The current landscape and challenges facing international medical graduates in cardiothoracic surgery training

Check for updates

Kelly A. McGovern, MD,^a Anastasiia K. Tompkins, BS,^b Louis F. Chai, MD,^c Simran Randhawa, MD,^d Vignesh Raman, MD,^e Jessa Cintron, BA,^b Gokcen Tugral-Gurk, JD,^{a,f} Joseph Coselli, MD,^g Michael Jaklitsch, MD,^h David T. Cooke, MD,ⁱ and Cherie P. Erkmen, MD^{b,c}

The need for qualified cardiothoracic surgeons is increasing in the United States because of the growing geriatric population and fewer medical students and residents choosing this speciality.¹ Cardiothoracic training programs must recruit from a pool of qualified students and residents, including international medical graduates (IMGs). A report from the Association of American Medical Colleges noted that 19.1% of traditional thoracic surgery trainees, 8% of integrated thoracic surgery trainees, and 0% of congenital cardiac trainees are IMGs, compared with 23% of trainees across all specialties (Table 1 and Figure 1).²⁻⁴ Despite a 12.5% increase over the past 10 years in IMG representation in the physician workforce, cardiothoracic surgery (CTS) had the most rapid decline in IMG numbers among all specialties, with IMGs now representing 20% of the practicing cardiothoracic workforce.⁵ This decrease in representation suggests a potential loss of diversity in the future cardiothoracic workforce. With fewer IMGs, CTS loses the opportunity to improve patient care for the increasingly diverse US population⁶ through shared cultural understanding and language.

A diverse physician workforce can offer valuable cultural insights, conferring improved patient-centered care. Increasing diversity in medical settings improves cognitive processes and knowledge, fosters discussion and alternative viewpoints, and drives healthcare innovation.⁸ Furthermore, as shown in data from medical specialties, IMGs are more likely to practice in underserved areas post-training,⁹ and this is facilitated in all specialties by the fact that there are

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Barriers faced by international medical graduates and support strategies.

CENTRAL MESSAGE

Recruiting and supporting IMGs can enhance diversity and innovation in CTS, improving patient care and reducing racial disparities in healthcare.

associated visa waivers. This may potentially mitigate health disparities in CTS. The medical field has demonstrated increasing support for the international perspective; the American Board of Surgery and the American Board of Thoracic Surgery have pathways to certification for IMGs, which offer certification for surgeons who are currently practicing. The American Medical Association advocates for international physicians, trainees, and students and provides a toolkit for navigating US practicing and training.¹⁰ The American Association of Medical Colleges offers global opportunities by assisting IMGs to come to the United States and US physicians to gain international experience.¹¹ The Accreditation Council for Graduate Medical Education (ACGME) developed ACGME International to standardize international education and ACGME Global to facilitate US medical experience for IMGs. Of note, there are also many non-ACGME-accredited programs that support IMG training throughout the country; however, because of the lack of information on the number of programs or positions, this discussion focuses on ACGME-accredited programs.

CTS must continue to make efforts to recruit top candidates from both US and international medical schools. Unfortunately, several barriers persist for IMGs training in CTS.

From the ^aDivision of Thoracic Surgery, Department of Surgery, Hospital of the University of Pennsylvania, Philadelphia, Pa; ^bLewis Katz School of Medicine at Temple University, Philadelphia, Pa; ^cDepartment of Thoracic Medicine and Surgery, Temple University Hospital, Philadelphia, Pa; ^dDivision of Cardiothoracic Surgery, Department of Surgery, University of Colorado Anschutz, Aurora, Colo; ^eDepartment of Surgery, Duke University, Durham, NC; ^fGurk Law, PC., Riverton, NJ; ^gDepartment of Cardiovascular Surgery, College of Medicine, The Texas Heart Institute, Houston, Tex; ^hDivision of Thoracic Surgery, Brigham and Women's Hospital, Boston, Mass; and ⁱSection of General Thoracic Surgery, Department of Surgery, University of California, Davis Health, Sacramento, Calif. Received for publication July 23, 2024; revisions received Nov 27, 2024; accepted for

Address for reprints: Cherie P. Erkmen, MD, Department of Thoracic Medicine and Surgery, Temple University Hospital, 3401 N Broad St, Suite 501-C, Philadelphia, PA 19102 (E-mail: Cherie.erkmen@tuhs.temple.edu).

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CONSIDERATIONS FOR INTERNATIONAL MEDICAL GRADUATES TO TRAIN IN THE UNITED STATES

To train and practice in the US ACGME-accredited programs, IMGs must meet certain requirements. This includes obtaining certification and licensure from the Educational Commission for Foreign Medical Graduates (ECFMG), providing English-translated copies for state licensure, education verification and transcripts, international education verification, and passing the US Medical Licensing Exam (USMLE). The ECFMG has identified 6 pathways IMGs can take to gain certification, depending on qualifications and experiences of an applicant (Table E1).¹² Pathway options range from recognizing prior licensure (Pathway 1) to evaluations by licensed physicians using ECFMG's Mini-Clinical Evaluation Exercise (Pathway 6). Completing the Occupational English Test for Medicine to satisfy the communication skills requirement and acceptance into an ACGME-accredited graduate medical education (GME) program through the match are additional requirements. Ineligibility for all pathways is determined by factors such as failing Step 2 CS, being barred by USMLE or ECFMG, or not completing the application for ECFMG certification. Additionally, all state licensing jurisdictions require applicants to complete 1-3 years of accredited US or Canadian GME before licensure.¹³

There are 2 main visas for IMGs' training: J-1 and H1-B. Both require an application to the US Department of State, ECFMG certification, and USMLE completion to qualify. Residency certification and specific employment guidelines may vary based on visa type (Table 2). J-1 sponsorship requires a statement of need from home country and is limited to 7 years with mandatory return to their home countries for a minimum of 2 years before returning to the United States. Waivers are available for transition to an H-1B visa for a minimum of 3 years in an area that is designated as the Health Professionals Shortage Act or in Medically Underserved Areas.¹⁴ Return to the home country after residency limits fellowship opportunities and interrupts training in advance fellowships. Surgical fellowships are competitive and often require additional research. Completing a 5-year residency with 2 years of research exhausts the J-1's 7-year limit, necessitating a 2-year return home. H1-B visas, although more costly,¹⁵ do not require return after training. Unlike the J-1 visa, it is granted for employment purposes rather than education allowing for green card application and potential permanent residency. However, this visa is a subject to a random selection process and may involve administrative challenges. The less common O-1 visa, for individuals with extraordinary abilities, offers initial 3-year grants, extendable for 1 year based on accomplishments during the stay.

TABLE	1.	Cardiothoracic	surgery	programs	with	international
medical	gra	duates in 2021				

Subspeciality	Programs	Residents	IMG	%
All	12,420	149,200	34,345	23.0%
Thoracic surgery	74	243	51	21.0%
Congenital	15	22	0	0%
Thoracic integrated	33	203	18	8.9%

IMG. International medical graduate.

IMGs in US residency programs face unique challenges, including limited location choices, visa restrictions, communication barriers, and bureaucracy hurdles. Many institutions do not disclose their ability to sponsor visas, making it hard for noncitizens to identify viable programs. As of 2024, the American Medical Association lists 68 of 76 traditional programs that support J-1 visas and 26 support H-1B visas, 30 of 34 integrated thoracic surgery programs that support J-1 visas, and 13 programs that support H-1B visas.¹⁶ Even when visas are sponsored, IMGs often face additional burdens, such as navigating the US Department of State's visa application process, which can be timeconsuming. Delays in visa approval may impact training start dates, necessitating careful planning. Overall, IMGs, especially those without US citizenship, encounter complex administrative and timing challenges in starting training programs.

Bias against applicants from non-Liaison Committee on Medical Education-accredited programs can hinder applications. Despite programs claiming to accept visas, IMGs often apply to more programs because of lower chances of being interviewed and accepted, even when controlling for USMLE scores,¹⁷ thus increasing financial and time strains.¹⁸ This issue particularly affects applicants from low- and middle-income countries, which make up the majority of top 10 countries of origin for IMGs.14,19,20



FIGURE 1. Percent of IMGs of all residents in postgraduate year 1 positions in 2023. PGY1, Postgraduate year 1.

Guidelines	H-1B physician	J-1 exchange visitor physician
IMG credentials and exam requirements	ECFMG Certification USMLE 1, 2CK, 2CS (Pathway), and Step 3 or Comprehensive Osteopathic Medical Licensing Examination	ECFMG Certificate USMLE 1, 2CK, 2CS (Pathway)
Standard time limit	6-y maximum (Can "buy" back time)*	7-y maximum unless DOH approval for extension
Return home obligation	No return home or service obligation	Required return home obligation for 2 y
Fees	Fees paid by employer, typically \$960-\$3460	Fees paid by J-1 physician, typically \$370
Moonlighting	Internal moonlighting only	No moonlighting
Remediation	Notification only required if remediation leads to a termination	Required notification of physician on remediation
Leave of absence	Notification only required if leave of absence will be unpaid	Required notification of leave of absence
Rotations	Required notification 90 d ahead of rotating outside of institution	Required notification 30 d ahead of rotating outside of institution
Travel	30-d notification to central office of travel outside the United States	30-d notification to central office of travel outside the United States
Mandatory address reporting	File an AR-11 online within 10 d of moving. Supply a copy of the AR-11 to institution.	Update of Oasis portal within 10 d of moving. Notify the institution.

TABLE 2. Residency employment guidelines by visa type

IMG, International medical graduate; *ECFMG*, Educational Commission for Foreign Medical Graduates; *USMLE*, US Medical Licensing Exam; *DOH*, Department of Health. *"Buy back time" or recapture time refers to the process of reclaiming days during which an H-1B visa holder was outside the United States for more than 24 hours, such that these days are not counted toward the 6-year visa limit.

Although virtual interviews reduce some costs, the overall cost remains prohibitive for many IMGs. In the 2023 National Resident Match Program Directors Survey, 78% of program directors seldom or never interview US citizen IMGs, and 88% seldom or never interview foreign IMGs. Program directors reported that visa status was more important than personal statements and away rotations.²¹ Bias may stem from concerns about training quality, applicant adjustment, and perceptions by accrediting bodies.

INTERNATIONAL MEDICAL GRADUATES IN TRAINING

Adjusting to the US healthcare system is a major obstacle. Challenges include the fast-paced environment, multidisciplinary healthcare teams, variety of practice models, and opioid prescribing. The patient-centered, multidisciplinary model in the United States contrasts with the unidirectional systems many IMGs are used to, where medical providers are the sole decision-makers.²² This difference requires increased efforts from IMGs to navigate the system and highlights communication barriers.^{19,23} Despite passing the Occupational English Test for Medicine, communication remains a common challenge for IMGs.²⁴ Issues arise from nuances like accent variations, pace of speech, and local dialects, affecting interactions with patients and colleagues and leading to unfair discrimination and bias, including miscommunications in oral exams.^{19,24}

Workplace bias and discrimination against IMGs can manifest as isolation, bullying, and racial slurs, impacting trainees' mental health and progress.²⁵ GME often focuses on program assimilation over diversity appreciation, fostering fear and exclusion. Although bullying rates do not significantly differ between IMGs and US graduates, IMGs experienced more intimidating discipline, verbal and nonverbal threats, unreasonable application refusals for leave, training, or promotion, and discrimination based on race or sex.²⁶ Residents with visas also experience higher rates of inappropriate behavior and ignoring.²⁶ Despite closer clinical scrutiny, surgical outcomes between IMG and US graduate surgeons show no differences in complications, mortality, or length of stay.²⁷

IMGs who are visa holders face limitations when applying for advanced fellowships and jobs. J-1 visas holders have limited numbers of programs that support waivers, including 4 federal programs, with jobs needing to be in areas with a physician shortage and employers willing to handle associated administrative tasks. Work visa holders must transition their sponsors to new employers, and applying for permanent residency requires employer cooperation. The administrative work must be completed after the employment contract has been signed, but before the start date, which places additional challenges on employment. These restrictions may deter employers from hiring qualified foreign citizens. An



FIGURE 2. CTS programs considerations for IMGs and foreign nationals.^{19,23,24,27} *IMG*, International medical graduate; *ECFMG*, Educational Commission for Foreign Medical Graduates.

alternative pathway for trainees with visa restrictions is working with the Veterans Administration, which has a separate process and timeline. Adjusting to the clinical training environment and securing a supportive employment are particularly challenging for IMGs. Bureaucratic and social barriers faced by IMGs are often overlooked, including finding gap year opportunities, obtaining visas or scholarships,²⁷ and adjusting to life in the United States, such as navigating housing and childcare. Everyday activities like sports and socializing can be challenging due to unfamiliarity, exacerbating stress and making routine tasks more difficult, especially in highly structured fields like surgery.¹⁹ Additionally, those with J-1 visas are not allowed to moonlight, and those with H-1B visas are not allowed to moonlight outside of the sponsoring institution, adding to financial strains (Figure 2).

THE ROLE OF PROGRAM DIRECTORS AND PROGRAM LEADERSHIP

Program leadership and directors play a crucial role in shaping the culture around training IMGs. Programs must distinguish among US citizens, IMGs, and foreign nationals, because the latter often have specific employment and social support needs, even if they have received US medical education. Emphasizing diversity, cardiothoracic programs, and healthcare institutions should establish clear positions on the value IMGs bring. Bias against any group based on country of origin, religion, and race/ethnicity is illegal and immoral, and it is important to incorporate standards of diversity, equity, and inclusion into program standards.^{28,29} Application processes should promote diversity in recruitment,

promotion, and postgraduation employment. Proceeding with recruitment based on qualifications and fit with the program should take priority, and additional resources and collaboration among programs should help to support the right candidate. Support measures for IMGs should include transparency about qualification for positions and visa support (both at the program and national level), dedicated administrative assistance for program directors to manage IMGs' needs, and education on US medical culture in the beginning of training. Mentorship on daily life matters like housing and transportation, awareness of visa impacts on moonlighting, and more training time, vacation, and travel are crucial for inclusive support strategies. Programs can refer IMGs to organizations like the American Association of Medical Colleges, ACGME, and local legal counsel organizations that may provide valuable resources, support networks. and mentorship opportunities. Additionally, candidates should not be disgualified or filtered based on citizenship. Moreover, institutions should consider time constraints of onboarding IMGs, especially those with visas, planning for missed orientations, coverage of clinical duties, and work hour restrictions. Finally, programs should prepare trainees, peers, faculty, coordinators, and program directors to cope with stress and uncertainty regarding IMGs, visas, and potentially immigration. Table 3 summarizes the major problems facing IMGs and how programs and the community can intervene to support IMGs.

CONCLUSIONS

With the growing diversity in medicine overall, IMG representation within CTS should continue to be fostered. Boosting IMG representation in CTS, especially among

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Problem	Intervention
High cost of visa applications	Professional societies:
	 financial assistance for IMGs from low-income countries, tailored for the poverty level of different countries, rather than that of the United States; political advocacy to facilitate exchange of international surgeons. Institutions:
	 support or defray costs of their trainees applications; develop shared expertise and people who can help navigate processes thus diminishing legal consulting needs.
Confusion navigating pathways for	Professional societies:
certification and visa application	 support guidelines regarding transparency within the application process; provide networking opportunities to connect people needing advice and those who have experience navigating the process; develop webinars, publications, and informational web pages describing the process of certification and visa applications. Cardiothoracic training programs:
	 publish their policies for international applicants and applicants with international training; publish policies regarding visa applications; collaborate with the program's international students' office for additional support when needed.
Workplace bias	Professional societies:
	 provide education about benefits of diverse perspectives from international surgeons and surgeons with international training; offer CME and educational programming about bias mitigation. Cardiothoracic training programs:
	 develop bias mitigation policy; review bias mitigation prior to recruitment; educate residents, faculty, and staff about implicit biases and the challenges IMGs may experience during training by sharing individual stories from faculty and trainees who have navigated the training and employment process; choose candidates for positions based on qualifications without filtering by citizenship or visa status.
Difficulty navigating the	Professional societies:
US healthcare system	 develop international communities for mentorship and networking; develop webinars, podcasts, websites that help with common areas of adjustment from international to the US healthcare system; Institutions:
	 create educational content on cultural competency, including US and local healthcare culture in the beginning of training; provide mentors with experience in navigating transition from international practice to US practice; provide mentorship on daily life matters; provide pathway for additional education or training to adapt to the US healthcare paradigm; prepare to cope with stress and uncertainty around visas and immigration issues.
Programmatic administrative challenges	Dedicated administrative assistance within programs to manage IMG needs;Allow for additional time for onboarding IMGs or international surgeons.

IMG, International medical graduate; *CME*, continuing medical education.

visa-holding physicians, could enhance patient care and innovation and potentially mitigate racial disparities in healthcare. We have identified several barriers to IMG training, including adjustment to US medical culture, immigration issues, and bias, and outlined measures for program directors to mitigate these difficulties. However, further research and effort are needed to support IMG colleagues in CTS.

Conflict of Interest Statement

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References

- Oslock WM, Satiani B, Way DP, et al. A contemporary reassessment of the US surgical workforce through 2050 predicts continued shortages and increased productivity demands. *Am J Surg.* 2022;223(1):28-35. https://doi.org/10.1016/j.amj surg.2021.07.033
- Association of American Medical Colleges. Physician specialty data report: executive summary 2022. Accessed June 1, 2024. https://www.aamc.org/datareports/data/2022-physician-specialty-data-report-executive-summary
- LLC. IP. Five year analysis IMG residency match statistics for 2017-2021. 2022. Accessed June 1, 2024. https://www.imgprep.com/five-year-analysis-residencymatch-statistics-for-imgs
- Program NRM. Results and data: 2021 main residency match. 2021. Accessed June 1, 2024. https://www.nrmp.org/wp-content/uploads/2021/08/MRM-Results_and-Data_2021.pdf
- Association of American Medical Colleges. Physician specialty report, 2021. Dec. 31, 2021. Accessed June 1, 2024. https://www.aamc.org/data-reports/ workforce/data/number-people-active-physician-specialty-2021
- U.S. Census Bureau. Exploring Diversity in the 2020 Census. U.S. Census Bureau; 2023. Accessed July 12, 2024. https://www.census.gov/newsroom/blogs/ random-samplings/2023/09/exploring-diversity.html
- 7. Laveist TA, Nuru-Jeter A. Is doctor-patient race concordance associated with greater satisfaction with care? *J Health Soc Behav.* 2002;43(3):296-306.
- Whitla DK, Orfield G, Silen W, Teperow C, Howard C, Reede J. Educational benefits of diversity in medical school: a survey of students. *Acad Med.* 2003;78(5): 460-466. https://doi.org/10.1097/00001888-200305000-00007
- Thompson MJ, Hagopian A, Fordyce M, Hart LG. Do international medical graduates (IMGs) "fill the gap" in rural primary care in the United States? A national study. J Rural Health. 2009;25(2):124-134. https://doi.org/10.1111/j.1748-0361. 2009.00208.x
- American Medical Association. International Medical Graduates (IMG) toolkit: finding and applying to residency programs. Accessed July 14, 2024. https://www. ama-assn.org/education/international-medical-education/international-medical-grad uates-img-toolkit-finding
- Association of American Medical Colleges. Seeking a global opportunity. Accessed July 14, 2024. https://students-residents.aamc.org/visiting-student-learning-opportunities/seeking-global-opportunity
- 12. Educational Commission for Foreign Medical Graduates. Requirements for ECFMG Certification for 2024 Match 2023. Accessed August 1, 2024. https://www.ecfmg.org/certification-pathways/

- Federation of State Medical Boards. State specific requirements for initial medical licensure. Federation of State Medical Boards. Accessed July 14, 2024. https://www.fsmb.org/step-3/state-licensure/
- 14. Intealth. J-1 sponsorship data; 2023. Accessed July 14, 2024. Intealth.org
- Al Ashry HS, Kaul V, Richards JB. The implications of the current visa system for foreign medical graduates during and after graduate medical education training. J Gen Intern Med. 2019;34(7):1337-1341. https://doi.org/10.1007/ s11606-019-05027-1
- FREIDA™ AMA Residency. Fellowship programs database. Accessed July 1, 2024. ama-assn.org
- National Resident Matching Program. Interactive charting outcomes in the match; 2022. Accessed July 14, 2024. https://www.nrmp.org/match-dataanalytics/interactive-tools/charting-outcomes/
- Erkmen C, Cintron J, Raman V, Randhawa S, Coselli J, Jaklitsch M. Immigration status, foreign medical graduates, and visas: what does this mean to an ACGME Thoracic Surgery Residency Program? 2022 TSDA Virtual Gen Sessions: TDSA. June 6, 2022.
- Murillo Zepeda C, Alcalá Aguirre FO, Luna Landa EM, Reyes Güereque EN, Rodríguez García GP, Diaz Montoya LS. Challenges for international medical graduates in the US graduate medical education and health care system environment: a narrative review. *Cureus*. 2022;14(7):e27351. https://doi.org/10.7759/ cureus.27351
- Ahmed AA, Hwang WT, Thomas CR Jr, Deville C Jr. International medical graduates in the US physician workforce and graduate medical education: current and historical trends. J Grad Med Educ. 2018;10(2):214-218.
- National Resident Matching Program. Results of the 2021 NRMP program director survey; 2021. Accessed July 14, 2024. https://www.nrmp.org/wp-content/uploads/2021/11/2021-PD-Survey-Report-for-WWW.pdf
- Jain P, Krieger JL. Moving beyond the language barrier: the communication strategies used by international medical graduates in intercultural medical encounters. *Patient Educ Couns.* 2011;84(1):98-104. https://doi.org/10.1016/j. pec.2010.06.022
- Heist BS, Torok HM. Japanese international medical graduates and the United States clinical training experience: challenges abroad and methods to overcome them. J Gen Fam Med. 2020;21(4):109-118. https://doi.org/10.1002/ jgf2.315
- Symes HA, Boulet J, Yaghmour NA, Wallowicz T, McKinley DW. International medical graduate resident wellness: examining qualitative data from J-1 visa physician recipients. *Acad Med.* 2022;97(3):420-425. https://doi.org/10.1097/ ACM.000000000004406
- Smith SM, Parkash V. Normalized "medical inferiority bias" and cultural racism against international medical graduate physicians in academic medicine. *Acad Pathol.* 2023;10(4):100095. https://doi.org/10.1016/j.acpath. 2023.100095
- Chadaga AR, Villines D, Krikorian A. Bullying in the American graduate medical education system: a national cross-sectional survey. *PLoS One.* 2016; 11(3):e0150246. https://doi.org/10.1371/journal.pone.0150246
- Zaheer S, Pimentel SD, Simmons KD, et al. Comparing international and United States undergraduate medical education and surgical outcomes using a refined balance matching methodology. *Ann Surg.* 2017;265(5):916-922. https://doi. org/10.1097/SLA.00000000001878
- 28. Ortmeyer KA, Raman V, Tiko-Okoye CS, et al. Goals, organizational change, advocacy, diversity literacy, and sustainability: a checklist for diversity in cardiothoracic surgery training programs. J Thorac Cardiovasc Surg. 2021;162(6): 1782-1787.
- Erkmen CP, Kane L, Cooke DT. Bias mitigation in cardiothoracic recruitment. Ann Thorac Surg. 2021;111(1):12-15.

Key Words: IMG, training, education, international medical graduates

TABLE E1.	Educational	Commission fo	or Foreign	Medical	Graduates	certification	requirement	pathways
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Pathway 1	Applicant is already licensed to practice medicine in another country
Pathway 2	Applicant passed a standardized clinical skills exam for medical licensure
Pathway 3	Applicant attended a medical school accredited by agency recognized by World Federation for Medical Education
Pathway 4	Applicant's medical school participates in a US federal student loan program
Pathway 5	Applicant's medical school issues a degree jointly with a US medical school accredited by Liaison Committee on Medical Education
Pathway 6	Applicant completes 6 Mini-CEX evaluations

Mini-Cex, Mini-Clinical Evaluation Exercise.