A Review of Medical Education: Problems in Some Asian Countries

Patrick A. Ongley, M.D.

Before studying medical education in East and Southeast Asia, including the People’s Republic of China, one must have a clear understanding of the history and of the social and economic conditions of each country.

It is important to appreciate that this area of the world consists of many totally separate and essentially independent countries with different social and cultural backgrounds, different environmental conditions, different political systems, different histories, different languages, and in different stages of economic development.

Almost all of these countries have long histories of colonial domination and they are much better informed about the countries which have dominated them than they are about each other. If one studies the various systems of medical education in the individual countries, it is immediately apparent that each country’s system of medical education is very similar to that of whichever country or countries dominated it in the past.

Domination of one country by another greatly suppresses the development of self-reliance and initiative, and it matters little whether this dominance is political, financial, cultural or military.

In terms of medical education systems, we find that Singapore, Hong Kong, and Malaysia have British-based systems; Thailand and the Philippines an American-based system; Korea and Taiwan a Japanese system, originally copied from the German and now with an American overlay; Indonesia a Dutch system; while the people’s Republic of China is developing a system drawn from several European countries including France, Germany, Britain — and with a strong American contribution. It is said that these Asian countries have imported their systems from Western countries, but a closer scrutiny of the individual national histories would suggest perhaps that these various systems were exported to them.

National Profiles:

The China Medical Board has provided the Dean’s Office with a copy of the profiles and medical educational systems of each of these countries, and included is a copy of the data concerning the national health programs and information on the major medical schools. Some of these reports were provided by invited speakers at a 1980 meeting on medical education sponsored by the China Medical Board of New York, Inc.; others have been prepared for internal use within the China Medical Board and are based on information freely provided by the individual countries. What are some of the lessons to be learned from these various and varied educational programs? The first is that all of the schools have stated objectives which are virtually identical with western schools and with each other; second, the various departments are divided into the same academic disciplines as almost all western schools and, third, most of the student selection is based on tests of ability in mathematics, physics, chemistry, biology, etc. It could seem, therefore,
that the students would be of similar ability and the product of educational institutions of similar capabilities, but such is not the case.

In the medical schools in Singapore and Hong Kong, and to a similar but lesser degree in Malaysia, the students are admitted directly from highly efficient and highly competitive high school systems. The medical schools are well financed, well equipped, and the core faculty members for all departments are full-time and well paid and, in addition, have a number of part-time, very able faculty.

This same general system, except for additional premedical university studies, exists at Seoul National University and at Yonsei University in Korea, and at the National Taiwan University and the National Defense Medical School in Taiwan, but the faculty salaries, although rising rapidly in these schools, are well below the levels of the first group delineated. In both Korea and Taiwan there are other less prestigious government medical schools and many private schools often with differing staff salary structures, lower student admission standards, and less competent faculty members in relation to teaching, service and research.

In the Philippines, in Thailand, and in Indonesia, student admission courses are similar but the salaries paid by medical schools, both in the government and the private sectors, are very low, and most doctors working for either group earn the greatest percentage of their incomes in private medical practice, by teaching at one or more private medical schools, or by accepting consulting positions in private industry including drug companies. This places a great strain on staff loyalties and on the time which legitimately can be given to teaching, service, and research activities. Some governments have not accepted seriously the responsibility for the health of their population and have allowed medical education to be predominantly a role for private enterprise.

In the Philippines, there are 27 active medical schools including two government schools — one at the University of the Philippines in Manila, and a smaller school at Iloilo in West Visayas. Twenty-five of the medical schools are private institutions without a specific national responsibility. Thailand, on the other hand, with a similar-size population in excess of 50 million persons, has only seven medical schools — all government owned; with an eighth school to open in 1985.

Many of the schools in the Philippines are grossly understaffed with inadequately prepared students and with admission standards based on ability to pay rather than on national examination standards. Thailand's admission standards are based on national examinations modified by preferential admissions to qualified rural students in some medical schools. Thailand, therefore, is trying to maintain higher academic standards while simultaneously trying to cope with national needs.

In each individual country, one can have only the health delivery systems and the educational systems which the nation can afford, and this is further modified by the priority which the government gives to health and to education.

It is useful to point out briefly some of the basic medical science education and training problems which arise from the private practice reward system in those countries with low medical school faculty salaries, whether these are government or private institutions.

In Thailand, Indonesia and the Philippines, the individual who holds a specialist clinical rank as physician, surgeon, pediatrician, gynecologist, etc., in the medical faculty will, when he goes to his office practice in the afternoon or evening, be looked upon by the public as an expert in his field, and he will be rewarded financially according to this perception. On the other hand, if he is a basic medical science teacher, such as an anatomist, physiologist, pathologist, biochemist, etc., he will still have his private practice office, but will be regarded by the public as a general practitioner, which indeed he is, and his financial rewards
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will be less. As a result, unless an individual is unusually dedicated, is independently wealthy, or has a working spouse, it is unlikely that he or she will enter the basic medical sciences if this faculty member has the skills and ambition to be a successful physician or surgeon. The situation is even worse for public health doctors.

Another distressing result of this system is that few staff doctors are available in the hospital after lunch in the Philippines; after 11:00 a.m. in Indonesia; or after 4:00 p.m. in Thailand. Therefore, there is little supervision of hospital resident training, almost no active research, and no supervision of research training.

These facts are presented to give you a brief view of some of the educational and financial problems in medical schools where salaries are dependent upon the private practice reward system.

A quite separate, but totally different problem affects the basic science programs in Hong Kong, Singapore and Malaysia. Here the basic science staff are well-trained, well-paid, their laboratories are very well-equipped, and research funding from government is more than adequate. So why should there be a problem?

As you know, to have interesting, exciting and productive research programs, one needs graduate students who ask questions, stimulate the faculty, write thesis and research papers, and participate in teaching. These young people represent the future. They make academic life more worthwhile, and provide wonderful and exciting challenges for the faculty. In Singapore there is only one medical school; in Hong Kong, two, and in Malaysia, three. As a result, there are few academic opportunities for the graduates of these basic medical science programs, and upon graduation they must leave their countries or turn to industry for employment. This results in fewer applicants for even fewer positions.

These remarks are not presented in criticism, but simply to show that one must consider the economic, social and political context of all medical education programs before trying to evaluate them.

China presents a problem different from these other schools. With more than 1.1 billion people and with centralized national planning but with increasing local control, China has been able to develop a medical care program which is much better than that of many wealthier countries but, at the same time, the educational programs in the medical schools have been seriously impaired by the political upheaval during the years 1966 to 1976.

Modern medical education planning began in China after 1949 when a central policy was delineated, but it was not until 1954 that the merging of certain medical schools and the relocation of others culminated in the creation of a national unified system. Both western and traditional Chinese medical schools were developed with student admission being based on national examinations for senior high school graduates. Although a small group of schools had a six-year curriculum, most had a five-year curriculum; while along with the development of western medical schools the government developed a small number of traditional Chinese medical schools. Because it was not possible to staff a sufficient number of western schools for a country at that time numbering 400,000,000 population, the government developed a large number of "secondary" medical schools with students entering from junior middle school and undergoing a three-year training program. Today, these secondary schools number around 430. The course work involves different disciplines in different schools but may include western general medicine and surgery; Chinese traditional medicine; public health; dental technology; nursing; pharmacy, and laboratory technology. These schools still play a large role in Chinese medical care and the government is working hard to upgrade the capability of the graduates. There have been more than one million graduates from these schools.

In regard to the barefoot doctors, of whom there are approximately 1.5 million, it is important to state that this important group of primary health care workers provide an important first step for treatment or
for later referral of Chinese patients. These health workers may work in the communes or in the factories; they are neither doctors; nor are they barefoot. They receive training for periods lasting from a few weeks to a few months in duration, they learn to recognize 20 to 30 simple and common diseases and prescribe the appropriate treatment while referring the more seriously ill patients to the local hospitals. They also perform immunizations or other public health activities as well as providing family planning advice. The total number of western type medical schools in the People's Republic of China is around 115 with an additional 20 or more schools of traditional Chinese medicine.

The Cultural Revolution 1966-76, and Its Effect on Medical Training:

You are all aware of the unfortunate period of the cultural revolution when Chinese medical schools were closed for periods of 2-3 years for some schools and up to 10 years for the Capital Medical College in Beijing. When the schools were reopened, the curriculum was reduced from 5 or 6 years down to three; with a serious curtailment of the basic medical sciences. Doctors were sent to the rural areas often for many years; while nurses and medically poorly-trained persons took over the hospitals. When the turmoil ended after several years, a large number of teachers had retired because of age, and the others had fallen well behind the West. Perhaps even more important was the fact that an entire decade of students had been lost and the ill effects of this tragedy are still seen today.

1985:

Because some schools have been upgraded and some downgraded, it is difficult to know the exact number of Chinese western-type medical schools, but figures of around 115 for western-type schools and approximately 20 for traditional Chinese medical schools, would be reasonably correct. Although planning has been mainly centralized under the direction of the Ministry of Health, there is now considerable provincial and local autonomy but the Ministry of Health does provide additional support to around 15 schools, with six or seven of those being feeder schools where training is at a higher level than the others. As stated earlier, it is difficult to be accurate about these numbers because the categorization of the schools changes from time to time.

In contrast with Western medical schools which are usually affiliated with universities, the Chinese medical schools are free standing institutions. All suffer from lack of trained teachers, skilled researchers, and experienced clinicians. The disastrous legacy of the cultural revolution will take years to eradicate. Schools vary in the size of their admitting classes from 30 students per year in the Capital Medical College in Beijing to 500 students in the Beijing Medical Colleges with 300 medical students, 100 public health students, and approximately 50 students each in Pharmacy and Dentistry. All share the same basic science curriculum and then move into their respective disciplines after their third year.

No one is more aware of their deficiencies than the Chinese medical leaders and planners; they estimate it will take 15-20 years or more to catch up with the West. They realize the need for an increase in the quantity and improvement in the quality of teachers, research workers, and of those providing service. The emphasis on Chinese health care programs has been to concentrate on the previously almost completely neglected rural areas, and to provide medical care at an affordable cost.

A carefully planned referral system has been designed to allow easy access to primary health care at the level of the production brigade, then, whenever necessary, to develop referral programs via commune hospitals, county hospitals, provincial hospitals, and so on, to the sophisticated tertiary care institutions. There is a national ongoing effort to upgrade quality and efficiency at all levels throughout the integrated
referral system to develop better quality nursing, and to developing highly skilled technicians for service and research. Throughout the entire program, they intend to retain emphasis on the care of the patient. They will not spend an undue proportion of their limited resources on prestigious research institutions or grandiose treatment facilities.

In short, the Chinese system will be practical; will focus on patient care, and will emphasize research which is largely directed to relevant local and national needs.

The English Language:

In most Asian countries, English is the second language and in many countries it is spoken well by almost all graduates. In Korea, Thailand, Taiwan, and especially in China, this is not true. The government of the People's Republic of China is approaching this problem in a very direct manner. For various reasons, the English language has, over the past fifty years, become the language of communication in medicine and science, replacing German. Although there are many more persons worldwide who speak Chinese than individuals who speak English, nevertheless, more than 70% of medical literature is written in the English language. As a result, the Chinese government decreed that all medical students must learn English. Some medical schools provide 2 hours of English language teaching at least three days per week, and in selected major schools up to 30% of each class were taught entirely in English. The selected individuals are intended to be top medical scholars and future leaders and, of course, they will be able to participate from a very advantageous position in overseas educational settings where the teaching and training emphasis is carried out in English. Other foreign languages are also encouraged in special situations. Many Asian students who visit English speaking countries and who are not fluent in the English language before their arrival, are limited in their opportunities to learn. They may be able to read English or speak it slowly on a one-to-one basis, but most teaching is carried out in small groups, with several persons speaking consecutively with brief comments or questions. This is the most difficult type of English to master.

Conclusion:

Medical education in Asian countries may be discussed from many viewpoints, including the quality of high school education, the selection of medical schools and hospitals, an honest statement of objectives, the ability and commitment of the faculty, the cost effectiveness of the system in relation to the socio-economic conditions and political systems of the individual countries and probably, most important of all, the commitment of the government to the health of its people. All of these topics are important and interrelated.

Because you have been gracious enough to attend this presentation, and because you are well aware that didactic lectures to large audiences constitutes one of the least efficient ways to transmit information, this talk has been limited to an overview of some of the background generalities which have been responsible for the medical education system existing today in these Asian countries included in the China Medical Board's programs.

Educational studies of formal lectures have shown repeatedly that you will recall little of this presentation at its conclusion, and almost nothing after an interval of 12 months. As a result, there has been an effort not to provide an unreasonable amount of numerical data.

Your invitation to me to present this paper is greatly appreciated by the China Medical Board, and both our staffs and trustees thank you and wish you every success in the future.
Professor Soh, Dr. Ongley, ladies and gentlemen, Today Yonsei University looks back with justifiable pride on its past. It is also examining how it may build on this foundation for the future. The organizers of the subsession on Medical Sciences ought to be congratulated on including in these deliberations the topic "Medical Education in Asia." For I believe that what Korea shares with other countries of the South and Southeast Asia in our common past far outweighs the socio-economic advances which separate her from the others in the present. Each of our countries, in its own way, has a truly ancient culture characterised by strong family ties and firm, or even rigid, social structures. All these cultures also developed their own systems of medical care and healthy living even in those ancient times. In more recent times, we have all undergone periods of foreign domination which also introduced us to modern medical systems. And today, we have divergent political dispensations, growing differences in socio-economic conditions and, consequently, different perceptions and practices in the delivery of medical and health care. Against this background, I would like to point out briefly three considerations which are equally applicable to all Asian countries, as we consider the future of medical education in our respective nations.

First, we all owe a debt to our past. Before we consider our indigenous medical systems to the rubbish bin of history, we need to note three points about them:

1) Nature has blessed our countries with a profusion of plants and vegetation, some of which have remarkable biological and medical properties. Opiates, ephedrine and reserpine are examples of active principles based on our indigenous materia medica and pharmacopoeia. Therefore, we have a duty and an opportunity to search among the numerous traditional drugs for potent principles, using modern techniques of chemical separation, purification and molecular manipulation.

2) Many of the therapeutic approaches of our indigenous systems may be based more on superstition than efficacy. But the story of acupuncture shows us that among them may be some remarkably sound procedures which may lead us to hidden biological principles and mechanisms.

3) Our indigenous systems have a general principle of harmony with nature. Today we are becoming increasingly aware that there is a limit to the human conquest of nature, and that our future lies in finding our proper place in Nature's careful balance, physically and emotionally. Thus there is a special aptness in making a serious study of our ancient approaches to healthy living, using modern techniques.

In all our countries, there is a conflict between the so-called modern medical sciences and the ancient indigenous systems. A serious scientific study of these systems in our medical institutions can help to overcome this conflict and, in the process, enrich the biomedical knowledge of the world community. Because of the rapid disappearance of these older systems in the hostile modern environment, there is a special urgency in undertaking such an open minded study in our respective countries. And only we, who are the children of these cultures can undertake such a study with sympathy and determination.

Secondly, we in Asia have some lessons to learn from the conflict that is raging in the western countries between technology and human values. All serious observers of medical training in the developed coun-
tries agree that their foremost need today is to balance the progress of modern medical knowledge with a doctor-patient relationship that retains its human touch and personal concern. In Asia, our traditions emphasize personal relations, family responsibility and mutual support systems. And nowhere are these more important than in times vulnerability and dependence due to ill health. In the training of our future doctors and health professionals, we need to conserve, as best as we can, these values while pursuing excellence in medical science and technology. In Korea, you are hoping that the next five year plan will take you into the select company of the developed nations. All the more reason to ensure that your health professionals of tomorrow will provide that human touch and care which is the crowning glory of our profession. In the less developed countries we are learning that without individuals committed to the service and uplift of their fellowmen, the best planned health care systems fail. The most important requirement for achieving “Health for all by the year 2000” is the training of health professionals who require a sense of social commitment as part of their education. Thus, irrespective of the rate and level of development in our nations, we all need to build into our medical educational systems, by example and precept, a firm orientation of humaneness and social responsibility.

Lastly, if we agree that the attitudes of our doctors are as important as their knowledge and skills, then we need to give as much attention to personality characteristics as to academic abilities in the selection of our medical students. In all our countries, there is a fierce competition for admission to medical schools. This in turn leads to more and more dependence on grades in qualifying examinations or entrance tests. And student's, pressurised by family expectations and spurred on by the desire for social status, cram themselves with the last bit of prescribed knowledge, irrespective of their suitability for a medical career. A judicious assessment of vocational aptitude and personal attitudes as part of our selection procedures will take us closer to the goal of the competent and compassionate physician. As our social structures become more liberal and flexible, our young people are beginning to make career choices based on personal inclinations and individual value systems. Our selection methods ought to take advantage of this and ensure that the person who enters the hallowed halls of Asclepius and Hermes has the right qualities of the heart as well as the mind.

Today we are happy and grateful to be associated with the centenary celebrations of Yonsei University. We wish the medical fraternity of Yonsei an even more glorious second century.

Thank you.