

The globalization of medical education

Authors

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Abstract

Healthcare providers are moving more freely across borders than at any time in our history, and healthcare and academic institutions are establishing clinical facilities around the world. A new kind of migration is emerging, due to rising cost and other factors, in which students from developed countries are seeking education and training opportunities abroad. Medical education is undergoing rapid globalization, with several well-known United States institutions establishing programs and facilities around the world. A generation of 20 to 30 year-olds in the United States, referred to as the "First Globals," see themselves as citizens of the world and seek to train anywhere and live anywhere. Consequently, there are methods under development to benchmark physician competence at a much more granular level, regardless of where the student is trained and practices.

Introduction

Since the beginning of time, diseases have crossed international borders freely. In more recent times, with the advent of enhanced travel and communications, not only are diseases crossing

borders, but also patients, healthcare providers, healthcare institutions, medical schools, and students are migrating freely.¹ Traditionally, providers have emigrated from countries in the developing world, where publicly subsidized medical education may be considered by some to be sub-optimal, to more developed or medically "advanced" countries in order to access specialized training and often to improve one's economic opportunities. After years of experiencing this migration pattern westward, approximately 25 per cent of the United States and United Kingdom healthcare workforces are international medical graduates.^{2,3} This unidirectional movement has led some to criticize this phenomenon as "brain drain," which impacts the ability of governments in developing countries to provide quality care to their populations.⁴

Migratory trends of providers

Some of these traditional provider migratory trends are evolving: Over the past decade, movement across borders has become increasingly multi-directional. Providers are moving across borders, as are established healthcare institutions, in order to take advantage of the growing number of individuals and families in the middle class seeking high quality healthcare in their own communities. Scores of North American and European hospital systems are expanding to emerging economies around the world to meet the unmet demand for locally delivered,

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high quality care. Major academic institutions from Europe, Canada and the United States, such as the Cleveland Clinic, Johns Hopkins Medical Center, McGill University Health Center, Children's Hospital of Philadelphia, Imperial College, the Royal College of Surgeons in Ireland, and the University of Vienna Medical Center, are in the process of, or have already, established clinical facilities and/or clinical programs in countries around the world.⁵

Furthermore, western-style tertiary care medical centers are growing organically at a regional level. Internationally accredited private hospitals are emerging throughout the Asian countries of India, China, Malaysia, Singapore, and Vietnam, as examples.⁶ The expansion of these healthcare delivery systems creates more opportunities for healthcare professionals to work closer to home, but it also exacerbates the healthcare workforce shortage, since these institutions compete with those in established market economies for the same high quality and well-trained healthcare professionals that previously desired to practice in the West.

New kind of migration in medical education

In medical education, we are experiencing a new kind of migration. Because of time and cost, as well as other factors, highly qualified students from developed countries, who are excellent candidates for a career in medicine, consider it beneficial to matriculate abroad for their undergraduate medical education. A strong motivating factor is the debt burden students would incur by attending a medical school in the United States. According to a 2006 American Association of Medical Colleges (AAMC) report⁷ and published by the American Medical Student Association,⁸ the latest statistics on medical student debt are staggering. The AAMC estimates that over 86 per cent of graduates carry educational debt.

- The median debt burden for graduates of public medical institutions has risen to over \$119,000, while that for private school graduates has increased to nearly \$150,000.
- 41 per cent of students with educational debt report principle in excess of \$150,000 and a significant minority reports debt as high as \$350,000.

- Medical education debt is 4.5 times as high in 2003 as it was in 1984, growing well beyond the consumer price index.

While there are a multitude of causes for the growing debt burden, the most significant cause remains the massive increase in tuition costs at medical institutions across the country:

- Over the past twenty years, median medical school tuition and fees have increased by 165 per cent in private schools and by 312 per cent in public schools.
- From 2002 to 2003, students saw some of the largest tuition increases in history. Private school tuition increased by 5.7 per cent while public school tuition increased by 17.7 per cent.

.With the recent downturn in the economy and the resultant tightening of federal and state budgets, funding for medical education has been compromised, particularly for public schools. This has provoked an array of responses, including the rescinding of scholarships, record increases in tuition, as well as the initiation of mid-year and retroactive tuition hikes (Table 1).

Using today's context, here are some futuristic facts that these students may need to consider:

- There continues to be a growing healthcare workforce shortage in the United States, and there is great public concern of its impact on access to care in the era of the Affordable Care Act.
- At least five United States Medical Schools have established or are planning to establish branch campuses outside the Continental United States.
- There are 57 medical schools in the Caribbean, most of whose graduates aim to practice medicine in the United States or Canada as most are United States or Canadian citizens.⁹
- The two largest Caribbean medical schools graduate more students than any United States medical school by a factor of three.

We illustrate this point with two possible, but still theoretical case studies. The year is 2020. Two individuals are considering attending medical school. Both are first generation United States citizens, sons and daughters of physicians born in Asia who migrated to the United States for specialty training and practice. These students excelled in high school and college, and they aspire to become physicians as well. They achieved American College Testing (ACT) and Medical College Admission Test (MCAT) scores of 35.

One is an 18 year-old man who is a graduate of a prestigious east coast preparatory school and who completed a gap year of community service in an orphanage in India. He wishes to enter medical school without a university degree.

The other is a 21 year-old, woman who is an Ivy League university senior with a current student debt of \$250,000.

Both individuals wish to pursue careers in medicine and possibly practice outside of the United States for, at least, part of their careers.

Table 1. Theoretical case studies.

- Presently, China Medical University in partnership with New York University offers a five-year Doctor of Medicine (MD) degree with the potential for dual licensing in China and the United States.¹⁰ And the University of Queensland has partnered with the Ochsner Clinic in New Orleans to establish what may become a bi-national medical school with the possibility of dual licensing.¹¹
- We can speculate that it will not be long before medical education and postgraduate training will expand its reach beyond borders by employing highly innovative healthcare technologies, including “Khan Academy-style” distance learning and assessment modules that can be accessed from the student’s home. The cost of earning a global degree may be considerably less than that earned at a traditional medical school in the United States.
- The cost of a degree at medical schools in China and India today averages approximately one-third less for international students than in the United States.
- If these global programs become widespread and successful, there are methods under development to benchmark competence at a much more granular level, regardless of where the student may reside. Programs already in place include:
 - The AAMC’s Global Health Learning Opportunities (GHLO™) program and standardized school and student assessment metrics, such as the National Board of Medical Examiners’ International Foundations of Medicine (IFOM) exams taken by medical students worldwide;
 - Published United States Medical Licensing Examination (USMLE) scores from graduates who have taken the examinations at testing centers throughout the world;
 - Patient outcomes recorded through student clinical portfolios;
 - “Medical Yelp” and other medical education crowd sourcing site analyses.

Medical Education is undergoing rapid globalization

These two theoretical scenarios may seem unlikely today, but what follows in this edition of *Innovation in Global Medical and Health Education* is a series of articles that illustrates that medical education is currently undergoing rapid globalization. The future is here and we must acknowledge it.

Some real examples include:

- In 2001 Weill Cornell Medical College (WCMC) in New York established a campus in Doha, Qatar.¹² It is the anchor program in Education City that now houses eight schools and programs from well-established North

American and European universities. WCMC in Qatar (WCMC-Q) graduates are competing effectively for top residency slots in the United States and elsewhere.

- In 2005, Duke University School of Medicine established a graduate medical school in Singapore at the request of the Singaporean Ministry of Health to educate physician scientists.¹³ Duke Singapore graduated its first class in 2012. These graduates excelled comparably on the USMLE with their Durham, North Carolina counterparts.
- The University of California, San Diego is negotiating an agreement to establish a four-year medical school as part of Khalifa University of Science and Technology in Abu Dhabi, United Arab Emirates.¹⁴
- Johns Hopkins University has established a graduate school of medicine outside Kuala Lumpur, Malaysia.¹⁵
- The “grandfather” of all United States medical schools abroad is the American University of Beirut, established in 1869, whose graduates populate nearly every United States academic medical center as faculty to this day.¹⁶ Nearly 100 Lebanese-American academic physicians have been recruited back to Lebanon from North America to teach and practice in the past several years.

What does globalization mean for students, medical schools, faculty members, trainers, mentors, accreditors, licensing agencies and, most importantly, patients? Over the last 100 years, the United States has created a powerful legacy in building merit-based systems for teaching and training healthcare professionals, focused on delivering safe, high quality healthcare to patients. Much of this proven methodology is deemed by the world to be a gold standard.

And yet, our world is evolving. We are global travelers. New technologies and educational infrastructures are transforming our connectedness to one another, to the ways we acquire knowledge, and to our access to healthcare. A recent “Lancet” report (2010)¹⁷ urges that “all health professionals

in all countries should be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in patient and population-centered health systems as members of locally responsive and globally connected teams.”

Conclusion

Consistent with this recommendation, we now have a generation of 20 to 30 year-olds in the United States, referred to as the “First Globals.” These are our children, our friends, and our relatives. Pollster and author John Zogby¹⁸ characterize them as follows:

- Two out of three of them have passports and are well-traveled;
- Their technology networks include people all over the world;
- They have a desire to be nimble, to go anywhere, and to be anywhere;
- They also have a desire to change their world and feel like they’re in a position to do so;
- For many of these “First Globals,” the idea of public service is a common thread and they want to make a difference in the world;
- They understand the idea of a shared fate, that what happens to somebody in Mumbai may have an effect on us here in the United States.

Can we envision “One World, One Medicine,” when every citizen of the world could have access to high quality care?

Are our traditional academic institutions and our current regulatory frameworks ready to address these new trends?

If we can no longer use the name and reputation of one’s Alma Mater as a proxy for the quality of the education a student has received and what he or she has achieved, how can we assess the knowledge, skills, and competence of the globally trained physician?

How can an individual who graduated from a medical school in India, completed his or her specialty training in Doha and Singapore at United States affiliated, Accreditation Council for Graduate Medical Education International (ACGME-I)-accredited residency training programs, and who excelled at American Board of Medical Specialties-International (ABMS-I) board certification examinations practice medicine in the United States, Canada, or Mexico? Can our accreditation, assessment, and licensing frameworks be globalized to accommodate the Global Physician? Can nationally based medical licensing regulatory agencies find ways to continually assess the knowledge, skills, and competence of their current healthcare workforce, as well as those of new professionals who wish to migrate and practice in their jurisdiction? How will Maintenance of Licensure and Maintenance of Specialty Certification work in a "Flat Medical World"®? Devising ways to support and ensure that professional competence leads to the best possible patient outcomes, regardless of where they live in the world, will occupy policy makers, faculty, institutional providers, practitioners, and the public for the foreseeable future.

These trends and challenges will begin to be addressed in "Innovations in Global and Medical Health Education." We hope that these articles will stimulate thought and discussion about whether our current and well-established educational and regulatory systems help or hinder us in the context of the globalization of medical education.

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