



Addressing workforce issues with foreign medical graduates

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For most of the past 25 years, medical workforce studies have typically predicted a surplus of specialists and a shortage of primary care physicians.^{1,2} In 1981, the Graduate Medical Education National Advisory Committee calculated a physician surplus of 145,000 by the year 2000, and called for restricting the number of slots in medical schools, as well as the number of international medical school graduates (IMGs) admitted into the country.³

In 1988, the Council on Graduate Medical Education (COGME) also predicted excessive growth in the specialties (including surgery), and a surplus of approximately 80,000 physicians by the year 2000.² In 1992, to constrain the perceived oversupply of specialists and a shortage of generalist physicians, the COGME recommended increasing from 30 percent to 50 percent the number of graduates entering practice as generalists, and reducing from 70 percent to 50 percent the number of specialists. The COGME also recommended limiting the number of residency positions to 110 percent the number of graduates of U.S. medical schools, thereby stemming the influx of IMGs.² This policy became known as the “110:50:50 rule,” and remained in use, for the most part, for medical and surgical education plans for the following decade. Meanwhile, various experts predicted that the managed care revolution of the 1990s would further reduce the need for physicians.¹ Acknowledging these positions, the Balanced Budget Act of 1997 (Public Law 105-33) capped the number of residency slots qualified for federal funding.^{1,2}

During the last decade, however, new methods of calculating physician supply and demand suggested that restraints imposed on the production of medical professionals would lead to shortfalls in physician supply. In a landmark article in 2002, Richard Cooper, MD, and colleagues predicted a deficit of 50,000 physicians by 2010, and 200,000 by 2020.⁴ Additionally, they noted a pronounced association between average income and demand for specialty care, and projected that the need for specialists will rise faster than the demand for generalists. Since the American population is aging, assuming that age-specific, per capita use of surgical services will remain constant, in 2003, David Etzoni, MD, MSHS, and colleagues projected a 14 percent to 47 percent increase in the demand for all surgical services.⁵

These new approaches to predict physician supply were received by medical education policy advisors, who now acknowledge that the U.S. is headed toward a physician shortage. In 2005, the Association of American Medical Colleges and the COGME agreed that physician shortfalls are likely to occur by 2020. This shortage was estimated at 85,000 to 96,000 physicians.^{2,6} However, a physician shortage is already evident in facilities caring for the nation’s most vulnerable populations: trauma centers, emergency departments (ED), and rural health facilities.

In June 2006, the Institute of Medicine reported on the most relevant issues facing the nation’s emergency care system, highlighting key problems, including a shortage of specialists who will

take emergency call.⁷ According to the American College of Emergency Physicians, nearly three-quarters of EDs have inadequate on-call specialist coverage.² A study conducted on behalf of the American Hospital Association showed that neurosurgeons, orthopaedic surgeons, general surgeons, and plastic surgeons are specialists in short supply for ED on-call panels.²

This shortage is marked for general surgery.⁸ The number of general surgeons per 100,000 inhabitants has declined steadily by almost 26 percent during the past 25 years (from 7.68/100,000 population in 1981 to 5.69/100,000 in 2005).⁹ The decline has been most discernible in urban areas (from 8.04 to 5.85, -27.24 percent) than in rural areas (from 6.36 to 5.02, -21.07 percent).⁹ However, rural areas continue to have significantly fewer general surgeons than urban areas.

At this time, in rural areas, shortage of surgeons is not only a perceived issue, but constitutes a dramatically quantifiable problem. In 2005, in North Carolina, 22 counties had no general surgeons and, between 2000 and 2005, 53 other counties experienced a decline in the number of general surgeons.¹ It is safe to assume that these issues, currently seen in emergency care and in rural areas, will soon spill over into the broader American population.

Historically, IMGs have played a vital role in health care delivery in the U.S.

Some 40 percent of primary care programs in the U.S. are already dependent on immigrant physicians, and a full two-thirds of international graduates serve in hospitals that provide a disproportionate share of care for the poor in the country.¹⁰ In this article, we will analyze how IMGs may be used at this time to address the impending shortage of surgeons, and what would be advantages and potential pitfalls of this strategy.

Incorporation of IMGs in the U.S.: Challenges and available solutions

Incorporation of IMGs in the U.S. medical system is a long and complicated process.

IMGs willing to practice surgery in the U.S. face several challenges, but the first and foremost difficulty is gaining access to a residency program. In theory, once an IMG becomes certified by the Educational Committee of Foreign Medical Gradu-

ates (ECFMG), he or she can then apply through the National Resident Matching Program (NRMP) for a categorical position in a residency program. For a number of reasons, however, this option does not generally work for IMGs pursuing a surgical career in the U.S.

In order to become competitive for the NRMP, most IMGs need to build up competitive curriculum vitae and become more familiar with the U.S. medical system. Several venues have been used in the past to reach these twofold goals. Generally, IMGs participate in observership rotations in a clinical setting before applying to a residency program. Observerships provide IMGs with invaluable knowledge of U.S. medical practice settings, and with U.S. physicians who can serve as mentors and references. Some IMGs start as research fellows, or gain further nonclinical education in the U.S. (for example, MPH or PhD degrees). A small number of IMGs spend a few years in a clinical fellowship not accredited by the Educational Council for Graduate Medical Education, and then (in order to become board-eligible) complete a residency.

In some states, such as Florida, ECFMG-certified IMG surgeons have been working as surgical assistants for private and semi-private hospitals where surgery residents are not available; some of them later may become able to compete for surgical positions.^{11,12} Most of these experiences provide some degree of clinical exposure in the U.S. prior to starting a residency, introduce the IMG to U.S. physicians who can serve as references, and smooth the transition of living in a new country with a different culture.

However, to an IMG surgeon willing to practice in the U.S., savvy guidance is required to navigate through these preliminary steps. Some institutions have recently started to organize this transition process. In 2006, the ECFMG launched a free service, called IMG Advisors Network (IAN).¹³ The aim of the IAN is to provide IMGs with advisors who can answer questions about living and working in the U.S., facilitate application to GME positions, and, eventually, mentor in the subsequent career after residency.

The Global Observership Program and the William J. Harrington Medical Training Program for Latin America and the Caribbean (both at University of Miami) provide IMGs with the opportunity

for research and clinical rotations in different specialties (including surgery). In only two years of activity, the Global Observership has accepted applicants from China, Egypt, France, Germany, Ghana, India, Italy, Korea, and Saudi Arabia.¹⁴ The Harrington Program offers internships and residency positions in internal medicine to Latin American medical graduates. Most of the applications have been received from Brazil, Colombia, the Dominican Republic, Ecuador, Mexico, and Peru.¹⁵

The Washington University program has developed an eight-week clinical experience for IMGs in a tertiary care teaching hospital. This track helps identifying those IMGs with better chances to succeed, and provides them with enough experience to successfully integrate into a U.S. residency.¹⁶ The Louisiana state licensing board has approved a short-term training permit or other postgraduate training program for IMGs, who may rotate for a period not exceeding 90 days in Louisiana hospitals, as per board discretion.¹⁷

Further development of similar programs would be beneficial in integrating IMGs into the surgical training system. However, local programs, although important and significant, will not be sufficient to streamline admission of IMGs to residency programs across the country, and should rather be coordinated at a nationwide level. A recent article by Kamal Itani, MD, FACS, and colleagues suggests allocating dedicated residency spots to IMGs to ensure a stable supply of highly qualified IMG residents, rather than the current unstable and fluctuant acceptance of IMGs in surgical residency programs.¹⁸ Such a change can easily help (1) eliminate the anecdotal belief that the reputation of a residency program is negatively affected by the presence of IMGs, (2) improve the selection process during the match process rather than eliminate most IMGs' applications in the first screening, and (3) reverse any internalized feeling of inadequacy that IMGs may develop over time because of repetitive incidents of discrimination.

Upon entering surgical residency in the U.S., the IMG faces additional unique challenges on the linguistic, cultural, and discriminatory levels that could also be better handled on a system-wide level.¹⁹ The linguistic difficulties typically encountered are not only related to clearly expressing oneself in formal English, but also struggling

to understand slang and colloquialisms of both patients and fellow care providers, and to differentiate the regional differences in dialect and body language of diverse patients and co-workers. Both the cultural and linguistic difficulties can be greatly reduced by introducing formal cultural awareness systems programs in surgical residencies and formal mentor-mentee pathways to mutually improve the cultural integration and training experiences of IMGs during residency years. Providing resources through the ECFMG or GME to IMGs from non-English-speaking countries to encourage them to improve their pronunciation, use of colloquialisms, and accent reduction could be another way to ease their transition.^{20,21} Courses in American history and culture could also benefit the IMGs during their transition.²²

Visa restrictions constitute one of the major obstacles for assimilating IMG surgeons into the U.S. Most IMG residents are currently in the U.S. on a J1 visa, sponsored by ECFMG. This visa presents several problems. First, the J1 visa, for purpose of graduate medical education or training, can be maintained for a maximum of seven years. This duration limit forces many IMGs to choose between pursuing research during residency or fellowship after completion of their studies. Second, the visa stamp needs to be renewed in the country of origin every year. The potential for lengthy security checks repeated every year has already unnecessarily put in jeopardy the careers of many IMGs. Third, in accordance with Section 212(e) of the Immigration and Nationality Act, all J-1 exchange visitors are automatically obligated to return to their country for an aggregate of at least two years. This rule is one of the major obstacles for IMG surgeons to be used as workforce in the U.S. at the end of their training.

According to the Conrad State 30 J1 Visa Waiver program, the two-year requirement can be waived in exchange for the IMG's agreement to work for three years in a designated health professional shortage area or medically underserved area. However, the Conrad program provides for the approval of only 30 J1 visa waivers for each U.S. state. The issue is further complicated by the fact that each U.S. state, by regulation, has enacted its own specific requirements that a foreign physician must meet to qualify for consideration for inclusion in this program.

The two-year requirement was created to emphasize the role of the U.S. in preventing the “brain drain” from developing countries. If one examines the number of physicians per capita per country, the fact that the brain drain theory does not apply to many of the main IMG exporting countries becomes obvious. For example, countries such as Argentina, Greece, Italy, Lebanon, or Russia have more than three physicians per 1,000 people, and thus have an oversupply of physicians.²³ For comparison purposes, the U.S. has fewer than 2.5 physicians per 1,000 people. The brain drain concern from such exporting countries is simply unfounded. In view of the previously noted workforce projections suggesting a large physician and surgeon shortage in the U.S. in the near future, requiring IMGs from these so-called physician-oversupplied countries to return home and serve their own communities is irrational from both the U.S. and the exporting country’s perspectives. We suggest a policy aimed at facilitating the stay of IMGs from high physician/capita countries. This would be relatively easy to achieve if the ECFMG started selective granting of J versus H visas to IMGs based on their country of origin, rather than the “one-size fits all” policy currently prevailing in visa-sponsoring for IMGs seeking surgical training in the U.S.

Following completion of training and attainment of a visa with working permit, more obstacles are ahead for those IMGs seeking an academic career. The majority of research awards and grants are not available to individuals on temporary visas. Candidates must be U.S. citizens or must have been admitted for permanent residence by the time of the award.²⁴ A new National Institutes of Health (NIH) grant, the Pathway to Independence Award (K99/R00), was introduced in 2006 and made available to temporary visa holders. NIH decided to offer this award to non-U.S. citizens with the explanation that scientific research is a global enterprise: “The Pathway to Independence Award seeks to attract the best and brightest individuals conducting research in the U.S., regardless of citizenship.”²⁴ If this is true for the K99/R00 award, the NIH could make all of its awards available to non-U.S. citizens. Although the challenge for all is to identify the best and the brightest within the current system—some of them are certainly IMGs.

Incorporation of IMGs in the U.S.: Advantages

Throughout history, IMG surgeons have made, and continue to make, important contributions to the field of surgery in the U.S.²⁵⁻²⁶ In general, IMGs are talented, knowledgeable, and motivated, and some possess a level of expertise or prior training that is not commonly found among some U.S. graduates.²⁷ In several countries where technology is not readily available, medical students rely only on their clinical knowledge to reach a diagnosis. Graduates of some Latin American medical school programs are trained during medical school to meet the social needs for primary care physicians, having to go through a year of internship, followed by a year of social service as rural doctors, prior to entering specialty residency programs. This requirement provides these surgery residents with field experiences, opportunities, and responsibilities that are not available to graduates of some standard medical schools in the U.S.

Many surgical residents from European countries have been educated under different work hour regulations and trained in specialized tracks early in their training, an area of current adaptation for U.S. surgery residents. For U.S. surgical departments, it may be advantageous having IMG residents and/or faculty. The faculty involved in evaluating and training IMGs may find that mentoring these residents may be as rewarding, if not more so, as mentoring U.S. graduates. By mentoring IMGs, faculty may expand and enhance their own skills in evaluation, feedback, and teaching. The rewards and gratification of seeing an IMG succeed as a brilliant resident, fellow, or practicing physician may become significantly rewarding for the faculty member.²⁷

Successful IMG staff surgeons can share their personal and medical training backgrounds, and facilitate collaboration with international colleagues to broaden the experiences of U.S. faculty, resulting in a more creative and effective teaching and collaborative research. Their academic contributions, international networking, and clinical expertise obtained in a different training model might invigorate the national research enterprise. These faculty members could become effective role models for minority U.S. medical students and residents, and relate to patients

of similar cultural or linguistic backgrounds.^{10,27}

In summary, because of their diverse background, IMGs may offer new perspectives about medical care, creativity, and improvisation when resources are scarce, and may possess innate skills to better understand cross-cultural issues among their patients.¹⁰ Availability of IMGs willing to work in the U.S. should be considered an asset for our health care system. As discussed previously in this article, a shortage of surgeons is already apparent, and many IMGs are more willing than U.S. medical school graduates to practice in remote, rural areas through the J1 visa waiver requirements.

In an era when most graduating surgeons are pursuing specialized training and we face the shortage of general surgeons, many of the IMGs who already have been practicing general surgeons in their native countries and have graduated from Accreditation Council for Graduate Medical Education-accredited residencies in the U.S. could help serve areas with surgical needs.

Final considerations

The road to integrating IMGs into the U.S. graduate medical education and health care system is steep and has obstacles, but once those obstacles are overcome, IMGs can potentially serve as a safety net for the shortage of surgeons in the U.S. We need to strike a balance between the national goal of attracting the highest-quality IMGs to stay in the U.S. and the global responsibility of mitigating any brain drain from exporting countries with desperate need for physicians. However, the authors suggest that the ECFMG should become more flexible with both the duration and the ease of switching between clinical and research J visas, in order to allow academically oriented IMGs to pursue research during residency, mature clinically, and become competitive for fellowships without the restraints of visa expiry. Similarly, the quota of IMGs eligible for participation in the Conrad program should be increased, or adjusted on a yearly basis, according to the need for generalists and specialists in underserved areas.

Predicting the future need of the medical workforce has historically been a difficult task. An increase in the number of positions available in medical school and residency programs may increase the

surgeon supply in the long term. However, with few uncomplicated measures, IMGs could be used as a reservoir of surgeons to fill in, real-time, the medical needs of the U.S. population. □

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