Currently, there are about 180 medical schools in China. All of these medical schools have been established and maintained by the government. Among them, 77 are free-standing medical colleges, 64 are within comprehensive universities, and 39 are secondary medical schools. Generally, the medical education system in China consists of two levels: the high-school level of vocational training (3-year programs) and the university level of medical education (5, 7, or 8-year programs). The number of students enrolled annually is dramatically increasing: it was estimated that more than 60,000 high school graduates were admitted in 1997, 140,000 in 2000, and 280,000 in 2004. Such an overenrollment results in insufficient educational resources and nationwide concern about the quality of education.

Along with the scientific, socioeconomic, and cultural development of Chinese society, the medical education system in China is undergoing major reforms. These innovations involve changes to the educational system, curricula, teaching methods, assessment systems, and other aspects.
Merger of Medical Universities with Nonmedical Universities

The medical education system in China was originally based on the former Soviet Union model, in which medical schools were set up as separate universities or colleges. One of the dramatic changes in the education system during the past decade has been the merger of free-standing medical universities with nonmedical universities to create comprehensive universities. So far, about 30 medical universities have experienced the reform, including most of China’s leading medical schools. For example, Zhejiang Medical University merged with Zhejiang University in 1998, Beijing Medical University with Peking University in 2000, Shanghai Medical University with Fudan University in 2000, and Shanghai 2nd Medical University with Shanghai Jiaotong University in 2005. These mergers have created universities that are increasingly similar to major universities in the West. It is believed that, in such settings, government investment will be concentrated, educational resources will be better utilized, and the strengths of different schools can complement each other. However, the long-term effect of the merger remains to be seen.

Adjustment to the Length of Study

Medical education in China can be 3, 5, 7, or 8 years long; of these, 5-year programs are the most common. The main objective of the 3-year programs was to produce medical personnel for rural areas. However, owing to the increasing number of university-level medical graduates and the increasing societal demand for better-trained physicians, these programs have largely ceased to exist.

A recent reform led by the Ministry of Education is the adjustment to the length of study; namely, to develop longer study programs. This reform will be carried out steadily on a step-by-step basis. At present, 5-year programs are the backbone of China’s medical education, while 8-year programs are simultaneously being emphasized; in time, more and more 8-year programs will be developed. It is expected that, in 20 years’ time, 3-year programs will be completely phased out and 8-year programs will become the dominant training programs in China.

The purposes of the adjustment are: (1) to meet the current and future requirements of society, the national healthcare service system, and the development of science and technology; (2) to follow the trend of globalization in medical education and to comply with the global standards for medical education; (3) to improve the quality of medical education and to cultivate high-quality medical professionals; and (4) to make better use of educational resources.

The eight leading medical schools in China that have been authorized by the Ministry of Education to develop the 8-year programs are Peking Union Medical College (PUMC), Peking University, Tsinghua University, Fudan University, Huazhong University of Science and Technology, Central South
University, Sun Yat-Sen University, and Sichuan University. Of these schools, only PUMC has been conducting an 8-year program since the school was founded in 1917 by the Rockefeller Foundation. The other schools have only been recently authorized to do so, and are attempting to follow both the PUMC and Western models to achieve international recognition. The first class of 8-year program freshmen enrolled in these schools in the fall of 2004, and 8-year curricula have already been developed and implemented. However, further revision and improvement is necessary to offer high-quality medical education.

**Curricular Innovations**

The traditional Chinese curricular model was characterized by a sharp division between preclinical and clinical learning, discipline-based courses, lecture-centered didactic teachings, and knowledge-based examinations. To keep up with the trends in medical education and to make the medical curriculum relevant to community needs, a series of curricular innovations have been carried out in China. Although different schools place their emphasis on different aspects of curriculum renewal, their major drives can be summarized as follows:

- promoting the transition from teacher-centered to student-centered education by adopting more small group tutorials or problem-based learning (PBL) courses;
- increasing the proportion of general education, with a focus on humanities, ethics, communication skills, and professionalism;
- incorporating more integrated courses across disciplines;
- encouraging the early exposure of students to clinical and community learning environments; and
- adopting objective structured clinical examinations (OSCEs) and other competence-based assessment tools.

In a nutshell, traditional discipline-based curricula are being changed to more integrated and student-centered curricula.

**Introduction of PBL**

The advantages of PBL include a self-motivated process in skills acquisition and learning management, an early exposure of students to clinical settings and patients, and the cultivation of a teamwork spirit and professional attitude. Although PBL is very popular among educational circles around the world, it has yet to be widely adopted in China. This is due to the relative shortage of teaching resources (space, library facilities, etc.) and well-trained tutors, and resistance from certain faculties or administrators. So far, there is no fully integrated PBL curriculum in China. Based on available resources
and local conditions, a hybrid PBL curriculum, which incorporates the best features of the traditional and PBL curricula, is being developed by some leading medical schools. That is to say, PBL is not going to replace, but will supplement, the conventional curricula.

A lot of effort is being made to promote the implementation of PBL. Educational experts and teaching consultants from renowned universities abroad are being invited to China, holding lectures and workshops to promote the understanding of the PBL concept. Proactive faculty members are being sent to witness and learn from other medical schools which have properly conducted PBL. Clearly, continual research, improvement, training, and encouragement are necessary to ensure the effectiveness and success of PBL implementation.

Enhancement of OSCEs and Standardized Patients (SPs)

In 2003, the China Medical Board (CMB) and the Institute for International Medical Education (IIME) conducted a pilot project in China, using the global minimum essential requirements (GMER) developed by IIME as reference points to evaluate the competence of students graduating from China’s eight top medical schools. Sichuan University, Peking University, Peking Union Medical College, Fudan University, Central South University, Sun Yat-Sen University, China Medical University, and Xi’an Jiaotong University were on the list.

In preparation for the examination, a series of training activities were conducted; multiple-choice questions (MCQs), OSCEs, and faculty observation forms were developed; and SPs were trained and used for the first time in China. On the whole, the examination was successful — most importantly, it has left a group of well-trained medical educators who are familiar with these methods, and are thus capable of administering the evaluation of students by using international-quality assessment tools. Indeed, faculties in the leading medical schools are striving to popularize GMER and the use of OSCEs and SPs not only in their own schools, but also on a broader scale throughout China. For example, in Shanghai Medical College and Fudan University, a pool of SPs has already been established and OSCEs are used on a regular basis. Moreover, related workshops, symposia, and conferences are being held nationwide to foster an improvement in the quality of education.

In conclusion, the current innovations in medical education in China are very active. However, more reforms are still needed. Residency training programs, the national examination system for a medical license, and continuing medical education are some of the targets that need to be improved in China’s medical education.