

Medical Education in Taiwan

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Short bio of each author

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Abstract

Taiwan's medical education system bears a close relationship with its colonial and postcolonial history. Taiwanese physicians have been symbols of modernity and leaders of ethnic struggles since the Japanese occupation era. They have engaged in almost all of the most important social movements in Taiwan.

Since the late nineteenth century, Western medicine, Chinese medicine and the practice of the other forms of traditional healers have encountered complex transactions with the state and with one and another and eventually evolved into what the medical system is today. Nowadays, the mainstream form of medical education in Taiwan is 7-year Western medical education programs. Other forms of medical education include a 5-year graduate program and traditional medicine programs.

Challenged by the National Health Insurance implemented in 1995 that emphasizes cost management and the criticism made by the U.S. National Committee on Foreign Medical Education and Accreditation in 1998, a series of medical education reform was implemented by the Taiwan Medical Accreditation Council (TMAC) inaugurated in 2000. The reform tries to bring humanities into various aspects and stages in medical education, including student recruiting, curriculum, licensing, and continue education. As yet another modernization project, the reform transplants the American and British standards to Taiwan. It provides a hope to ensure the reflective capabilities in future generations of physicians on the welfare of their patients and nation, but at the same time bears a risk that the frustration of current and future physicians may be deepened if the reform model is insensitive to local issues or incapable of addressing new global tendencies. It is an ongoing story.

Introduction

Taiwan is located in East Asia with a population of over 23 million. The development of the country's medical education system bears a close relationship with its colonial and postcolonial history. While various forms of traditional healers have a long history of practice, the first Western medical education institutions emerged with the Presbyterian Scottish-Canadian missionaries in 1865 (Cheng 2001, Tsai 2001a). Subsequently, the fifty years of Japanese colonisation starting from 1895 brought to Taiwan modern governance, which favored Western medicine over traditional medicine. It was after the Second World War when the nationalist Chinese ruled Taiwan that traditional medicine re-emerged and began to be included in the national medical education system.

Taiwan currently has one military, three public, and eight private medical schools, from which over 1,300 students graduate annually. **(Table 1)** The stable supply of new physicians has been keeping the physician/population ratio steady at its present ratio of 1 / 600 (National Statistics 2010). In addition to mainstream Western medical education, there are also 270 students graduating from Departments of Traditional Medicine in two of the twelve medical schools.

All the medical schools offer a 7-year programme leading to the degree of Doctor of Medicine (M.D.). The curriculum includes 2 years of pre-medical courses, 2.5-3 years of clinical courses, and 2.5-3 years of clerkship and internship training. One of the medical schools also provides a 5-year graduate programme whose curriculum comprises 2.5 years of integrated, basic and clinical, courses, and 2.5 years of clerkship and internship training. Annually only 50 physicians (about 3.8% of the total medical students) are presently graduating from this route.

A Brief History of Medicine in Taiwan

The first Western medical institutions were established by Scottish-Canadian Presbyterian missionaries in 1865 (Cheng 2001). Whilst there were already several hospitals providing Western medical services during this period of time, most of them were located in rural areas. Regarded as a low-grade occupation, medicine attracted few Taiwanese during this period of time until Goto Shimpei, a German-trained physician, took the office of Civil Administrator. He emphasized medicine and public health in an attempt to control the then threatening epidemics and to build a showcase out of Japan's first colony. Through his efforts, medical education became one of the few "safety valves" through which Taiwanese could seek upward mobility .

Taiwanese medical graduates who became private practitioners eventually occupied a privileged position in their local communities. Although being a product of the Japanese colonization, the Taiwanese physicians initiated campaigns to modernise the nation in an attempt to resist colonization. As Lo succinctly points out (Lo 2002), these two roles, symbols of modernity and ethnic leaders, had profound and lasting impacts on the professional identity of medical doctors in Taiwan.

After the World War II, a large number of physicians representing their communities

were killed, imprisoned, or exiled by the Chinese Nationalist Party (known as Kuomintang or KMT). When the ethnic struggle was not possible, the Taiwanese physicians turned their emphasis to modernisation. Besides, many Chinese medical leaders also moved with their medical institutions from China to Taiwan (National Defense Medical College 1984, Department of Health 2005). Together the Taiwanese and the Chinese physicians, with the help of the post-war international medical missionaries, initiated a series of large-scale public health movements, including the famous campaigns to eradicate malaria in the 1950s (Chen et al. 2003) and family planning initiative in the 1970s (Medical Professional Alliance in Taiwan 2008). Through these movements, the physicians successfully maintained an autonomous professional space in the face of severe political suppression (Tsai, 2010).

This tradition of professional integrity and social commitment established in these modernisation projects, in addition to their historical role as ethnic community leaders, contributed to the significant place that physicians occupied during the democratisation process in the 1980s and 1990s (Huang 1993, Tsai 1996, Tai and Lee 2007). The National Health Insurance system (NHI), inaugurated in 1995, was a product of this process. It included all the citizens of Taiwan and ended the previously discriminating welfare system that care for only a small portion of people closely related to the government. The physicians seemed to have fulfilled their dreams (Lin and Tsai 2006).

However, NHI has instead become a nightmare, posing serious challenges on the social contract between physicians and the general public (Tsai 2007). Due to the increasing complexity of biomedical technology, marketisation of medical care, and the mandates of health care management that prefer cost concerns over professional decisions, it has been observed that young Taiwanese physicians are reducing their devotion to professional ideals (Sullivan 2000), as in other developed countries (Hafferty 2002). Challenged by the rise of health entrepreneurs and the changes in doctor-patient relationship, the Taiwanese physicians again sought to confront this situation by another modernisation project, this time reconstructing the idea of professionalism (Kassirer 1995).

After receiving a critical review in 1998 from the U.S. National Committee on Foreign Medical Education and Accreditation (NCFMEA 1998), Taiwan immediately formed its own medical education accreditation council and planned to reform Taiwan's medical education system (Huang 2002). The NCFMEA highlighted deficiencies in Taiwan's medical education and questioned the absence of its own accreditation system for medical education. The response from the Ministry of Education and Taiwanese medical educators was prompt. After Dr. Kun-yen Huang was requested to immediately draft an accreditation mechanism plan, representatives of the then eleven medical schools met in December 1998 to approve the objectives of medical education accreditation and the establishment of the Taiwan Medical Accreditation Council (TMAC) (Huang 2008, Taiwan Medical Accreditation Council 2008). In the spring of 1999, the Ministry of Education commissioned the National

Health Research Institute (NHRI) to set up TMAC, with funding provided by the Department of Health. Within two years after the NCFMEA's critical review, TMAC was inaugurated in August 2000 (Chiu and Tsai 2009).

Subsequently, the Ministry of Education requested medical schools to further emphasize ethics in medical education, aiming at making students "first be good citizens, then decent physicians," and recommended that pre-medical education similar to that in the U.S. should be institutionalised. Huang asked all the medical schools to use interview as a major means in recruiting students (Huang 2008, Taiwan Medical Accreditation Council 2008). Furthermore, medical students from various universities also embarked upon campaigns calling for an education reform in medical humanities (Chen 2002). A broad consensus for emphasising humanities in medical education was evident.

Admission to medical school

There are presently three ways that medical students in Taiwan are recruited: 1) the National college entrance exam, 2) personal applications, and 3) recommendations made by senior high schools.

Medical schools previously recruited medical students only through the national college entrance exam, including no measurements regarding personality or medical professionalism. Severely criticised by the NCFMEA in 1998, medical schools started to select students by other means. Currently, 16-52% of the medical students are selected through application, which includes interviews, a personality test, and academic records. This route is increasingly welcome by medical schools, one of which is planning to select students solely through application.

The undergraduate curricula

The seven-year medical education programmes, similar among all the 12 schools, include 2 years of pre-medical courses, 2.5-3 years of clinical courses, and 2.5-3 years of clerkship and internship. The Pre-med curriculum provides a wide range selection of courses in humanism, general education, and professional ethics. It is also designed to help students be familiar with humanism through service learning and community participation. Medical courses contain problem-based learning and are delivered in multiple ways, including problem solving, case study, and lectures. Humanity courses during the clinical years include communication skills, medical ethics, and the physician-patient relationship. Clerkship and internship focus on experience and practice. Medical schools, therefore, need to work closely with affiliated hospitals. Program evaluation has become essential issues for medical schools to ensure training quality in various clinical settings. Assessment methods include small group assessment, written examination, community medicine evaluation, objective structure clinical examination (OSCE), and clinical competence examination (CCX).

Licensing policies

The licensing examination, administrated by the Ministry of Examination, contains

two stages. The first-step licensing examination, focusing on medical knowledge, is open to fifth-year medical students or above. Second-stage licensing examination is open to seventh-year students or above who have already passed the first licensing examination. The pass rate was 47.62% for the first-step exam and 68.94% for the second-step exam in the year of 2010. To further ensure clinical competency with humanistic concerns, a standardized OSCI examination program will be adopted for the second-step exam in 2012. The license and continuing education are issued and administrated by Bureau of Medical Affairs in the Department of Health. Due to the reform of the central government in Taiwan, this department will be transformed into Minister of Health and Welfare at the beginning of 2012, wherein Bureau of Medical Affairs will also be expended to Department of Medical Affairs with responsibilities to regulate doctors.

Faculty development

Requested by TMAC, each medical school is equipped with a Center for Faculty Development, designed for PBL implementation, course evaluation, and teachers' continue education. The Ministry of Education also designs special task force in arranging conferences and workshops to introduce from abroad new medical education concepts and models. Participatory accreditation has been in place to engage pilot experiments in certifying medical educators. This certification, together with course evaluation, is important indicators for faculty evaluation required by TMAC. It is expected that advance teaching qualification with new regulatory body will be established to certify medical education.

Supervising Body

TMAC (Huang 2008, Taiwan Medical Accreditation Council 2008) founded in the year of 2000 evaluates medical schools regularly. The specific objectives of the TMAC are: 1) to draft protocols for the process of accreditation and carry out on-site visits and evaluation reporting, 2) to ensure that medical school graduates meet the standard for the care of patients, 3) to ensure that the standard of medical education will keep up with contemporary advances in research and treatment, and 4) to maintain close relations with international accreditation institutions. Aside from its evaluation and accreditation work, the TMAC also engages in international exchange, on the model of the U.S. Liaison Committee on Medical Education or the Australian Medical Council (Taiwan Medical Accreditation Council 2008).

Professional societies, supervised by Bureau of Health Affairs, latter the Department of Health Affairs, provide specialty training and certification, which require various number of years, for example two years in family medicine and six years in neurosurgery. Continue professional development (CPD), including annual continue medical education programs with a six-year re-certification cycle, is also regulated by each professional society.

To ensure professional competency on holistic and humanistic care, a new PGY1 program will be implemented in 2012 wherein all medical graduates have to receive

general practitioner trainings for at least one year before further pursuits for advance specialist training. With awareness of human rights issues and medical humanities engagement, there are debates in reforming medical education system into six years with internship after graduation or into four-year graduate programs. A national scale opinions survey is on going to ascertain possible consensus. The report of this survey will be proposed within two years and policy will be implemented. Lessons from countries, including Harvard Macy Program for medical Education and other well-known international conference offered by the Dundee University, McMaster University, APMEC or AMEE, are important in this critical moments of medical education reform.

Not a World Health Organization (WHO) member, Taiwan still lack of opportunities to take part in international affairs while making efforts to apply global standards in medical training. Collaboration with international professional societies and institutions are therefore crucial for leading physicians or medical students in Taiwan in their attempt to fulfill international professional standards. Establishing partnership and developing exchange programs with international medical institutions are therefore important to enrich the ongoing medical education reform in Taiwan.

Conclusion

In conclusion, it is evident that through development of the medical accreditation system, medical professionalism with humanism has become a central focus in medical education. As Huang says, *“Taiwan’s medical system has been fairly dysfunctional, and it requires significant change. Humanistic medical education is the crucial key to bring reform from within”*. (Taiwanese-American Scholars for Medical Education 2008)

However, while the new structures were established in the modernisation projects of meeting the American and British standards, the physicians’ role as community leaders, or at least participants, are further in danger. In a fragile civil society like Taiwan, these structural conditions could be a cause for concern, particularly given the uncertain identity and future of the country. The frustration of current and future physicians may be deepened if the reform model is insensitive to local issues or incapable of addressing the new global tendencies. Therefore, the medical education emphasizing humanities could provide a hope for the Taiwanese physicians only when it ensures the reflective capabilities in future generations of physicians on the welfare of their patients and nation (Stern 2006).

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Table 1
Demographics of Medical Schools in Taiwan

Name of the medical school	Year of founded	Total	Gender	
			Male	Female
National Taiwan University School of Medicine	1945	902	701	201
Kaohsiung Medical University School of Medicine	1954	1,061	705	356
China Medical University School Of Medicine	1958	880	588	292
Taipei Medical University School Of Medicine	1960	1,106	749	357
Chung Shan Medical University Department of Medicine	1962	901	610	291
National Yang-Ming University School of Medicine	1975	863	578	285
National Cheng Kung University Department of Medicine	1983	511	364	147
Chang Gung University School of Medicine	1987	704	494	210
Tzu Chi University School of Medicine	1994	374	259	115
Fu Jen Catholic University School of Medicine	2000	319	217	102
Mackay Medical College	2009	42	31	11
Kaohsiung Medical University Post Baccalaureate Medicine	1982	259	142	117
Total Number	-	7922	6484	3188

National Defense Medical Center	1902	986	-	-
School Of Medicine				

Where did this last one come from—is it new, since it now makes 13 schools