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Authors

Dagher, Gilbert Abou
Lewandowski, Christopher
Ali, Syed S
et al.

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THE INTERNATIONAL MEDICAL GRADUATE AND EMERGENCY MEDICINE

Gilbert Abou Dagher, MD,* Christopher Lewandowski, MD,† Syed S. Ali, MD, MS,‡
Carol Barsky, MD,§ Brigitte Kazzi, BS,|| Mohamad Ali Cheaito, MD,* Shahram
Lotfipour, MD, MPH,¶ Amin Kazzi, MD,*¶ and Ziad Kazzi, MD*#

*American University of Beirut, Beirut, Lebanon, †Department of Emergency Medicine,
Henry Ford Hospital and Wayne State University, Detroit, Michigan, ‡Memorial
Hermann Memorial City Hospital, Houston, Texas, §Department of Emergency
Medicine, Yale School of Medicine, Yale-New Haven Hospital, New Haven,
Connecticut, || Columbia University Vagelos College of Physicians and Surgeons, New
York, New York, ¶ University of California, Irvine, Irvine, California, and #Department
of Emergency Medicine, Emory University, Atlanta, Georgia Corresponding Address:
Ziad Kazzi, MD, Department of Emergency Medicine, Emory University School of
Medicine, 50 Hurt Plz SE, Suite 600, Atlanta, GA, 30303

Abstract—International medical graduates (IMGs) are medical graduates who have received their degree from international medical schools. IMGs must undertake a 3-step process to apply to the National Residency Matching Program match. First, they must obtain a valid standard certificate from the Educational Commission for Foreign Medical Graduates. Following certification, they must apply for and secure a position in a residency training program. Third, they must obtain a visa that would enable them to commence their training. In this article, we delve thoroughly into these stepladders to provide IMGs with a clear roadmap of the process as well as contacts to key agencies that may provide more comprehensive assistance.

INTRODUCTION

International exchange of health care professionals is an important means of expanding medical knowledge, sharing practice patterns, and filling manpower needs (1,2). Every year, thousands of medical students from all over the world apply throughout the United States for postgraduate training in different specialties including emergency medicine (EM). International medical graduates (IMGs) are medical graduates who have received their degree from international medical schools (i.e., located outside the United States and Canada that is listed in the International Medical Education Directory) (3). Therefore, being classified as an IMG is determined solely by the location of the medical school attended by the medical graduate rather than his/her citizenship. Consequently, IMGs can be classified into U.S. IMGs (if they are U.S. citizens) and non-U.S. IMGs (if they are not U.S. citizens). Similarly, graduates of medical schools in the United States and Canada who do not have U.S. citizenship are not classified as IMGs. According to the 2019 National Residency Matching Program (NRMP) Match data, 11,949 IMGs applied for postgraduate training in the United States, including 5080 U.S. IMGs and 6869 non-U.S. IMGs (4). The match rate for U.S. IMGs and non-U.S. IMGs was 59.0% and 58.6%, respectively. These match rates for U.S. citizen IMGs and non-U.S. citizen IMGs were higher than in previous years and the highest since 1991 (4).

DISCUSSION

Despite the duration, cost, complexity, and effort required to navigate the process, IMGs still undertake it. The most compelling reason for doing so is the pursuit of high quality training programs provided at U.S. medical institutions. Other reasons include the prospect of greater economic opportunity and more stable political environments than those in their home countries. By acquiring unique knowledge and skills, some IMGs are highly motivated to use their training to improve health care and promote similar training in their home country, specifically by using their newly attained resources for advancing or establishing specialized training programs.

For those interested in EM, limited opportunities for training exist outside the United States, and enrolling in a residency training program in the United States is extremely competitive. In the 2019 NRMP Match, EM offered 2488 positions with 4871 applicants. There were 2458 positions filled, 1617 by U.S. senior medical student applicants (65%), with 112 positions filled by U.S. IMGs and 27 positions filled by non-U.S. IMGs. Thirty positions remained unfilled (4).

The process that IMGs must undertake has 3 general steps. First, they must obtain a valid standard certificate from the Educational Commission for Foreign Medical Graduates (ECFMG). Second, they must apply for and obtain a position in a residency training program. Finally, non-U.S. IMGs need to obtain a visa in order to start training. This article explores these steps and provide IMGs with a general overview of the process and contacts in key agencies that can provide detailed assistance.

ECFMG Certification

IMGs comprise one-quarter of the U.S. physician workforce (5). They are primarily occupied in health care facilities situated in rural areas that are distinctly vulnerable and underprivileged (6). The ECFMG is a private, nonprofit organization that is sponsored by the following organizations: the American Board of Medical Specialties, the American Medical Association, the Association of American Medical Colleges, the Association for Hospital Medical Education, the Federation of State Medical Boards of the United States of America, and the National Medical Association. Certification by the ECFMG is the standard for evaluating the competence of IMGs before they enter U.S. graduate medical education, where they provide supervised patient care.

The ECFMG Certification assesses whether IMGs are ready to enter U.S. residency and fellowship (i.e., subspecialty residency) programs that are accredited by the Accreditation Council for Graduate Medical Education. Obtaining certification is required before initiating training in a residency program and is also one of the eligibility criteria for taking the Step 3 of the U.S. Medical Licensing Examination (USMLE). To be eligible for certification by the ECFMG, international medical students and IMGs must submit an application. The application for ECFMG certification consists of questions that require applicants to confirm their identity, contact information, and graduation from or enrollment in a medical school that is listed in the International Medical Education Directory. IMGs must have been awarded ≥ 4 credit years (academic years for which credit has been given toward completion of the medical curriculum) by a

medical school that is listed in International Medical Education Directory. Applicants must document the completion of all requirements for, and receipt of, the final medical diploma. The ECFMG verifies every applicant's medical school diploma with the appropriate officials of the medical school that issued the diploma. IMGs must satisfy the medical science examination requirement, consisting of Step 1 and Step 2 clinical knowledge (CK) of the USMLE. Note that the 2019 fee for each CK step is \$940 and the examinations are offered year-round on a computer format through a worldwide network of >500 testing centers through Prometric, Inc. (7). In addition, an IMG must satisfy the clinical skills (CS) requirement, consisting of Step 2 CS of the USMLE, which is offered on an ongoing basis in Atlanta, Chicago, Houston, Los Angeles, and Philadelphia with a registration fee of \$1580 (at the time this article was published) (7). The ECFMG acts as the registration entity by processing the application and payment and thus determining an applicant's eligibility. It communicates with the National Board of Medical Examiners, which provides the applicant with a scheduling permit to take the USMLE. The applicant schedules the test location and date with Prometric during a prespecified eligibility period. Information on examination eligibility, fees, application, scheduling, test centers, and orientation and practice materials can be found on the ECFMG website and in the ECFMG information booklet.

The Step 1 test is an 8-h computerized examination that aims to assess students' understanding and application of foundational sciences that are relevant to the medical practice, namely the mechanisms of health, disease, and therapy (8). The Step 2 CK examination focuses on assessing the examinees' aptitude in clinical sciences with emphasis on health promotion and disease deterrence. It is a 9-h examination that comprises an optional 15-min tutorial and a minimum of 45 min of break time subject to increase shall the examinee finish any of the test items or the optional tutorial before the allocated time elapses (9). An observational study carried out in Pennsylvania demonstrates the operative inverse relationship between higher Step 2 CK scores among physicians and lower patient mortality rates, thus attesting the effectiveness of Step 2 CK examination scores as a screening procedure for licensure (10). Step 2 CS, on the other hand, is designed to prove whether an individual has the skills, knowledge, English language ability, and general ability necessary to physically examine a variety of patients with common diseases and disorders. It takes approximately 8 h to complete and is offered in 5 centers across the United States. Exam-takers interview and examine patients to arrive at a differential diagnosis and summarize their findings in a standardized note format, diagnosing each patient's condition, communicating with patients, and writing patient notes. In order to take the CS, applicants must be an IMG or an international medical student within 12 months of completion of a full didactic curriculum and have passed USMLE Step 1 (11). It is important to note that it is the responsibility of the applicant to obtain appropriate credentials or visa to enter the United States in order to take the Step 2 CS. USMLE Step examinations must be passed within a 7-year period. Passing performance on an English language proficiency test (such as the Test of English as a Foreign Language) is no longer a requirement for ECFMG Certification (12).

Step 1, Step 2 CK, and Step 2 CS are the same examinations taken by graduates of U.S. and Canadian medical schools. They can be taken as many times as needed in order to pass, but once a passing grade is achieved they cannot be retaken. To be considered for a position in an EM residency training program, applicants should prepare

well and score high on the USMLE Step 1 and Step 2 CK examinations. Even though there is no preset score that can guarantee a position, a high score can provide an IMG with the edge required to be selected for an interview. It is important to understand that most training programs have little or no experience with IMGs. According to the 2018 NRMP Program director survey, the percentage of EM programs that interview and rank U.S. IMGs and non-U.S. IMGs is 42% and 14%, respectively (13). Because of the variability among international medical schools and their training curricula, programs may use the USMLE scores as a screening tool in an EM residency. IMGs must pass all examinations necessary for ECFMG certification before the Match. The NRMP verifies all information directly with the ECFMG before the Match. Applicants seeking an H-1B instead of a J-1 visa will need to pass the USMLE Step 3 examination in addition to the above requirements.

Residency Application

During the process of obtaining ECFMG certification, IMGs must decide on prospective residency programs they wish to apply to. Important information can be obtained through the Fellowship and Residency Electronic Interactive Database Access System, which is an online database managed by the American Medical Association. A complete list of all Accreditation Council for Graduate Medical Education–accredited residencies and fellowships (for all specialties) is available in the “Green Book”—the Graduate Medical Education Directory—and includes contact names and addresses (14). In addition, the Society of Academic Emergency Medicine maintains an online directory of EM residency and fellowship programs that includes information about the programs and necessary application information. The decision about how many and which programs to apply to should stem from the level of interest and made after in-depth discussions with advisors and other IMGs who have successfully matched into EM residency training programs (15).

Applications for EM are handled through the Electronic Residency Application Service (ERAS), which is sponsored by the Association of American Medical Colleges. Most EM programs, if not all, accept only electronic applications before the Match. The ECFMG serves as the Dean’s Office for IMGs and coordinates the application process. Each applicant receives a unique application number, called a “token,” which provides access to the ERAS website for direct completion of the electronic application. Supporting documents (diplomas, letters of recommendation, etc.) are sent to the ECFMG, where they are scanned and forwarded to the ERAS. Residency training programs review applications and send out decision letters via email. Applicants must also register with the NRMP, the organization that conducts the Match. After completing interviews, applicants submit their lists of desired residencies in order of preference to the NRMP as the rank order list. At the same time, residencies submit their rank order list of applicants to the NRMP and a computer-driven matching process ensues. These steps have strict deadlines. It is important to pay great heed to the timeline and to abide by it. Registering and participating in the Match is a contractual obligation between the applicant and residency program to work for a minimum of 1 year. This contract cannot be broken unless there is agreement by both parties to do so.

In EM, few positions are available outside the Match. Any unmatched positions become available during match week but fill quickly during the “scramble.” The scramble is now referred to as the Supplemental Offer and Acceptance Program and is run by the NRMP and requires reapplication through the ERAS during match week. For no less than a decade, few to no positions are available after match day. Table 1 summarizes the NRMP data for the 2019 Match and Supplemental Offer and Acceptance Program for postgraduate year 1 in all specialties in general and for EM in particular (4). For unmatched IMGs, due diligence is recommended to improve their chances of obtaining a position during the scramble. The odds are potentially worse during the scramble than through the regular Match, and some authors have recommended that the “unmatched” applicant accept a transitional or preliminary medicine internship, and to reevaluate the available options—including whether to reapply a year later or to look for unexpected openings that a few residency programs will have during the year (16,17).

Table 1. Summary of National Resident Matching Program Data for the 2019 Match and Supplemental Offer and Acceptance Program for Postgraduate Year 1*

Variable	n
2019 Match – all specialties	
Programs that participated	4780
Positions offered	32,194
Unfilled programs	569
2019 SOAP – all specialties	
Programs participating	522
Positions offered	1561
Programs filled	359
Positions filled	1247
Eligible applicants	12,472
2019 Match – emergency medicine	
EM programs that participated	238
EM positions offered	2488
Unfilled EM programs	15
2019 SOAP – emergency medicine	
EM programs participating	14
EM positions offered	29
EM programs filled	12
EM positions filled	27

EM positions filled 27

EM = emergency medicine; SOAP = Supplemental Offer and Acceptance Program.

* Data from the National Resident Matching Program (4).

Visa Status

IMGs who are not U.S. citizens or legal permanent residents (green card holders) will require a visa to enter and work inside the United States. Once a candidate matches into a residency position, it is the responsibility of the U.S. medical institution to sponsor the visa petition. This does not guarantee a visa and it does not require the immigration authorities or embassies to provide one. Applicants will work with the U.S. medical institution on the immigration process and may be responsible for some associated fees. It is important to start the process early because there are many variably prolonged administrative steps that can delay the start date of interns compared with their American peers.

There are 2 types of visas offered to IMGs: the J-1 and the H-1B visa. The J-1, or educational exchange visa, allows foreign professionals to expand their education and training in the United States. It lasts as long as the physicians are in training with a maximum of 7 years, after which they must return to their home countries for 2 years before they are allowed to reenter the United States for work. Even though it is the most common visa given to IMGs, the J-1 visa is not considered an immigrant visa, and people under it are not permitted to change their legal status under any circumstance as long as it lasts. Dependents of a physician holding a J-1 visa are eligible for the J-2 visa, which allows them to work, study, and live legally in the United States as long as the J-1 visa lasts.

To obtain a J-1 visa, a statement of need is required from the Ministry of Health of the applicant's country of citizenship explaining his/her desire to return after completion of training. The ECFMG and the hiring institution generally provide the instructions to complete the process for the visa petition, which also requires a fee. When the petition is approved, it must be presented to the U.S. Embassy in the applicant's home country in order to get the visa stamped on the passport. The visa requires yearly renewal and an associated fee.

Physicians who want to remain in the United States and who have a J-1 visa that is about to expire (after 7 years or at the end of their training) must undertake a visa waiver process or fulfill a 2-year home requirement. Several waivers to the 2-year home requirement are available, including national interest waivers, hardship waivers, waivers sponsored by an interested U.S. Federal Agency, etc. The most common waiver, sponsored by an interested U.S. Federal Agency such as the Department of Agriculture, allows physicians to change their status to an H-1B visa by working for 3 years in an area designated to be underserved by the U.S. government. The H-1B, or temporary worker visa, allows foreign professionals to work legally in the United States for a maximum of 6 years. Workers are required to return to their home country for 1 year before being eligible to return to the US in H-1B status. The H-1B visa also allows for "dual intent," which means that a person may have the intent to return home or to pursue future immigration options in the United States after completion of his/her program. Thus, individuals in H-1B status are permitted to file for a change in status to legal permanent resident (green card) without applying for a waiver, though this may require sponsorship by their employer.

The H-1B visa is difficult to obtain and is not offered by all institutions or programs. Dependents of a physician holding an H-1B visa are eligible for the H-4 visa,

which allows them to live legally in the United States as long as the H-1B visa lasts, but they are not allowed to work or request a Social Security number unless they obtain their own H-1B status or another immigration status, such as F-1 student status. The hiring institution usually provides specific instructions to complete the visa petition, which may require the services of a lawyer. This process can be significantly expensive for the applicant, but the hiring institution may share the cost. When the petition is approved, it must be presented to the U.S. Embassy in the applicant's home country to get the visa stamped on the passport. The initial H-1B status may be granted for #3 years and must be renewed (with associated fees) to extend beyond that period, up to a maximum length of 6 years.

Other Visas

Many other types of visa programs exist, but they do not apply to IMGs seeking EM residency positions. Applicants are often interested in becoming permanent residents or obtaining waivers. Obtaining the green card, or permanent resident status, can be a difficult process. There are numerous paths to lawful permanent residence described on the INS website (www.dhs.gov).

The Special Case of California

IMGs applying to programs in the State of California must include an Applicant Status Letter from the Medical Board of California in their ERAS application. This letter must be obtained from the Licensing Program of the board by completing a packet of information, which requires extensive paperwork and a significant time commitment. It serves to verify that the applicant's medical education meets the standards for medical licensure in the State of California. Detailed information can be found at the Medical Board of California's website (18).

Helpful Hints

Positions in EM residency training programs are competitive and difficult to obtain for IMGs because of a large group of U.S. graduates applying to the specialty. To maximize their chances, applicants should have passed the USMLE Steps 1 and 2 CK with high scores, passed USMLE Step 2 CS, and be certified by the ECFMG. In addition, a strong medical school record, research experience or publications, and a clear, well-written personal statement that shows a command of the English language are advantageous.

Furthermore, clinical experience in EM in the United States and subsequently obtaining standardized letters of evaluation is strongly recommended. This provides important feedback to residency programs about the applicant's performance in the United States compared with U.S. peers. Clinical experiences can include externships during medical school, which allow "hands-on" experience with patients, or observation-only rotations after graduating from medical school which lack contact with patients but provide some contact and networking opportunities with faculty physicians.

Clinical or research electives are also excellent ways to demonstrate commitment and to help establish a valuable network early on. To apply for such rotations, online resources (some programs advertise elective positions candidates can apply for) or personal/professional connections can be used. The expenses incurred while doing an elective abroad may be high and include housing, transportation, and food, and an application fee is required at some hospitals and medical schools. While rotating, personal attributes are as important as knowledge and skills. A candidate must show that he/she is hardworking, trustworthy, and committed.

The aforementioned points, although providing no ultimate guarantee, greatly increase the competitiveness of the application.

Other activities may also enhance an application or allow the candidate to develop personal contacts, these include: participating in EM organizations (American Academy of Environmental Medicine, American Academy of Environmental Medicine/Resident and Student Association, American College of Emergency Physicians, Emergency Medicine Residents' Association, etc.) or in EM interest groups online, attending national meetings, obtaining prehospital or emergency medical services experience, or shadowing. There may be some benefit in applying widely—though it can become expensive. It would be wise to plan and know which programs do not accept applications from IMGs. Emailing the programs of interest and asking if they give interviews to IMGs is a useful strategy.

CONCLUSION

An expanding number of IMGs are applying for residency training positions in EM as recognition of the specialty mounts. Even though the popularity of EM makes it difficult for foreign-trained physicians to enter U.S. programs, there are many high-quality applicants from foreign medical schools who deserve consideration. These applicants face significant hurdles, as they must navigate 3 relatively complex processes simultaneously. The ability to navigate these smoothly and efficiently reflects well upon the applicant.

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SUPPLEMENTARY DATA

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