional disease-treatment paradigm is based on a reductionist approach to health, with single chemical entities. It is now time to explore a new health paradigm that integrates holistic elements (i.e., compounds of chemicals, or “polychemical medicine”) to fulfil continuing unmet clinical needs. Herbal medicine or Traditional Chinese Medicine (TCM), which is composed of many chemicals, is used quite often, particularly in Asia. Some of these herbal compounds may indeed be useful in treating complicated diseases that afflict people worldwide. The Pacific Health Summit can serve as a major forum to discuss the value of studying herbal medicine to fulfil clinical needs as well as for the development of future medicine.

A traditional Chinese remedy’s efficacy often relies on more than one herb, and the same principles formulated to combine herbs that existed thousands of years ago remain in practice today. Indeed, pharmacology (or pharmaceutical science) uses many similar principles in combining chemicals in clinical formulation or for efficacy. TCM is essentially an early form of integrated medicines or system biology—a contemporary holistic approach to disease treatment. Furthermore, Chinese health care has always relied on preventive measures to ward off disease. This is one of the major foci of developing future medicine and also a key mission for the Summit. In addition to serving as a forum for discussion on the value of TCM in general, the Pacific Health Summit could also play an important role in cataloguing the potential value of TCM for preventative measures. Chinese medical combinations function synergistically with multiple targets, and as a result their efficacy is not likely to be due to the presence of one chemical. This could explain why treatment of different ailments or disorders can be associated with a single medicinal remedy.

While TCM has advanced further than most other folk medicines because of the cumulative experience recorded by practitioners and passed onto subsequent generations in written form, the general public, especially in Western countries, may not appreciate the value of TCM for three reasons: 1) many lack understanding of disease processes in past centuries; 2) a reductionist approach dominates drug discovery today; and 3) technology (or our use of it) is currently insufficient for effective exploration of the field. Additionally, knowledge and wider acceptance of TCM is held back by many government officials and the conventional mainstream scientists who advise them, both of whom fail to appreciate the value of traditional approaches. Policies issued by those officials, including some from Asian countries as well as those from the West, rarely consider TCM or herbal medicine in any serious way for health care.

Nevertheless, this reticence to integrate TCM more widely is logical in a Western medical context. For example, serious concerns exist about inadequate clinical evidence to support TCM’s historical, experience-based claims and the potential for inconsistency in the preparation of these medicines. Such clinical evidence is the backbone for much of Western medicine. To address this lack of evidence, more epidemiological studies should be performed, which may offer more standardized, empirical data on the efficacy of TCM for specific health interventions. Such studies would also provide tangible evidence to advance discussions among both the general public and policymakers about integrating TCM more widely throughout health systems. In this regard, the health information technology (HIT) session at the Summit and ongoing HIT Workgroup efforts could provide useful tools in collecting such information.

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Many chemists or pharmacologists end up exploring TCM using a “reductionist” approach by trying to identify active compounds for a given target. For Western medical research, the approach is reasonable; however, it becomes reductionist when applied to TCM by completely disregarding the essence of Chinese medicine, which does not isolate targets but instead treats each organ or region in relation to the rest of the body and environment.

Now is the time to re-examine TCM’s potential through a more inclusive approach. TCM could provide the basis for future polychemical medicine, in addition to mainstream stepwise approaches. TCM could also contribute to significant cost savings in the development of medicine to prevent illness or effectively treat a majority of patients with complicated diseases.

Translating TCM for Mainstream Medicine

Several issues exist that need to be addressed before TCM can be accepted into mainstream medicine.

1. Practitioners need to provide clinical evidence of effectiveness and show proper application using general methodology that is accepted worldwide.
2. Questions about dosing and potential toxicity need to be addressed.
3. Issues surrounding the quality and purity of substances, for example in terms of heavy metal contamination should be clarified.
- 4 Standardized TCM preparation by health practitioners should be provided to pharmaceutical companies and other interested parties. Comprehensive assessments of these medicinal combinations are critical as many scientists have limited knowledge of the active components of many traditional remedies’ formulae. Both chemical- and

biological-fingerprinting technologies should be able to make these assessments. For instance, scientists could employ biological-fingerprinting multiplex bioassays, such as cells as sensors and unique sets of RNA alterations as readout. After applying oligo-array technologies to identify the unique sets of RNA alterations, they could follow with quantitative PCR technology for verification and quantification—in addition to bioassays based on a pathway, enzyme, or receptor associated with its biological activity. Modern bioinformatics technology could prove enormously beneficial. Finally, *in vitro* or cell-culture models are preferable to animal models, which are time consuming and not always available.

5. Information about drug interactions between traditional remedies and pharmaceuticals should be more thoroughly investigated and the results made more widely available. TCM includes chemicals that could alter absorption, metabolism, or even the specific drug’s action. Scientists need to study the active compounds involved and the action mechanism for each TCM claim.
6. Not all chemicals are biologically active, and their action *in vitro* may not be relevant to the clinical activity of TCM. Studies on the relevance of chemicals to such activity should be performed. The information gained from such studies is integral to the future advancement of methodologies used to assess the quality of preparations, improve TCM preparation for different applications, and provide new leads for drug discovery or potential targets. Vigorous research using novel approaches and modern technology is necessary.
7. TCM needs its manufacturers to prepare its substances in a more user-friendly fashion. Rather than powdered or liquid forms, capsules or tablets may allow better control and will be more palatable. The challenge is to accomplish this without altering the actions of the remedies or reducing TCM’s efficacy.

Conclusion: Collaboration is Necessary

Addressing the issues above will require a collective effort among those interested in exploring TCM's potential in medical development. New technologies and new understanding of human biology developed in recent years could be useful in addressing many of the issues that were difficult to address in the past. The Pacific Health Summit and its participants could facilitate and support collaborative efforts to address those issues. One existing collaborative effort the Pacific Health Summit supports is the "Consortium for Globalization of Chinese Medicine," which seeks to advance the field of Chinese herbal medicine to benefit humankind through global cooperation among academic institutions, industries, and regulatory agencies.¹

Responsible TCM manufacturing is critical given the small size of the industry, and it requires cooperation among academic institutions and regulatory agencies. Additionally, governments' acceptance can help make TCM available to their citizens, many of whom already use herbal medicine in some form. Governments should develop policies that encourage the evaluation and study of herbal medicine. Likewise, regulatory agencies should work together to come up with innovative ideas as well as scientific and policy-relevant information about how to regulate herbal medicine. Since it may take several years for the current mainstream approach to fulfil the unmet clinical needs, the merging of "reductionist" and "holistic" approaches could facilitate, and should be the cornerstone of, developing future medicines. We stand at the juncture of a new paradigm in medicine with the potential to reinvent the field by revisiting history. The time is now.

¹ Consortium for Globalization of Chinese Medicine, <http://www.tcmmedicine.org/en/default.asp>.



PACIFIC HEALTH SUMMIT
EAST MEETS WEST WORKGROUP

The goal of the Pacific Health Summit East Meets West Workgroup is to examine the respective roles of Western and Eastern medicine and the possible integration of the different approaches in order to cure disease and promote wellness.

For more information about the Workgroup please visit www.pacifichealthsummit.org or contact Claire Topal, Pacific Health Summit Workgroups Manager, at ctopal@nbr.org.



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