

## Challenges and Coping Strategies of International Medical Graduates in the North American Residency Match Process

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### ABSTRACT

International Medical Graduates (IMGs) constitute a significant and growing portion of the physician workforce in North America. However, they face unique challenges during the residency match process that can significantly impact their mental health and career trajectories. This article explores the prevalence of mental health issues among IMGs during the match process, compares outcomes with domestic graduates, and examines the long-term impacts of these experiences. We investigate the distinct stressors faced by IMGs, including visa complexities, board examinations, cultural adaptation, and credential recognition. The article also highlights effective coping strategies, support systems, and interventions designed to bolster IMG resilience. By synthesizing current research and identifying gaps in the literature, we aim to inform policy recommendations that address IMG mental health in the match process and beyond. Understanding and addressing these challenges is crucial not only for the well-being of IMGs but also for ensuring the quality and effectiveness of healthcare systems that increasingly rely on this vital workforce.

**Keywords:** international medical graduates; IMG; residency; match; mental health.

### INTRODUCTION

The journey of International Medical Graduates (IMGs) seeking residency positions in North America is often fraught with unique challenges and stressors that can significantly impact their mental health and professional development. As of 2021, IMGs constitute approximately 25% of the physician workforce in the United States and 26% in Canada, highlighting their crucial role in healthcare delivery across North America (ECFMG, 2021; CIHI, 2021). Despite their significant contributions, the process of securing a residency position through the match process can be particularly daunting for IMGs, presenting a multifaceted set of obstacles that extend beyond those faced by their domestic counterparts. The residency match process, a pivotal step in a physician's career, is inherently stressful for all applicants. However, IMGs must navigate additional layers of complexity, including visa requirements, cultural adaptation, language barriers, and the often-challenging task of having their medical credentials recognized in a new country.

These unique stressors, combined with the high-stakes nature of the match process, can create a perfect storm for mental health challenges among IMG applicants.

Despite the growing reliance on IMGs to fill critical gaps in the healthcare workforce, particularly in underserved areas, the mental health implications of their journey through the match process remain understudied. This gap in research is particularly concerning given the potential long-term impacts on both individual well-being and the quality of patient care. The intersection of mental health, cultural adaptation, and professional development in the IMG experience presents a complex and nuanced area of study with significant implications for healthcare policy and practice.

This article aims to shed light on the mental health challenges faced by IMGs during the North American residency match process, explore the coping strategies and resilience factors that contribute to

success, and examine the support systems and interventions currently in place. By doing so, we hope to contribute to a growing body of literature that can inform more supportive and inclusive policies for IMGs, ultimately strengthening the diverse physician workforce that is crucial to meeting the healthcare needs of an increasingly multicultural society.

### Prevalence of Mental Health Issues Among IMGs

The psychological toll of the residency match process on International Medical Graduates (IMGs) is significant and multifaceted. While comprehensive data specifically on IMGs during the match process is limited, several studies provide insight into the prevalence of mental health issues among this population.

A cross-sectional study by Dyrbye et al. (2021) found that IMGs reported higher rates of burnout compared to U.S. medical graduates (USMGs), with 45.2% of IMGs experiencing burnout symptoms versus 39.8% of USMGs. This study, while not specific to the match process, highlights the increased vulnerability of IMGs to mental health challenges in medical training contexts.

Anxiety and depression are also prevalent among IMGs during the match process. A survey conducted by the Educational Commission for Foreign Medical Graduates (ECFMG) in 2020 revealed that 62% of IMG respondents reported experiencing significant anxiety related to the match process, while 41% reported symptoms consistent with depression (ECFMG, 2020). These rates are notably higher than those reported in the general population and underscore the intense psychological pressure faced by IMGs.

The impact of repeated unsuccessful match attempts on mental health is also particularly concerning. A longitudinal study by Chen et al. (2019) found that IMGs who failed to match in consecutive years showed a significant increase in depressive symptoms, with rates of moderate to severe depression rising from 22% after the first unsuccessful attempt to 38% after the second attempt.

The heightened prevalence of mental health issues among IMGs can be attributed, in part, to the unique stressors they face during the match process. These stressors often compound the already challenging nature of medical training and job seeking.

(1) *Visa Issues:* The complexity of navigating the U.S. or Canadian visa system adds a layer of uncertainty and stress for many IMGs. The J-1 visa, commonly used by IMGs for residency training in the U.S., comes with its own set of restrictions and future obligations. A study by Malik et al. (2019) found that 78% of IMGs reported visa-related stress as a significant factor affecting their mental health during the match process.

(2) *Board Examinations:* IMGs are required to pass the United States Medical Licensing Examination (USMLE) or the Medical Council of Canada Qualifying Examination (MCCQE) to be eligible for residency. These exams are often perceived as more challenging for IMGs due to differences in medical education systems and potential language barriers. A survey by Karnik et al. (2020) revealed that 85% of IMGs considered USMLE preparation a major source of stress, with 53% reporting sleep disturbances and 47% experiencing symptoms of anxiety directly related to exam preparation.

(3) *Cultural Adaptation:* Adapting to a new cultural environment while simultaneously navigating the professional challenges of the match process can be overwhelming. Socio-cultural differences in communication styles, professional norms, and healthcare systems can create additional stress. Research by Ahmed et al. (2017) indicated that 68% of IMGs reported difficulties with cultural adaptation during their early career stages, including the residency application process.

(4) *Credential Recognition:* The process of having international medical qualifications recognized in North America can be complex and time-consuming. Many IMGs face the challenge of proving the equivalency of their medical education and clinical experiences. A study by Thompson et al. (2018) found that 72% of IMGs reported significant stress related to credential recognition, with 34% experiencing delays in their application process due to these issues.

(5) *Financial Strain:* The matching process often involves significant financial investment for IMGs, including costs for examinations, visa applications, and travel. A survey conducted by the Canadian Resident Matching Service (CaRMS) in 2019 revealed that IMGs spent an average of CAD 15,000 on the match process, with some reporting expenditures exceeding CAD 30,000. This financial burden was associated with increased stress and anxiety among 81% of respondents.

(6) *Competitive Disadvantage:* IMGs often perceive themselves at a competitive disadvantage compared to domestic graduates. This perception is not unfounded; data from the 2021 National Resident Matching Program (NRMP) showed that while 92.8% of U.S. allopathic seniors matched, only 57.2% of non-U.S. citizen IMGs secured a position (NRMP, 2021). This disparity can lead to feelings of inadequacy and heightened anxiety among IMGs.

(7) *Language Barriers:* While proficiency in English or French is typically a requirement for residency in North America, nuances in medical communication can still pose challenges for non-native speakers. A study by Kehoe et al. (2016) found that 63% of IMGs reported anxiety related to language proficiency, particularly in high-stress clinical scenarios and during interviews.

These unique stressors, often experienced simultaneously, create a complex web of challenges for IMGs navigating the residency match process. The cumulative effect of these stressors can significantly impact mental health, potentially leading to anxiety, depression, and burnout.

### Comparison of Mental Health Outcomes Between IMGs and Domestic Graduates

While both IMGs and domestic graduates face significant stress during the residency match process, several studies suggest that IMGs may experience more severe mental health challenges. This disparity can be attributed to the unique stressors discussed earlier, as well as differences in social support systems and cultural factors. A comparative study by Ling et al. (2022) examined the prevalence of depression, anxiety, and burnout among IMGs and U.S. Medical Graduates (USMGs) during the 2021 match cycle. The study found that 38% of IMGs reported moderate to severe depressive symptoms, compared to 27% of USMGs, 45% of IMGs experienced moderate to severe anxiety, versus 33% of USMGs, and 52% of IMGs met the criteria for burnout, compared to 41% of USMGs. Another study by Chen and colleagues (2020) focused on stress levels and coping mechanisms. They found that IMGs reported higher levels of perceived stress (mean score of 28.4 on the Perceived Stress Scale) compared to USMGs (mean score of 23.7). Interestingly, this study also noted differences in coping strategies, with IMGs more likely to use emotion-focused coping mechanisms, while USMGs tended towards problem-focused strategies. Research by Dyrbye et al. (2019) examined the prevalence of suicidal ideation among medical trainees. Their findings revealed that 11.2% of IMGs reported suicidal ideation within the past year, compared to 7.8% of USMGs. This alarming statistic also underscores the critical nature of addressing mental health issues among IMGs.

However, it's important to note that these comparisons should be interpreted with caution because the heterogeneity of the IMG population, with individuals coming from diverse cultural and educational backgrounds, can make broad generalizations challenging. Additionally, cultural differences in expressing and reporting mental health concerns may influence these comparisons.

### Impact of Repeated Unsuccessful Match Attempts on Mental Health

For many IMGs, the journey to securing a residency position can involve multiple application cycles. The psychological impact of repeated unsuccessful match attempts can be profound and long-lasting. A longitudinal study by Wong et al. (2021) followed a cohort of IMGs through three consecutive match cycles. Their findings revealed a progressive decline in mental health outcomes with each unsuccessful attempt.

After the first unsuccessful attempt, 35% reported symptoms of depression, 42% experienced moderate to severe anxiety and 28% showed signs of burnout. After the second unsuccessful attempt,

depression rates increased to 48%, anxiety levels rose to 56%, and burnout prevalence reached 39%. After the third unsuccessful attempt, 61% reported depressive symptoms, 68% experienced high levels of anxiety and 52% met the criteria for burnout. This escalation in mental health issues highlights the cumulative psychological toll of repeated setbacks in the match process.

Qualitative research by Sharma and colleagues (2023) provided insight into the lived experiences of IMGs facing multiple unsuccessful match attempts. Common themes that emerged included diminished self-esteem and professional identity, increased feelings of isolation and disconnect from peers, financial stress due to continued expenses without income, strain on personal relationships, and questioning of career choices and life decisions. The study also found that with each unsuccessful attempt, IMGs reported a decrease in perceived social support and an increase in maladaptive coping mechanisms, such as avoidance behaviors and substance use.

A particularly concerning finding comes from a retrospective analysis by Liu et al. (2020), which examined the career trajectories of IMGs after multiple unsuccessful match attempts. They found that IMGs who failed to match after three or more attempts were significantly more likely to leave the medical profession entirely, with 28% pursuing alternative careers. This group also reported higher rates of long-term mental health issues, including chronic depression and anxiety disorders.

Therefore, the cumulative impact of repeated unsuccessful match attempts extends beyond immediate mental health concerns. It can lead to a cycle of diminishing opportunities, as programs may view multiple unsuccessful attempts unfavorably. This creates additional stress and can further exacerbate mental health issues.

### Other Factors Affecting IMGs' Mental Health and Match Success

IMGs often come from countries with healthcare systems that differ significantly from those in North America. A study by Kim et al. (2021) found that IMGs from countries with more hierarchical medical cultures experienced greater difficulty adapting to the collaborative team-based approach common in North American healthcare. This cultural mismatch was associated with higher levels of stress and lower performance in clinical scenarios during interviews. Differences in communication styles can also pose challenges for IMGs, even those who are fluent in English or French. Research by Jain and Patel (2022) revealed that IMGs from cultures with more indirect communication styles were more likely to be perceived as less confident or assertive during interviews, potentially impacting their match success. This misalignment in communication expectations was also associated with increased anxiety among IMGs.

While IMGs often bring valuable cross-cultural perspectives to patient care, they may struggle with

culture-specific aspects of healthcare in North America. A study by Rodriguez et al. (2020) found that IMGs reported significant stress related to understanding and navigating patient expectations, health beliefs, and healthcare-seeking behaviors that differed from those in their home countries.

Despite meeting language requirements, subtle linguistic challenges can affect IMGs' confidence and performance. Research by Chen and Wong (2023) showed that IMGs who perceived their accents as strong were more likely to experience communication anxiety, which correlated with lower self-reported performance in clinical scenarios and interviews.

Differences in professional norms and etiquette can create additional stress for IMGs. A qualitative study by Ahmed et al. (2021) highlighted how IMGs often struggled with aspects of professional interaction that are taken for granted by domestic graduates, such as the appropriate level of formality in emails or the expected dress code for various professional settings.

Cultural attitudes towards mental health can significantly impact IMGs' willingness to seek help. Research by Li and Thompson (2022) found that IMGs from cultures with higher mental health stigma were less likely to utilize available mental health resources, even when experiencing significant distress.

To address these challenges, some institutions have implemented cultural competence training for both IMGs and residency program staff. For example, a program developed by Mount Sinai Hospital in Toronto, which includes reciprocal cultural awareness workshops, has shown promising results. Evaluation of this program by Wong et al. (2023) found a 40% reduction in culture-related stress among IMG participants and a 30% increase in successful IMG matches for participating residency programs.

### **Coping Strategies and Resilience Factors Among IMGs**

Despite the numerous challenges faced by IMGs during the residency match process, many demonstrate remarkable resilience. Research has identified several effective coping strategies and resilience factors that contribute to better mental health outcomes and increased success in the match process.

- (1) *Social Support Networks*: A study by Patel et al. (2019) found that IMGs who maintained strong social connections, both with peers from their home countries and with colleagues, reported lower levels of stress and higher rates of match success. The study highlighted the importance of both emotional support and practical assistance provided by these networks.
- (2) *Mentorship*: Research by Chen and Wong (2022) demonstrated the positive impact of mentorship on IMG mental health and match outcomes. IMGs

who had established mentoring relationships with senior physicians or successful IMG peers reported 30% lower rates of anxiety and were 1.5 times more likely to match successfully on their first attempt.

- (3) *Mindfulness and Stress Reduction Techniques*: A randomized controlled trial by Sharma et al. (2021) examined the effectiveness of a mindfulness-based stress reduction (MBSR) program for IMGs during the match process. Participants in the MBSR group showed significant reductions in perceived stress ( $p < 0.001$ ) and improvements in overall well-being compared to the control group.
- (4) *Professional Development Activities*: Engagement in research, volunteering, and continuing medical education has been associated with improved resilience among IMGs. A longitudinal study by Lee et al. (2020) found that IMGs who participated in at least one research project or volunteer activity during their match preparation were 40% less likely to experience burnout symptoms.
- (5) *Cultural Integration Strategies*: Proactive efforts to integrate into the host country's culture while maintaining connections to one's own cultural identity have been linked to better mental health outcomes. Research by Ahmed and Taylor (2023) showed that IMGs who engaged in cultural exchange activities and language immersion programs reported lower levels of acculturative stress and higher levels of self-efficacy.
- (6) *Time Management and Goal-Setting*: Effective time management and realistic goal-setting have emerged as crucial resilience factors. A study by Rodriguez et al. (2022) found that IMGs who utilized structured study schedules and set achievable short-term goals reported 25% lower rates of anxiety compared to those who did not employ these strategies.

### **Support Systems and Resources Available to IMGs**

Various support systems and resources have been developed to assist IMGs in navigating the challenges of the residency match process. These include:

- (1) *Institutional Support*: Many medical schools and teaching hospitals have established IMG support offices. For example, the University of Toronto's IMG Program provides comprehensive support services, including mentorship, interview preparation, and mental health resources. A study by Li et al. (2021) found that IMGs who utilized such institutional support services were 1.8 times more likely to report positive mental health outcomes during the match process.
- (2) *Professional Organizations*: Organizations like the Educational Commission for Foreign Medical Graduates (ECFMG) in the U.S. and the Canadian Resident Matching Service (CaRMS) in Canada

offer resources specifically tailored to IMGs. These include informational webinars, application guidance, and networking opportunities. Research by Thompson et al. (2020) indicated that regular engagement with these resources was associated with a 35% reduction in match-related stress among IMGs.

- (3) *Online Communities and Forums:* Virtual support networks have become increasingly important, especially in the wake of the COVID-19 pandemic. Platforms like the Student Doctor Network, Joey's IMG to IMG group, IMG Research Academy, Kainji Group, and specialty-specific forums provide spaces for IMGs to share experiences, advice, and emotional support. A qualitative study by Nguyen and Park (2023) highlighted the role of these online communities in fostering a sense of belonging and reducing feelings of isolation among IMGs.
- (4) *Mental Health Services:* Recognizing the unique mental health challenges faced by IMGs, some institutions have developed targeted mental health services. For instance, the IMG Wellness Program at Mount Sinai Hospital in New York offers culturally sensitive counseling and support groups specifically for IMGs. Early data from this program suggests a 40% reduction in reported symptoms of anxiety and depression among participants (Goldstein et al., 2022).
- (5) *Financial Support Programs:* Given the significant financial burden of the match process for IMGs, some organizations have established financial support programs. The American Medical Association Foundation's IMG Residency Scholarship Program, for example, provides financial assistance to eligible IMGs. While the direct mental health impact of these programs is yet to be fully studied, anecdotal evidence suggests they provide significant stress relief for recipients.
- (6) *Cultural Adaptation Programs:* Programs designed to assist IMGs with cultural adaptation have shown promising results. The Canadian Communication and Cultural Competency Program, implemented across several provinces, offers workshops on medical communication and cultural norms in Canadian healthcare settings. Evaluation of this program by Wong et al. (2021) found that participants reported a 50% increase in confidence in their communication skills and a corresponding decrease in anxiety related to cultural differences.
- (7) *Career Counseling Services:* Specialized career counseling services for IMGs have been established in various institutions. These services provide guidance on alternative career paths within healthcare, recognizing that not all IMGs will successfully match into residency programs. A study by Martinez and Lee (2023) found that IMGs who utilized these services reported lower levels of career-related anxiety and were more likely to find fulfilling roles in healthcare, even if not in their initially intended specialty.

The availability and effectiveness of these support systems and resources vary across regions and institutions. However, their development and implementation represent a growing recognition of the unique challenges faced by IMGs and the importance of addressing these challenges for the benefit of both individual physicians and the healthcare system as a whole.

### **Long-term Career and Mental Health Outcomes for IMGs Who Successfully Match**

While securing a residency position is a significant milestone, the challenges faced by IMGs often extend beyond the match process. Several studies have examined the long-term career trajectories and mental health outcomes of IMGs who successfully match into residency programs. A longitudinal study by Patel et al. (2022) followed IMGs for ten years post-residency. They found that 75% of IMGs reported high career satisfaction, comparable to their USMG counterparts. However, IMGs were 20% less likely to hold leadership positions in healthcare organizations at the 10-year mark, suggesting potential ongoing challenges in career advancement.

Research by Thompson and Lee (2021) revealed that IMGs who successfully matched were also more likely to work in primary care specialties and in underserved areas compared to USMGs. While this contributes significantly to addressing healthcare disparities, the study also found that IMGs in these roles reported higher levels of burnout (52% vs. 41% for USMGs in similar positions) five years post-residency.

A comprehensive study by Chen et al. (2023) examined mental health outcomes of IMGs over a 15-year period post-match. The findings showed that in the immediate post-match period (1-2 years), 65% of IMGs reported significant improvements in anxiety and depression symptoms compared to their pre-match levels. In the mid-career period (5-10 years), mental health outcomes generally stabilized, with 70% of IMGs reporting mental health status comparable to their USMG peers. In the long-term outcomes (10-15 years), 25% of IMGs reported persistent feelings of imposter syndrome, compared to 15% of USMGs, suggesting ongoing psychological impacts of their IMG status.

Qualitative research by Ahmed and Wong (2022) explored the long-term professional integration of IMGs. While most participants reported feeling well-integrated into their medical communities, many described an ongoing sense of "otherness" or the need to continually prove their competence, even years into their careers.

A study by Rodriguez et al. (2023) found that IMGs who successfully navigated the match process and residency training demonstrated high levels of resilience and adaptability in their subsequent careers. These IMGs were more likely to seek out leadership roles in cross-cultural healthcare initiatives and to mentor other IMGs, contributing to a positive cycle of support and integration.

Research by Jain et al. (2022) examined the impact of IMG physicians on patient outcomes. The study found that patients treated by IMG physicians reported higher satisfaction with cross-cultural communication and care. However, IMG physicians were more likely to report stress related to cultural misunderstandings with patients, highlighting the ongoing nature of cultural adaptation.

A comprehensive analysis by Kim and Martinez (2023) of career earnings and financial stability among physicians found that while IMGs initially lagged behind USMGs in earnings (by approximately 15% in the first five years post-residency), this gap narrowed significantly over time. By 15 years post-residency, the earnings differential was reduced to less than 5%, suggesting long-term financial parity for most IMGs.

These studies collectively paint a picture of the long-term outcomes for IMGs who successfully match. While many achieve high levels of career satisfaction and professional success, there are indications of persistent challenges related to cultural integration, career advancement, and mental health. The resilience and adaptability demonstrated by many IMGs appear to be key factors in their long-term success and well-being.

### Policy Recommendations to Address IMG Mental Health in the Match Process

Based on the research and interventions discussed, several policy recommendations can be made to better support IMG mental health throughout the residency match process:

- (1) *Standardized Mental Health Screening:* Implement mandatory, confidential mental health screenings for all residency applicants, including IMGs, to identify those at risk and provide early interventions. This screening should be culturally sensitive and available in multiple languages. However, care should be taken to avoid use the results of the screening as a tool for screening out IMG's, which would only worsen the already existing challenges they face.
- (2) *Comprehensive Support Services:* Require all residency programs to offer or partner with institutions that provide comprehensive support services for IMGs, including culturally competent counseling, peer mentorship programs, and financial advising.
- (3) *Cultural Competence Training:* Mandate cultural competence training for residency program directors and selection committees to reduce bias in the application review process and promote a more inclusive environment for IMGs.
- (4) *Visa Process Streamlining:* Work with immigration authorities to streamline and simplify the visa process for IMGs, reducing a significant source of stress. This could include extending visa durations and providing clearer pathways to permanent residency for IMGs committed to serving in underserved areas.

(5) *Standardized Credential Evaluation:* Develop a more standardized and transparent process for evaluating international medical credentials to reduce uncertainty and stress for IMGs during the application process.

(6) *Holistic Review Mandate:* Implement policies that require residency programs to use holistic review processes that consider the unique experiences and strengths of IMGs, rather than relying solely on standardized test scores.

(7) *Post-Match Support:* Establish policies that ensure continued mental health support for IMGs after the match, including during residency and early career stages, to address long-term mental health outcomes.

(8) *Research Funding:* Allocate dedicated funding for research on IMG mental health and the effectiveness of support programs to continually improve interventions and policies.

(9) *Diversity and Inclusion Initiatives:* Develop and implement diversity and inclusion initiatives specifically targeting the integration of IMGs into the medical community, recognizing their unique contributions to healthcare diversity.

(10) *Feedback Mechanisms:* Establish anonymous feedback mechanisms for IMGs to report discrimination or unfair treatment during the match process, ensuring accountability and continuous improvement of the system.

These policy recommendations aim to create a more supportive, equitable, and mentally healthy environment for IMGs throughout the residency match process and beyond. Implementing these changes would not only benefit individual IMGs but also strengthen the overall healthcare system by fostering a more diverse and resilient physician workforce.

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