Improving Graduate Medical Education in China: Leading Teaching Hospitals Engage in Self-Analysis

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In December 2016, an ambitious new national policy, Healthy China 2030, was endorsed by China's political leadership.[1] A key aim of this policy is to improve health care quality, including the quality of physician services. Effective implementation of this policy would require the availability of a large number of well-trained physicians. Under public pressure to improve physician numbers, the National Health and Family Planning Commission of the People's Republic of China (China's ministry of health) in 2013 mandated a national residency education policy called Standardized Residency Training (SRT).[2] The commission designated 559 nationally distributed teaching hospitals (from more than 27 580 hospitals in China[3]) to serve as residency training sites, and it assigned these institutions the responsibility of implementing a standardized graduate medical education (GME) program of 3 years' duration, the period during which trainees are supported by public funds. Fulfilling this mandate has proved challenging in the absence of established GME standards in China.

In this perspective, we describe the work of a consortium formed by 6 long-standing partner institutions of the China Medical Board (CMB), all among the newly designated teaching hospitals, to advance best practices for GME. The consortium framed its activities as continuous improvement, with plans to benchmark on and interact with professional organizations in North America and Europe. We discuss the generalizable benefits of this effort, including learning about the application of established standards across cultures and health care systems.

DOI: http://dx.doi.org/10.4300/JGME-D-17-00771.1

Editor's Note: The online version of this article contains the self-study guide steps and consortium topics of special interest, activity priorities, and volunteerism for activity leadership.

Background

There is currently considerable heterogeneity in the educational background of China's physician workforce, with half of the individuals officially recognized as physicians lacking a bachelor's degree. One potential root cause is chaos within China's medical education system, resulting from its huge size, lack of standardization, and many historical legacies.[4] The duration of medical school education can vary from 3 to 8 years. GME is often understood as "graduate degree-granting," or training conducted solely in high-reputation teaching hospitals. For the full implementation of Healthy China 2030, China's GME system would need to undergo standardization and significant improvement.

Recognizing these challenges, the ministry of health mandated the SRT policy,[2] with the aims of modernizing China's GME, reducing the heterogeneity of physician training, and improving the quality of care. The policy provided funding for 3 years of salary for all SRT residents, jointly financed by the central government, local authorities, and hospitals. In total, an estimated US $7 billion from the central government will be dedicated to SRT by 2020,[5] with additional commitments from provincial authorities and hospitals. As part of the policy, 24 of the 559 designated residency teaching hospitals were further selected as the national demonstration sites, expected to identify and test SRT best practices.

Consortium Formation

The China Medical Board is a US foundation established by John D. Rockefeller in 1914. For more than 100 years its grant-making process and operations have emphasized activities to improve health care systems and health professions education in

China and its neighboring countries.[6] When the ministry established a goal of strengthening GME, the CMB was urged by its academic health center partners in China to facilitate actions that could strengthen residency programs in their teaching hospitals. In 2015, with CMB support, 6 of the 24 demonstration sites and CMB partner institutions[7] formed a consortium (designated the China Consortium of Elite Teaching Hospitals for Residency Education) to share information and facilitate progress in SRT implementation (selected characteristics are shown in the TABLE).

Consortium Self-Study

In October 2016, consortium leadership met to explore an institutional self-study process founded on aspects of the Accreditation Council for Graduation Medical Education–International[8] (ACGME-I) and the Royal College of Physicians and Surgeons of Canada[9] (Royal College) publicly available international accreditation frameworks. The rationale was that a self-study might inform strategic changes. A self-study guide was developed (provided as online supplemental material) that included virtually all institutional and program standards, and cited both Royal College CanMEDS and ACGME-I competency frameworks. The consortium decided to use these materials as a framework for a self-study because the ministry of health aimed to develop "world-class" residency programs. From the outset, it was clear that the standards would need to be tailored to China.

A subgroup of the authors (C.G., J.Z., T.S.I.) visited all 6 consortium institutions. Activities included meetings with university and teaching hospital leaders, residency program directors, and current residents, and a debriefing on observations with institutional leadership. These site visits served as a "jump start" for the institutional self-studies. Field notes from the site visits yielded a matrix of interview content highlights by site as well as topics that surfaced across all institutions (provided as online supplemental material).[10]

Self-Study Outcomes

A second meeting of the consortium in March 2017 focused on the results of the self-studies, including an analysis of institutional GME strengths, areas for improvement, opportunities, and threats (FIGURE). The task of disclosing areas for improvement to one another was taken seriously. Consortium members recognized strategic opportunities for exchange, and a work plan was developed (provided as online supplemental material).

TABLE
Consortium Selected Member Facts

Facts	Peking Union Medical Center Hospital	Zhongshan Hospital, Fudan University	West China Hospital, Sichuan University	Xiangya Hospital, China South University	First Affiliated Hospital, Sun Yat-sen University	First Affiliated Hospital, Zhejiang University
2016 national hospital ranking[4]	1	6	2	17	7	14
No. of beds	2005	2005	4300	3500	3034	3200
2016 No. of outpatient visits/ No. of inpatient admissions (millions)	3.63/0.09	3.81/0.13	5.30/0.22	2.82/0.12	4.80/0.13	3.98/0.44
No. of teaching faculty	1119	829	1243	975	700	868
Resident appointments current year/ 5 y ago	257/145	245/102	588/314	424/129	130/76	345/93
Percentage increase	77	140	87	229	71	271

Strengths	Weaknesses
• High-reputation medical centers with: (1) high-quality services and research as well as education; (2) comprehensive services; (3) modern facilities • Academic culture and traditions • Relatively strong faculty and trainees	• Insufficient evaluation and feedback (for faculty and trainees) • Deficiencies in general nonclinical education (professionalism, ethics, humanities, interpersonal skills, teamwork) • Lack of progressive stage-based curriculum (including advancing the teaching of junior residents by senior residents) • Demotivation (of faculty and trainees) • Lack of adequate exposure and intensity of training in selected areas • Lack of personalized education
Opportunities for Program Improvement	**External Threats to Programs**
• Postdoctoral program formation • Stronger collaboration with university • Attention from university and hospital leadership • Educational electronic information systems • Support for dissemination of best practices • Internal and external reviews with standards for selected disciplines • Advocacy for national high-quality standards for training • A chance to develop regular audits and teaching incentives	• Little control of recruitment of trainees (quantity and quality) • Uncertain career prospects, especially for general practitioners • Nonacademic workforce career advancement system • Distressed practice environment (including lack of legal protection) • Unstable public policies affecting residencies

FIGURE
Consortium Graduate Medical Education SWOT (Strengths, Weaknesses, Opportunities, Threats) Results

Broader Relevance of This Effort

The formation of a nongovernmental academic consortium of GME institutions is an unprecedented event in the history of China. It represents a public-spirited, collaborative professional effort to implement China's new residency training policy in institutions chosen for their leadership potential. The determination of governmental ministries and the Central Committee of the Communist Party of China (the highest-level policy-making governing body) to see the SRT implemented should not be underestimated. It is thought that China's Central Committee instituted the SRT out of concern for citizen dissatisfaction with the quality of physician services, which in some circumstances has resulted in attacks on physicians in hospital settings.[11] China's ministries are also concerned with the professional ethics of physicians and hospitals, believing that the selling of prescription medications and profit motivation have displaced professional values, such as a humanistic service commitment. Unless the profession of medicine and organizations such as teaching hospitals take an active role in problem remediation, an opportunity to recapture the trust of patients, the public, and the government will be lost. Dissatisfaction with the medical profession and its professionalism is not unique to China, and there will be a larger audience for the results of this effort outside of China.

To date, the consortium's systematic and searching self-assessment process has sharpened the focus on institutional aims, policy, structure, process, measures, outcomes, and management—the areas identified as high-priority topics for future work. An

examination of these areas has revealed they are "at the heart of the matter" for the improvement of physician education worldwide. When teaching hospitals are overloaded with trainees, how can these institutions collaborate with expanded networks and faculty to increase high-quality training capacity? Can high-quality primary care be learned in selected community teaching clinics? In the absence of career tracks and professional associations for program directors, how can their professional development be assured? What medical humanism and professionalism training can take root in a market-driven medical environment? The consortium is preparing Chinese-language versions of its documents for dissemination to all 559 teaching hospitals and use by the ministry, planning an annual national conference, and providing leadership for the elements of its collaborative work. Ministry of health leadership is actively participating in consortium workshops, asking their policymaker questions, taking notes, and foreshadowing future funding initiatives.

The work of the consortium is important beyond China. Among high-income countries with mature GME standards and systems, the United States has embarked on a new accreditation system that focuses on self-study,[12] and in low- and middle-income countries, which have built up their undergraduate medical education systems, improving GME has attracted special attention.[13] Institutional networking to pursue continuous improvement objectives could be useful in settings where top-down mandates for change are the norm, as well as in market-oriented settings where such central mandates are lacking.

Conclusions

The improvement of a nation's physician workforce and—by the subsequent engagement of these individuals in patient care—improvement in the quality of care provided to its citizens are relevant across the globe. In China, through the actions of the central party apparatus and ministries, new policy and substantial resources have been committed to this aim, and a consortium of teaching hospitals is actively engaged in collaborative work to improve GME. Improving China's physician workforce will be a sizable and challenging undertaking. This "journey of 1000 miles" has just begun.

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The contents of this report are the opinions of the authors and do not necessarily reflect the opinions or policies of the China Medical Board or the government of China.

The authors gratefully acknowledge the input of Wenkai Li and Lincoln Chen of the China Medical Board, and the collaboration of the Educational Program offices of the 6 consortium teaching hospitals.

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