Integrating Traditional Chinese Medicine: Experiences from China

Sian M Griffiths, Vincent CH Chung, Jin Ling Tang

School of Public Health and Primary Care, Chinese University of Hong Kong

REVIEW

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Corresponding Author:
Prof. Sian M Griffiths
2/F Scho0l of Public Health,
Prince of Wales Hospital,
Shatin, Hong Kong SAR, China
siangriffiths@cuhk.edu.hk

Abstract

This paper describes the development of traditional Chinese medicine (TCM) in two reforming health care systems. The historical development of TCM policy in mainland China since the establishment of the People's Republic of China in 1949 provides one model for integration of TCM and western (allopathic) medicine (WM), whilst in Hong Kong the legacy of colonial rule has led to development of parallel systems thus providing diverging models of integrated healthcare delivery. The examples demonstrate the impact of policy initiatives within the healthcare reform processes with implications for the future.

Key Words: Traditional Chinese medicine, Complementary therapies, Health policy

Traditional medicine (TM) has long played a role in many of the world's health care systems and is increasingly popular today. In many Asian countries TM is an integral part of the healthcare system, in which the usage and practice of TM is deeply rooted in the social and cultural fabric of the community. In resource poor regions like Africa, it is estimated that 80% of the populations depend on TM for basic healthcare (1). Meanwhile in the west, populations from middle and high income countries have increasing turned to "complementary and alternative medicine" (CAM) in the past 20 years (2). Figures for lifetime use of CAM in U.K. and Australia populations were 47% (3) and 48% (4) respectively, while figures for Canada (5) and Chile (6) reached up to 70%. The U.S. National Centre for Complementary and Alternative Medicine (NCCAM) has defined TM and CAM as "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine"(7). The use of conventional in this definition denotes the incompatibility between the holistic paradigm of TM/CAM, and the reductionist biomedical paradigm of allopathic western medicine (WM). Policy initiatives have, however, been initiated to integrate the different modalities. For example, the Alma Ata Declaration promulgated by the World Health Organization (WHO) 1978 highlighted that

"*primary health care relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed.*" (Section VII, Point 7)(8).

Continuing the Alma-Ata vision, the last decade has seen further global initiatives to develop TM/CAM policy as part of health system reform. In 2002, the *WHO's Traditional Medicine Strategy 2002-5* (9) specified priority actions for governments to advance TM/CAM policy, including ensuring regulation, rational use, access, safety efficacy and quality of TM/CAM services. The importance of establishing timely TM/CAM policy was further reemphasised in the Beijing Declaration at the WHO congress on

traditional medicine (10). The Declaration advocates that *"the knowledge of traditional medicine, treatment and practices should be respected, preserved, promoted and communicated widely and appropriately based on the circumstances in each country…Traditional medicine should be further developed based on research and innovation*". Four areas are highlighted:

i. Governments have a responsibility for the health of their people and should formulate national policies, regulations and standards, as part of comprehensive national health systems to ensure appropriate, safe and effective use of traditional medicine;

ii. Recognizing the progress of many governments to date in integrating traditional medicine into their national health system, we call on those who have not yet done so to take action;

iii. Governments should establish systems for the qualification, accreditation or licensing of traditional medicine practitioners. Traditional medicine practitioners should upgrade their knowledge and skills based on national requirements; and

iv. The communication between conventional and traditional medicine providers should be strengthened and appropriate training programs be established for health professionals, medical students and relevant researchers.

The growing popularity of TM with patients has encouraged research into to the combination of different modalities of care. However, effective integrated policy making is lagging behind. A global survey in 2005 indicated that only 66 out of 213 member states of the WHO have implemented a TM/CAM policy within their health systems (11).

3. A Short Introduction to Traditional Chinese Medicine

Health system of mainland China is considered by the WHO as one of the four in the world that has achieved the highest degree of integration between WM and TM/CAM, alongside Vietnam, South Korea and North Korea (9). Along with ancient Indian, Greek and Egyptian medicine, traditional Chinese medicine (TCM) is one of the four major traditional medicine systems in human history. The three legendary figures in TCM are Fu Xi, who was believed to invent acupuncture needles; Shen Nong, who was thought to discover the healing functions of herbal medicines, and Huang Di, who had discussed extensively the theory and practice of TCM (12). The formative period of TCM lasted from the 2nd century BC to the 2nd century AD (Han Dynasty). The philosophical origins of TCM are derived from Taoism, Confucianism and Buddhism, but since the 11th century neo-Confucianism had dominated its theoretical development (13). The application of these ancient philosophies gives rise to the theories of TCM (Table 1). The major modalities of TCM include Chinese herbal medicine, acupuncture, moxbustion, therapeutic massage, food therapies and qi gong(14). Currently, the healthcare systems in both mainland China and Hong Kong SAR are being reformed, and hence the role of TCM is under review (16, 17).

4.1. TCM in early Communist China: 1949 – 1970s

In the health system in mainland China, the history and policy development of TCM in the twentieth century is intertwined with that of the developing People's Republic of China. During the Ten Year's Civil War between 1927 and1937, TCM was widely used amongst Red Army (18). With the founding of the People's Republic on 1st Oct 1949, Mao Zedong established the Ministry of Health (MoH) and a TCM department was included as an integral part of all new hospitals. During the 1950s, the three tier model developed: clinics, health centres and hospitals. Although most TCMP worked in rural clinics, official policy was to reform and modernize TCM using WM technology. Research institutes with the aims of investigating TCM using WM methodology were set up and WM doctors (WMD) were encouraged to learn TCM and carry out such research. Meanwhile basic WM training courses were organized for TCMP. With the change of Soviet Union leadership in 1953 the "westernization policy" for TCM was changed as Mao recognized that Stalin's death might signify the withdrawal of Soviet medical aid. With a WMD workforce of only 20,000, it was unrealistic to depend on WM to meet the newly established

Republic's health needs and the existing 270,000 TCMP became a valuable healthcare workforce (19). Mao continued to argue that modernization of TCM and its integration with WM was essential: "*as for medicine we should make use of modern science to research the theories of TCM and develop a new medicine for China. Accepting the strong points of foreign countries will help us to leap forward. Things of China and foreign things should have an organic integration, but foreign things should not be applied indiscriminately*". However, TCMP were an invaluable resource and became the mainstay of the universal system of basic medical care created for the majority of the population living in poverty in the countryside. The Barefoot Doctor System was launched in 1968 during the Cultural Revolution. With only basic training in both medical systems and limited resources in rural areas their practices were largely TCM based. By 1975, a total of 1.6 million barefoot doctors were serving the country, providing free services to the vast rural population. Although often basic, the increased primary care provision provided timely treatment, and effectively reduced cost and improved health status (20, 21) although the relative contribution of basic public health and TCM are difficult to disentangle.

4.2. TCM under the Chinese Open Door Policy: 1980s – 2000s

When the policy changed to modernisation and marketisation with Deng Xiaoping's reforms, TCM continued to develop. In 1982, the formal role of TCM in the Chinese health system was recognized at the national constitutional level. Equalization of the status of WM and TCM was emphasized in 1985(22) and the policy of integration was continued albeit with a different emphasis. Three distinct categories of clinicians were created: TCMP, WMD and integrated TCMP-WMD. TCM hospitals were to concentrate on the provision of TCM services and special hospitals for integration or western hospitals would serve as major bases for integrating TCM and WM (23). At a policy level the ultimate goal of integration remains the merging of the two systems. However, it is at the clinical level that integration occurs with TCMP-WMD delivering both types of services (24). Despite the co-existence of the "three forces" since the 1980s, legal regulation of clinicians was not in place until 1998, when legislation was enacted to ensure medical standards, to promote clinicians' duties and responsibility, and to protect public health and patients' rights. All clinicians' responsibilities, codes of conduct and practice, ethics and legal responsibility, assessment and training requirements, as well as details pertaining to licensing examinations and registration system are clearly specified. Practicing without registration is illegal and subject to penalties. Due to strict requirements set by the examination and effective enforcement of the registration system, the number of practicing TCMP has decreased since 2002(25).

In 2006, about 12% of all licensed clinicians were TCMP delivering 10-20% of all healthcare in mainland China, with over 200 million and 7 million episodes of outpatient and inpatient TCM service utilization respectively (26). In most health centres and clinics, TCM and WM are practiced alongside each other. About 75% of all health centres have a TCM or integrated TCM-WM department and about one third of the total service provision in these centres was provided by TCMP. Nevertheless, only 33,574 TCMP were practicing in health centres or clinics whereas 166,614 TCMP were working in hospitals. This may imply a lack of TCM primary care workforce serving the rural populations. TCM hospitals account for 13.8% of mainland China's 38,492 hospitals, of which only 1.1% are formally integrated TCM-WM hospitals (27). These figures are, however, misleading. Almost all hospitals in mainland China provide first point of contact outpatient services as well as inpatient services. About 90% of WM hospitals have set up TCM outpatient departments which run in parallel with WM outpatients. In addition, integrated TCM-WM hospitals and majority of TCM hospitals provide both TCM and WM at both outpatient and inpatient levels. A comprehensive survey on this haphazard ecology is yet to be performed (27).

Despite official policy support, the current healthcare reforms are having a negative impact on the TCM sector in mainland China. TCM hospitals had depended on profits made from often excessive WM prescription. Income generated from WM pharmaceuticals was estimated as 78% of total medication revenue, representing 37.4% of

total revenue in TCM hospitals. However, Chinese herbal medicine only represented 22% of medication revenue and 8.1% of total revenue (24, 27). Essential drug lists, budget cuts and price controls on service utilization are therefore causing substantial financial pressures on TCM hospitals, as the profit margin of TCM is considerably lower than WM. This situation makes the TCM labour market unattractive to TCM graduates as the financial incentive in practicing WM is higher, and consequently many TCMP primarily practice WM (27). Recognizing the crisis in the TCM sector, the PRC government passed the Traditional Chinese Medicine Ordinance in April 2003, and subsequently policies for promoting TCM were promulgated in October 2003(25). These policies are synchronized with the primary care emphasis in the Chinese healthcare reform agenda. It is proposed that (i) more Chinese herbal medicine will be included in the essential medicine list; (ii) TCM services reimbursement rate will be increased in the New Cooperative Medical System; (iii) stronger TCM services funding and support will be offered to county level hospitals, as well as public hospitals; (iv) stronger specialist family medicine training will be provided to TCMP; (v) research will be continued (19, 28).

5.1. Traditional Chinese Medicine in Colonial Hong Kong: 1841-1997

In contrast, in the Hong Kong Special Administrative Region (SAR), a former British colony, TCM was part of the informal healthcare provider network until 1997 when reunification with mainland China led to formal inclusion of TCM in the healthcare system. The status of Hong Kong as a British colony for more than 150 years (1841-1997), led to a different pathway of development. Following the Opium Wars, Hong Kong became a British colony in 1841, under the agreement laid down in the Nanking Treaty, followed by further succession of land and the 100 year lease of the New Territories in 1897. The local Chinese community, who made up the majority of the Hong Kong population, used TCM as their major form of healthcare. In the early colonial days WM mainly served the minority European population and a laissez-faire approach to providing care was adopted towards both WM and TCM by the colonial powers. For outpatient services, Europeans were expected to consult western trained physicians whilst the Chinese population was expected to use TCM. Inpatient services were provided either through private missionary hospitals or publicly funded healthcare services provided by the government, initially only accessible to civil servants, the police and convicts (29) but later admitting private fee paying patients and those who were homeless (30,31).

Cultural affinity, geographical proximity to mainland China and easy accessibility contributed to the preferred status of TCM amongst the Chinese population. However, commensurate with the Treaty of Nanking, which stated that the colonial government would respect and preserve the existing Chinese customs and culture in Hong Kong, the authorities regarded TCM as a form of “Chinese cultural custom” rather than a formal healthcare modality (32). Administratively, TCM came under the purview of the Secretariat for Home Affairs instead of the Secretariat for Health (33, 34). The marginal status of TCM was also reflected in legislation relating to healthcare. The colonial Medical Registration Ordinance specified that only WM practitioners were subjected to regulation, and the practice of TCM was considered to be out of scope, so as “*to prevent the misuse of modern techniques and protect the economic interest and medical dominance of the WM profession*”(35). Accordingly, there was “no registry of Chinese doctors”; “no formally recognized schools of TCM” and “no control over the quality of care or qualifications of practicing (TCM) doctors” (36). Formal education was not a prerequisite for practice and apprenticeship with relatives or “masters” a common education pathway to a TCM career, often supplemented with classroom learning organized by various TCM associations with mixed standards and quality. Formal tertiary education was only available in western medicine and only WMD were allowed to use the title "Doctor". Sharing clinics between WMD and TCMP was prohibited and TCMP had no rights in issuing death, sick leave or health status assessment certificates, and were forbidden to use any WM instruments like syringes and stethoscopes (37).These administrative and legislative frameworks led to the creation of a formal medical system based only on WM, despite the de facto major healthcare provide status of the TCM sector.

The laissez faire approach to TCM was, however, altered by the plague epidemic in 1894. At this time, Chinese patients feared post-mortem autopsy and were reluctant to receive WM in-patient care. Those who were seriously ill would chose to spend the final days of their lives in traditional Chinese ancestral halls (38). At the height of the plague epidemic many patients died in terrible conditions and the WM professions, blaming the TCM sector for being incompetent in curbing the epidemic, proposed the dissolution of the charitable hospital delivering TCM care. In order to balance the conflicting demands between the Chinese population and the WM community the government took the middle ground and worked with the Tung Wah group to create both WM and TCM services which successfully coexisted until the Japanese occupation of Hong Kong beginning on Christmas day 1941. Considered to be "slow and time consuming" by the Japanese military government and thus regarded as an inferior modality compared to WM, and coupled with a shortage of Chinese herbal medicine, the scale of TCM services was downsized in 1942 to outpatient only, and free dispensing of Chinese herbal medicine was abolished. After the war, the colonial government made no explicit move to revitalize the TCM sector (37) although the establishment the National Health Service (NHS) in the UK in 1948 stimulated the development of WM.

5.2. Traditional Chinese Medicine Policy in Hong Kong after 1997

The British colonial rule ended on 30th June 1997with the formation of the Hong Kong Special Administrative Region (SAR) of China. This provided a historical opportunity for TCM by re-establishing its professional identity and status. In his 1997 début policy address, the first Chief Executive of the SAR announced the government's vision in transforming Hong Kong into an "international TCM centre" (39), followed by an immediate publication of a TCM development consultative document that officially confirmed a formal role for TCM in the healthcare system (40). A subsequent chronology of TCM policy changes is given in Table 2.
The three major milestones in the past decade have been:

i. The regulation and professionalization of TCMP,
ii. Formalization of TCM education and research programs in tertiary institutions and TCMP associations, and
iii. The introduction of TCM services in the publicly funded healthcare system (41).

Rather than adopt the integrative organizational approach taken in mainland China the Hong Kong SAR government has positioned TCM as a parallel profession to WM. Thus there is no formal inter-professional referral network linking TCMP to either the public or the private WM sector (41). Thus the WM public healthcare system does not accept any referrals from private TCMP. Moves are, however, being made within the SAR where major publically funded healthcare provider started to establish TCM clinics to provide more standardised services, albeit it at a higher price compared to a routine WM out-patient appointment (42).The TCM sector is also engaged in primary care initiatives such as smoking cessation services (43).

6. Lessons learnt from Hong Kong and Mainland China

The histories of TCM policy development in both mainland China and Hong Kong SAR reflect the major role of politics in deciding the position of traditional medicine within the healthcare system. In mainland China, the Nationalists Government criticised TCM as a barrier to healthcare modernization of the country, while the Communist Government praised TCM as a symbol of class revolution (44). In Hong Kong, the British rulers did not regard indigenous medicine as a legitimate part of healthcare in their colonies, while post colonial leaders took TCM as part of a cultural revival process (45, 46). The instrumental roles of politics in TM/CAM policies have also been observed in other East Asian healthcare systems considered to have achieved high degrees of integration by the WHO. After the Korean War, the North Korean government followed the footsteps of her Chinese Communist comrade closely, and introduced policies to integrate traditional Koryo medicine and WM (47). Whereas in South Korea, oriental medicine became part of the formal health care system as a result of strong lobbying by TM

practitioner interest groups (48). In Vietnam, Ho Chi Minh promoted TM as a mean to counter bio-politics in the past 50 years (49). As we have shown, the power of political will has contributed to the achievement of several substantial policy goals in the mainland and Hong Kong, particularly in the establishment of an education and regulation infrastructure for TCM professionals, and in ensuring widespread access to TCM. Nevertheless, political will alone seems to be insufficient for harnessing further advancement of TCM within the health systems under reform.

The major thrust of healthcare reform in both the mainland and Hong Kong is to promote effective community based primary care. Many patients choose to use TCM and inclusion of TCM in developing models of care, particularly those for the control of chronic non-communicable diseases, will be important. So too will be the systematic evaluation of the clinical efficacy and comparative effectiveness of TCM therapies and the development of the scientific base for the medicine.

Whilst politics is closely linked to public demand, science also has a key role to play. The co-use of TCM and WM is an established practice in Chinese culture, but the rise of evidence based medicine has posed a serious challenge to the legitimacy of integration, in particular in places where TCM is not formally accepted as a form of medical practice (50). For example, the US National Centre for Complementary and Alternative Medicine defined integrative medicine as a combination of "mainstream medical therapies and CAM therapies for which there is some high quality scientific evidence of safety and effectiveness" (51). Given the lack of high quality scientific evidence in most TCM therapies (52, 53), the realisation of this new evidence-based integrative WM-TCM practice is unlikely to happen in the foreseeable future.

Clinical evidence on efficacy and effectiveness is urgently needed if TCM is to avoid further decline in the Chinese healthcare reform process (54). Currently, increasing access via broader insurance coverage and strengthening primary care are high on the reform agenda (55). If social insurance and tax funding were to become major financing methods, the question of how limited resources should be distributed amongst WM and TCM would need to be resolved (56). Structurally, healthcare facilities and professionals in mainland China are geared towards the provision of WM rather than of TCM (57). This tendency could be carried forward during the reform process unless more dedicated funding is invested in TCM research and services. In a pluralistic system where TCM and WM coexist, a core question for patients and clinicians is the choice between the two or use of both. Thus, an important area in future clinical research in TCM would be comparative effectiveness research, which is now part of the US healthcare reform strategy. The comparative effectiveness approach to evaluation of effectiveness of medical interventions aims to generate and synthesize "*evidence that compares the benefits and harms of alternative methods to prevent, diagnose, treat and monitor a clinical condition, or to improve the delivery of care*" (58), Thus comparative effective research addresses the very need for evidence on the relative benefits and harms of TCM as compared with WM, in the context of a general need for demonstrating the efficacy and effectiveness of TCM through randomized controlled trials (59).

Lessons from Hong Kong in the past decade provide a good example of how TM may be sidelined within the healthcare reform agenda due to a perceived lack of evidence on clinical effectiveness (60). The need for "evidence based Chinese medicine" is clear if TCM is to be included within a tax funded healthcare (42) but to achieve this more effort to build research capacity including manpower is needed (61). In mainland China, the need for evidence based TCM is indeed articulated and EBM has been adopted as a major approach to modernising TCM since 2000 (62). Nevertheless, the current research infrastructure and funding in mainland China is insufficient to produce high quality clinical studies (63). More fundamentally, barriers to research in general in mainland China have caused stagnation in improving research quality and in retaining talents (64). Research in TCM research is also thus affected. Governmental investment is needed as TCM or comparative effectiveness trials are unlikely to attract support from pharmaceutical companies. Meanwhile, paradigm debates on the applicability of WM clinical research method for TCM evaluation have

been continuing (65-67). Innovations in research design that accommodate the holistic and individualised characteristics of TCM would be the key to resolve the debate, and take clinical TCM research to the next level (68).

Experiences from mainland China in the past 60 years should not be overlooked by policy makers who are contemplating TM/CAM policy formulation in their countries. Whilst TCM is popular with the public and promoted through government policies, its evidence base, albeit within a different paradigm, needs to be more firmly established. Further integration between WM and TCM will need evidence of clinical and cost effectiveness, regulation on medicinal safety, as well as fully trained professionals and acceptability to patients.

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CONFLICTS OF INTEREST

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Table 1: Concepts in Traditional Chinese Medicine (Extracted from O'Brien and Xue, 2003) (15)

Concepts	Explanations
1. Yin – Yang	• A dialectic and materialistic ideology based on the belief that the world is material and results from the mutual action of two complementary but opposite material forces, termed Yin and Yang. • In TCM, Yin and Yang is used to (1) classify body structure, (2) explaining clinical manifestations, and (3) guiding treatment.
2. Five elements	• Wood, Fire, Earth, Metal and Water are five elements that are essential to life. • They symbolise patterns of motion, characteristics or states of phenomena or kinds of processes, and it was believed that all things came into being because of the motion of change of these five elements. • The five elements were seen as existing in a dynamic and balanced relationship with each other. They can also be seen as stages of the cycle of seasons and of human life. • In TCM, the theory is used to (1) explain physiological and pathological mechanisms, (2) guiding clinical diagnosis and treatment.
3. Zhang – Fu "organ" Theory	• The concept of "organ" in TCM is not equivalent to that in WM. Zang - Fu organs are better thought of as complex functional systems that are interrelated to each other, with particular reference to the five elements theory. • The five Zang organs, Heart, Lung, kidney, Liver and Spleen, are considered to be solid organs that perform the production, transformation, regulation and storage of vital substances (essence, qi, blood and body fluid). • The six Fu organs, Small intestine, Large intestine, Bladder, Gallbladder, Stomach and the Triple Jiao, are considered to be hollow organs that perform digestion, absorption and excretion processes.
Vital substances: essence, qi, blood and body fluid	• These are the four substances within the body that are fundamental to life and provide the material and functional basis of the body. A deficiency in any of these can led to dysfunction of various organs or systems in the body.

Table 2: Development of TCM policy in Hong Kong

Jan 1989	Confirmation on TCM development statement in the Basic Law
Aug 1989	The British colonial government formed the Working Party on Chinese Medicine to conduct first public review on TCM in Hong Kong
Apr 1995	The Preparatory Committee on Chinese Medicine is appointed by the Secretary for Health and Welfare to carry out preparatory work on TCMP regulation
Nov 1997	The Hong Kong SAR government published a consultative document on TCM development
Jul 1999	The Chinese Medicine Ordinance is passed by the Legislative Council
Sep 1999	The Chinese Medicine Council of Hong Kong is established
2001	Grand – parenting program of TCM practitioners launched. 7707 enrolled as listed TCMP
Nov 2002	First batch of 2384 TCMP attained full registration status. The use of the titles “Registered Chinese Medicine Practitioners” and “Listed Chinese Medicine Practitioners” are protected.
2003	First licensing examination for TCM practitioners held.
Dec 2006	Registered TCMP granted the right of issuing legally binding sick leave certificates
Sep 2008	Registered TCMP granted the right of certifying examination and treatment in the case of work injuries medical expenses reimbursement.