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PROMOTING EQUITY AMONG INTERNATIONAL MEDICAL GRADUATES

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Abstract

Background

International Medical Graduates (IMGs) constitute 25-40% of the physician workforce in their host High Income Countries (HICs) (Batalova, 2020). Implementation of acculturation strategies helps them navigate their professional careers better, contributing to high performing health systems, with better health outcomes (Kehoe et al., 2016; Kamimura et al, 2017). A review of the current state of these targeted intervention strategies can guide the creation of context specific flexible acculturation strategies while optimizing resource utilization. Further IMGs emigrate to the US from 154+ countries, thus representing wide diversity in terms of their demographic characteristics, professional backgrounds and acculturation needs (Kehoe et al, 2016). However, current acculturation strategies treat IMGs as a homogenous group (Chen et al, 2011; Osta et al, 2016). Research recommends identifying the unique needs of this diverse group so that acculturation strategies can be effectively tailored for them.

Methods

This integrated doctoral research uses systematic review and qualitative research methodology to identify, examine and describe the acculturation strategies IMGs find useful in navigating their careers in their host High Income Countries (HICs).

The systematic review uses PRISMA guidelines. Inclusion criteria are research articles published in English between 2000 and 2021 and available in the PubMed, Embase, PsycINFO, CINAHL and Web of Science databases. Three types of studies (n=46) are included. The first are description or evaluation studies of the interventions designed to facilitate the acculturation of IMGs (n=15). The second group are studies documenting the opinions of IMGs regarding the strategies that helped them navigate their professional career in their host countries (n=21). The

third group are viewpoints or commentaries by the trainers of the IMGs documenting their experiential learning of practices that help IMGs transition to life in their host countries (n=10).

Next, the interpretative, qualitative study used Zoom to interview 34 IMGs from India who have been practicing in the US for at least 15 years. The interviews were conducted in English using a semi-structured questionnaire, recorded with their prior permission and transcribed verbatim. They were, encoded independently by two researchers using NVivo software. Inter-researcher differences in coding were resolved through discussion and a codebook with 59 primary codes, 27 secondary codes was created, to identify and develop three thematic areas.

Results

The systematic review includes 46 heterogeneous research studies from nine host countries. These are intervention studies or their evaluations (n=21), studies of perceptions of IMGs on 'what works' (n=15) and commentaries by trainers of IMGs (n=10). The studies are primarily from UK (n= 17), Australia (n=10) and US (n=9). Although the studies are heterogeneous in terms of the survey recruitment and communication methods, measurement instruments, content and duration of interventions, quantum, timing of outcome measurements, and analytical methods, their findings are complementary. Results show multiple channels of communication are successful in providing support, which is maximally needed towards the start of the IMGs' residencies in their host countries. IMGs benefit from additional targeted induction training at the start of residency. This training should include training on clinical skills, host country health system, culture & customs, communication and language skills. It should be administered by clinicians and linguistics experts. There is emerging evidence for interventions regarding provision and utilization of peer mentoring support, creation of social and professional

support networks, collegial support, social integration and sensitizing organizational employees to the special needs of the IMGs.

The qualitative study finds strategies facilitating acculturation of IMGs from India form three categories: medical system strategies, cultural strategies and personal attributes. First, the medical system strategies include a strong work ethic developed during their medical training in India, professional proficiency in English language and a comparable age with their counterparts at the start of their second residency in the US. Next, the cultural strategies include both, the universality, sanctity and stability of their marriages and their strong, informal social support networks. They maintain strong ties to India while embracing American culture. All respondents had stable heterosexual marriages, which is an incidental finding. None of the respondents identified themselves as LGBTQ, possibly because the LGBTQ community remains taboo among Indians (Venugopal, 2015). Their personal attributes of a clear vision, set goals helps them persevere in a single-minded pursuit to achieving them. They came prepared to repeat their residencies, have worked hard and used emotional intelligence to handle microaggressions.

Conclusion

IMGs are projected to continue to constitute a significant percentage of the physician workforce in HICs. Acculturation strategies facilitate their transition to the health systems in their host countries. These strategies need to include training on communication, provide continued support over the initial years and be disseminated through digital age channels. IMGs from India have unique strengths and hence, there is scope for tailoring these strategies to the unique needs of IMGs from different countries.

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List of Abbreviations

IMG	International Medical Graduate
HIC	High Income Countries
LMIC	Low- and Middle-Income Countries
OECD	Organization for Economic Co-operation and Development
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
US	United States
WHO	World Health Organization

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Chapter 1: Introduction

1.0 Background

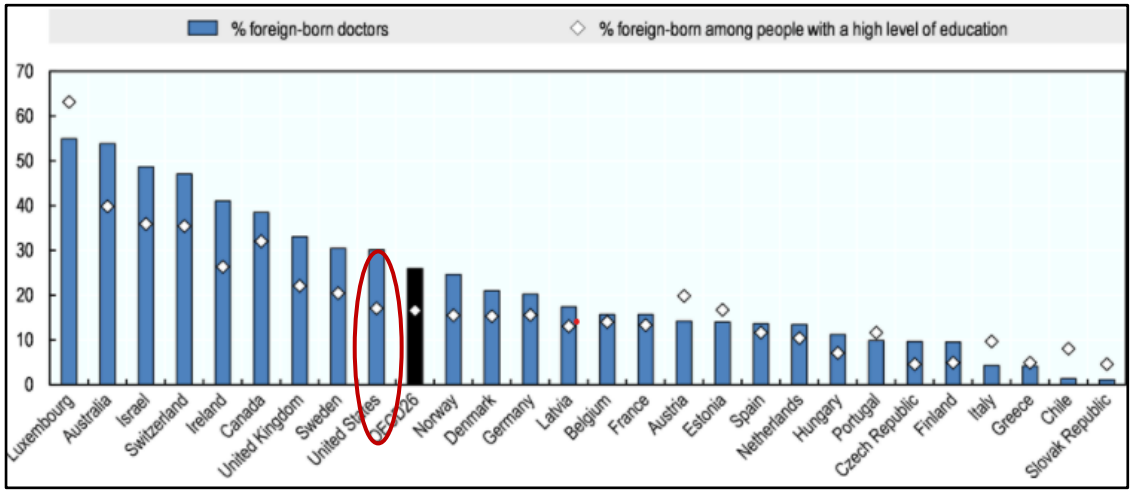
1.1 International Medical Graduates

International Medical Graduates (IMGs) are physicians whose country of birth and basic medical training is not their current host country. They help fill the shortage of physicians in many High-Income Countries (HICs), including the US (Desbiens & Vidaillet, 2020, Michalski et al., 2017). IMGs emigrate to access advanced training in medicine and research with state-of-the-art technologies, earn higher remuneration and work in well-established health care systems (Kanwal, Sharma & Surkova, 2020). These IMGs mostly emigrate from Low and Middle Income countries (LMICs) (Torrey & Torrey, 2012), where the health systems and cultures are often more hierarchical than those in HICs (Yijälä & Luoma, 2019). Such relocation can be very demanding and stressful. It requires acculturation for IMGs to transition successfully to life and health systems in their host countries. (Yijälä & Luoma, 2019). Acculturation is defined as, "the process of group and individual changes in culture and behavior that result from intercultural contact" (Berry, 2019, p.24). These changes are psychological (sense of self-esteem), sociocultural (doing well at work and in community life) and intercultural (achieving workable relationships with people of varying backgrounds across cultural boundaries within plural societies) (Berry, 2019).

Americans who graduate from abroad and return to the US to practice are known as US-IMGs. They do not face the acculturation challenges that graduates from other countries do. The US currently has 269,000 IMGs from more than 154 countries, and they constitute a quarter of its physician workforce (Ranasinghe, 2015; Ahmed et al., 2018; Batalova, 2020).

This is in line with the situation seen in other HICs as shown in Figure 1 (OECD Health Statistics, 2018).

Figure 1:
Percentage of IMGs in select OECD countries, 2015/16



The race and ethnic makeup of the IMGs reflects the diversity of the US population (Ruess, 2018). Projections demonstrate that the population demographics of the US are rapidly changing. The country is undergoing what is termed a 'diversity explosion', that is**,** become increasingly diverse (Frey, 2018). It is estimated the US will no longer be a white Eurocentric majority nation between now and 2060. If current trends continue, 2044 will be the tipping point, when the whites will become only 49.7 percent of the population (Frey, 2018). **N**atural decrease, that is, an excess of deaths over births, of the aging white population will be the primary driving factor of this decline. A declining fertility rate in the Caucasian population in the US contributes in great measure to this. Simultaneously, an increase in the growth rate of the Hispanic, Asian, multiracial population and immigration is contributing to this demographic change (Frey, 2018). Hence IMGs help reduce the cultural and language barriers health care delivery the increasingly diverse

population in the US faces (Ruess, 2018).

A diverse physician workforce trained in providing patient-centered communication should enhance communications between providers and patients (Chu et al., 2021) and reduce disparities in health care which are readily apparent. Formal evaluation of the clinical care IMGs provide in the US is on par with that of their host country trained counterparts (Mick & Comfort, 1997; Norcini et al, 2010; Zaheer et al., 2016; Tsugawa, 2017). What this means is that after adjustment for patient and physician characteristics and hospital fixed effects, patients treated by IMGs had no significant mortality differences when compared with patients cared for by US graduates (Mick & Comfort, 1997; Norcini et al, 2010), or even had lower mortality in some instances (Zaheer et al., 2016; Tsugawa, 2017).

IMGs have high motivation and resilience levels (Gozu, et al., 2009) and as these qualities are valued in healthcare personnel in today's challenging times (Robertson et al., 2016), this is an additional way in which they may be valuable in the US health workforce. A study that created a model to control for the fact that IMGs' native language is a language other than English, found that they have experience in medical practice before they join their residencies in the US and have lower debt after medical school. After accounting for these differences, they found IMGs to have lower fatigue, higher self-esteem and personal growth scores on standardized measurement scales than their USMG colleagues (Gozu, Kern & Wright, 2009).

1.2 Where do the IMGs come from?

The US currently has 269,000 IMGs and they constitute a quarter of its physician

workforce (Ranasinghe, 2015; Ahmed et al., 2018). These IMGs come to the US from more than 154 countries, with the majority emigrating from the following LMICs - India (21.9%), China/Hong Kong (5.3 %), Pakistan (4.9 %) and Philippines (4.7 %) (Batalova, 2020), as shown in Table 1.

Table 1:
Top countries of birth for immigrant physicians and nurses in US

Top Countries of Birth for Immigrant Physicians and Surgeons			
Country of Birth	**Number of Physicians and Surgeons**	Share of All Immigrant Physicians and Surgeons	**Share of All Physicians and Surgeons**
India	56,500	21.9%	**6.1%**
China	13,600	5.3%	**1.5%**
Pakistan	12,600	4.9%	**1.4%**
Philippines	12,100	4.7%	**1.3%**
Canada	10,300	4.0%	**1.1%**
Source: 2018 American Community Survey, 1-year sample.			

(American Association of Medical Colleges, 2020)

As can be seen from the above table, the IMGs in the US are a heterogeneous group, representing cultures and ethnicities from many countries. India, with 56,000 physicians and surgeons now working in the US, is the most common country of origin for IMGs. They make up greater than 1 in 20 of the physician and surgeon workforce in the US.

1.3 Migration motives of IMGs

IMGs migration from LMICs to HICs is driven by macro-, meso- and micro- factors operating at the international, national, professional and personal levels (Davda et al., 2018). Lack of transparent governance, poor working conditions in weaker health systems and low remuneration act as push factors, motivating IMGs to emigrate from their country of birth (Davda et al, 2018). The opportunity to access advanced training in medicine and research with state-of-the-art technologies, work in well-established health care systems and earn higher remuneration act as strong pull factors for IMGs (Kanwal, Sharma &

Surkova, 2020). IMGs and their families are also motivated to immigrate by the opportunity to access a better quality of life (Kanwal, Sharma & Surkova, 2020).

1.4 Challenges to acculturation

IMGs' process of integrating their professional careers into the US health system is fraught with difficulties, and the overall experience remains arduous and frustrating (Fiscella et al., 1997; Sandhu, 2005; Szafran, 2005; Rao et al., 2007; Triscott et al., 2016). Americans who graduate from medical schools abroad and return to the US to practice are termed US IMGs. They do not face the acculturation challenges that graduates from other countries do (Chen, 2011). IMGs face challenges in spite of their passing the same multi-step licensing exams as the students in domestic medical schools need to pass in their journey to become eligible to practice in the US (Chandradevan & Rutkofsky, 2021). They need to make administrative, health system knowledge, economic, cultural, language, and emotional adjustments as they transition to life and professional practice in the US (Chandradevan & Rutkofsky, 2021). Further, among those who succeed in completing all three steps of the licensing exams, IMGs have, at best, a residency match rate of 61.1%, compared to 93.0% match rate for US graduates (AAMC, 2020; NRMP, 2021). IMGs are more likely than USMGs to report the residency interview process to be trying and confusing and to end up practicing in a primary care specialty as a fallback choice (Woods, 2006).

Once IMGs arrive in the US, their experiences are shaped by the intersection of the micro-determinants of their social identities - nationality, race/ethnicity, gender, cultural values, mores, and perceived professional status as a physician. Their medical schools

limit education to imparting scientific knowledge necessary to passing the required board exams, with little emphasis on skills necessary for communication with patients (Jain, 2014; Rao, Mehra & Kramer, 2016). The issue is further complicated because IMGs often come from cultures with a set hierarchy. As a result, they have interpersonal styles different from their American counterparts (Pilotto et al., 2007; Jain, 2014; Rao, Mehra & Kramer, 2016; Triscott et al., 2016). US informality seems awkward or disrespectful to them (Fiscella & Frankel, 2000) and they remain hesitant to seek clarification from, and discuss cases with, colleagues. They perceive prejudice or bias, feel ostracized, or perceive they are being held to higher standards than their American-trained colleagues by their program directors (Michalski et al., 2017). This isolates them from their colleagues, acts as a stressor and hinders the development of open, relaxed, collegial communication with peers and mentors (Kamimura et al, 2017). Another consequence of their different interpersonal styles is their ineptness at the skills required for provider-patient communication in the US health system (Pilotto et al., 2007; Jain, 2014; Rao, Mehra & Kramer, 2016; Triscott et al., 2016). Hence, they remain unaccepted by many American patients from non-cosmopolitan backgrounds and receive lower patient satisfaction scores (Kamimura et al, 2017). On a personal front as well, IMGs feel isolated for they have to live away from family for extended periods of time. They experience separation anxiety and miss their familial support. Consequently, they report more stress and burnout due to their professional practice and this lowers their performance and hinders their professional and personal satisfaction (Woolf, 2020).

Once IMGs complete their residency, finding an employer willing to sponsor them often remains a daunting challenge. US laws mandate IMGs work for extended periods of time in designated Health Personnel Shortage Areas (HPSAs) and Medically Underserved

Areas/Populations (MUAs/Ps) in the US before allowing them to become legal permanent residents. Often IMGs continue to practice there, lulled into inertia by being a known entity where they feel accepted to some degree (Chen et al., 2012; Katakam et al, 2019). IMGs constitute up to 50% of the physicians in these areas. The price they pay is lower career satisfaction and self-esteem than their USMGs counterparts (Morris et al., 2006; Chen et al., 2012; Katakam et al, 2019).

1.4 Integration Practices of IMGs

The benefits of strengthening IMGs' acculturation process can be explained by the acculturation theory (Schwartz & Unger, 2017). Individual adaptation strategies can categorized along two dimensions (Berry, 1992). The first dimension concerns an individual's retention or rejection of his heritage identity and culture based on his perception of its perceived value (Schwartz & Unger, 2017). The second dimension concerns the adoption or rejection of the US (dominant or host) culture, based on the perceived value of maintaining relationships within the larger society (Schwartz & Unger, 2017). Along these two dimensions, four acculturation strategies emerge:

- Assimilation**:** Immigrants adopt the cultural norms of the US and reject their heritage culture.
- Separation**:** Immigrants reject the dominant US culture in favor of preserving their heritage culture. Such immigrants often live in ethnic enclaves.
- Integration**:** Immigrants are adopt the cultural norms of the US while maintaining their heritage culture. Integration is synonymous with biculturalism.

- Marginalization: occurs when individuals reject both their heritage culture of origin and the US culture.

Figure 2:
Berry's model of acculturation (Berry, 2017)

	Identification with Heritage culture: **HIGH**	Identification with Heritage culture: **LOW**
Identification with US culture: **HIGH**	**Integration (Bicultural)**	**Assimilation**
Identification with US culture: **LOW**	**Separation**	**Marginalization**

Immigrants who retain high linkages with both, their heritage and US (host) country cultures, that is, remain bicultural, are the most psychologically healthy and more successful than the other 3 groups (Schwartz & Unger, 2017).

Healthcare organizations that foster high levels of inter-cultural awareness enable a less ethnocentric atmosphere for IMGs (Ballard & Lawrence, 2004; McPherson, 2012). Their employees have a better understanding of how IMGs cope, realize their vulnerabilities and handle them sensitively without being patronizing and creating a sense of stigma. This requires considerable investment of resources dedicated to the development of context-specific trainings and ongoing support initiatives such as the provision of clinical attachments, supervised practice and participation in research (Ballard & Lawrence, 2004; McPherson, 2012). All of this helps increase resilience, self-actualization and sensitivity to interpersonal dynamics. This is buttressed by providing ongoing support which helps decrease IMGs' anxiety and stress levels and increases their

self-efficacy through transformative learning (Webb et al, 2014; Kehoe et al., 2016; Kamimura et al, 2017).

Finally, IMGs have been found to have lower fatigue, higher self-esteem and greater personal growth scores on standard measurement scales than their USMG colleagues (Goru, Kern & Wright, 2009). Their personal attributes such as entrepreneurship, ability to accept diverse views, balance autonomy and scrutiny, focus on long-term goals and adaptability are brought into play when they set up individual/group practices, play lead roles in medical research and set up new companies (Kehoe et al., 2016).

1.5 IMGs from India

India is the largest home country for the IMGs practicing in the US. It is also one of the most culturally, linguistically and religiously diverse nations in the world (Mishra, 2012). In India, 121 languages are spoken by 10,000 or more people, with 22 of these languages being formally recognized as official languages (Census, 2010). Six main religions are practiced, with 80.5% of the population practicing Hinduism. The predominant Hindu religion divides people based on their 'caste', a closed, hierarchical, hereditary system of social stratification (Miller, 2014). This means a person's social status is determined by the caste they were born into, and cannot be changed (Deshpande, 2010). Traditionally it dictates social roles and interactions in society and limits interaction with people from another caste. Tolerance of neighbors speaking a different language and practicing another religion is not high in India as compared to other countries. The majority of Indians marry within their own castes (Munshi, 2019), though caste is far less significant in urban India today (Deshpande, 2010). IMGs from India represent its wide linguistic, cultural, religious, sartorial, and dietary diversity (Miller,

2014), with one difference. In India, the privileged group or high caste population constitutes 30% of the population and the underprivileged/marginalized groups or low caste constitute the other 70% (Arabsheibani, 2018). In the US, the privileged group or high caste population constitutes more than 90% of the immigrants (Chakravorty, Kapur & Singh, 2016). Findings from the 2020 Indian American Attitudes Survey indicate Indian Americans' social communities are heavily populated by people from Indian origin, and broadly reflect divisions within Indian society (Badrinathan et al., 2021).

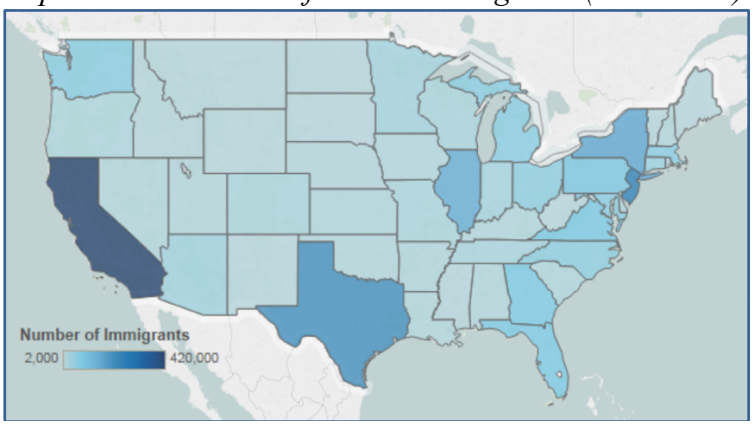
Research within this diaspora suggests a bi-modal modal of integration in the US. While religion, region of origin, and caste, in decreasing order of importance, play a significant role in creation of social networks of Indians in the US (Badrinathan et al., 2021), when it comes to forming deeper relationships, such as marriage, attitudes towards intercaste marriage, especially with the lower castes, are not very open (Rajadesingan et al., 2019)

Although they represent India's diversity, IMGs from India share some strong common bonds among themselves. They share the same profession. They earn their basic medical education, over a period of five years or more, in an urban milieu, for medical schools in India are mostly located in urban areas (Mullan, 2006; Brahmapurkar et al., 2018; Sabde et al., 2020). To some extent, toiling together through the hard rigor of medical school during the young adult, formative years of their life in cities creates some degree of a global perspective (Mullan, 2006, Donner, 2011).

Research in the US finds Indian immigrants are significantly better educated, have stronger English language skills, occupy management positions to a higher degree, and have higher household incomes than the average overall immigrant and native-born

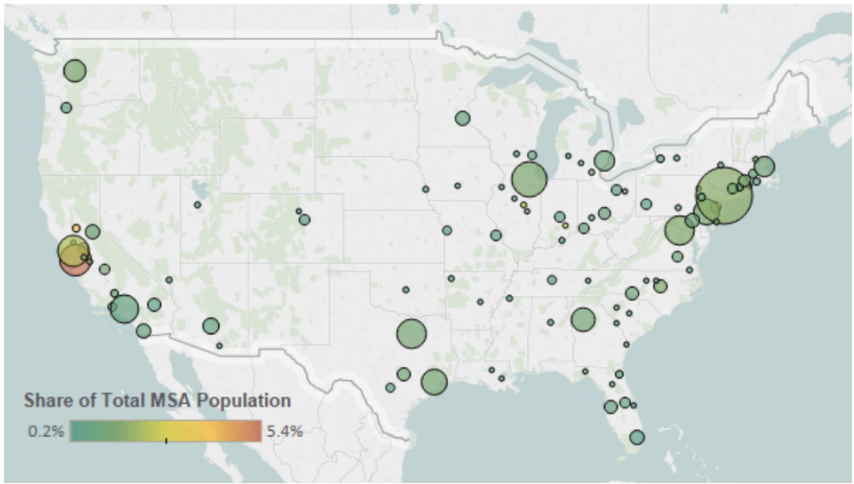
population (Migration Policy Institute, 2017). They settle mostly in the larger and richer coastal states and border states, like California (20 percent), New Jersey (11 percent), New York

Figure 3:
Top Destination States for Indian Emigrants (2011-2015)



(7 percent), Texas (9 percent) and Illinois (7 percent) (Migration Policy Institute, 2017), as is seen from Figure 3 (Migration Policy Institute, 2017). They live in metropolitan areas, with greater New York, Chicago, San Jose, and San Francisco areas being home to one-third of Indians in the US, as seen in Figure 4 (Migration Policy Institute, 2017).

Figure 4:
Top Metropolitan Destination for Indian Immigrants to the US (2011-2015)



Within these areas, they live in urban, or urban-suburban counties. Santa Clara and

Alameda counties in California, Middlesex County in New Jersey and Cook County in Illinois account for nearly 15 percent of the Indian population in the United States (Migration Policy Institute, 2017).

2.0 Physician Shortage in the US

The American Association of Medical Colleges (AAMC) has acknowledged the US faces a growing physician shortage (Boyle, 2020). In 2019, the country had 1,022,006 active physicians (KFF, 2020) a total shortage of 91,500 physicians based on projected need. This additional number of physicians positions unfilled included 45,400 primary care physicians and 46,100 medical specialists (Zhang, 2020). These shortages are expected to become progressively more severe over time, for the projected number of additional physicians required is larger, by 105,000 by 2030 (Kirach & Petelle, 2017) and 132,000 by 2032 (Wood et al., 2020; Zhang et al, 2020).

These shortages detrimentally impact the work of physicians' currently in practice. There is already an aging medical workforce. Among practicing physicians, 81% state they are overextended or functioning at full capacity; 39% intend to accelerate their retirement plans; and 44% aspire to reduce their working hours and the number of patients in their practice or leave their clinical roles for administrative roles (Physicians Foundation, 2018). The situation has remained the same since 2012 in spite of a marked increase in the number of nurse practitioners and physician assistants between 2012 to 2018 (Physicians Foundation, 2018).

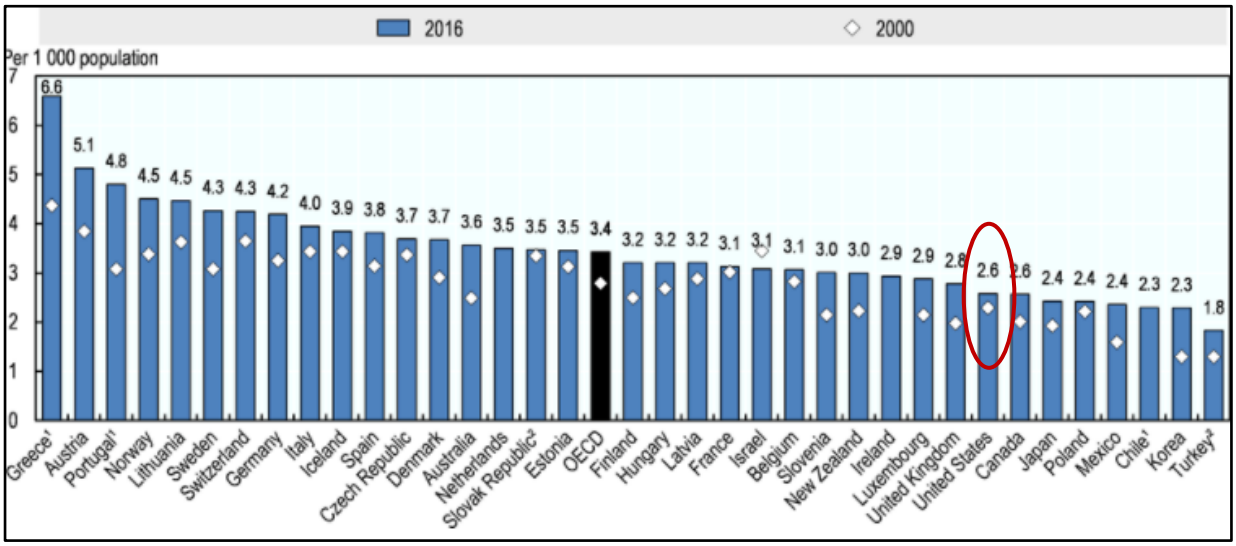
3.0 Physician burnout

This detrimental effect of physician shortage on existing physicians is termed the

domino effect and contributes to increased prevalence of **physician burnout** (Kumar et al, 2016; Patel et al, 2018). It has also resulted in a 49% increase in the number of physicians who no longer accept Medicaid patients between 2012 and 2014 (Physicians Foundation, 2018). This is because they have enough patients with private insurance, are already overworked and hence do not need to offer it. Moreover, the existing physician workforce is aging, with 42% of the physician workforce being 55 years or older, and 15% of these physicians are over the age of 65 years and expected to retire within the next decade (AAMC, 2019).

As a result, the US has declining physician to population ratio which is detrimental to the health of communities. The US has 2.6 physicians per 1000 population and WHO statistics show this proportion has stayed stagnant over the past two decades (McCarthy, 2020). This compares adversely with other HICs countries such as Austria (5.1 physicians per 1000 population) and Germany (4.2 physicians per 1000 population) (McCarthy, 2020). The European Union has, on an average, 3.4 physicians per 1000 population (McCarthy, 2020). This may contribute to Americans having shorter lives and poorer health than their counterparts in the Organization for Co-operation and Development (OECD) (Woolf, 2013) as in Figure 5 (OECD Health Statistics 2018).

Figure 5:
Practicing doctors per 1 000 population n in OECD countries, 2000 and 2016



In the coming years, physicians will face a higher workload as per projected patient demographics. The US population is expected to grow by an average of 1.8 million people per year till 2060. It is a rapidly ageing population with 20% predicted to be more than 65 years of age by 2040 with greater numbers of multiple co-morbidities (Kirch & Petelle, 2017). This rapidly growing aging population places an added burden on physician workload. Hence aging is predicted to be one of the biggest drivers of increased use and cost of healthcare. Immigration is the major contributor to the growth in population.

This need for additional physicians made the American Association of Physicians call in June 2008 for increasing the intake of students in medicine by 30%. This increase has not been enough to reduce physician shortage. Accredited physicians in the US earn either the Doctor of Medicine (MD) or Doctor of Osteopathic Medicine (DO). MDs and DOs share a similar curriculum, with the DOs having to do an additional osteopathy course. In the current day, the difference remains insignificant and both types of schools produce licensed physicians. Most DO training centers have fewer specialty supports historically and hence DOs wanting to specialize have to apply to MD programs.

The medical schools awarding the MD degree in the US have responded by increasing their total enrollment by 27.5%. They have achieved this by increasing class sizes at existing schools, enlarging main campus enrollment, creating new regional and satellite campuses and creating 29 new schools. But in spite of such concerted action, the US had only 19,938 matriculates from its medical schools in 2019 (AAMC, 2019). Similar action has also been taken by osteopathic medical schools, including opening 17 new schools. As a result, the number of DO matriculates increased to 6,703 in 2019. The combined number of MD and DO matriculates was 26,641 in 2019, far short of the 35,185 residency positions on offer the same year (AAMC, 2019). Yet

typically 5% of students at US allopathic medical schools do not match to a residency position every year (Murphy, 2021). This means over 2,200 medical students in the US did not match to a residency position in 2021 (Bernard, 2021). The reasons for this unfortunate scenario are individual and systemic. The residencies offered may not match the number of that specialty needed. Some medical students may not have high enough scores for competitive specialty positions. Others apply only to specialties or urban demographic areas that are highly desirable, and programs are becoming increasingly selective about making offers only to those with the strongest records (O'Donnell, 2019) in the US. This left 1,268 residency positions unfilled in 2018 (O'Donnell, 2019).

This overall physician shortage warrants a deeper analysis, for even with 35,000+ residency positions, certain specialties will face a shortage. Currently, hospital-based specialties, such as critical care, emergency medicine, pulmonary medicine, and primary care specialties, like internal medicine, family medicine and geriatrics face the greatest physician shortages. However, modelling studies show within the next ten years, even highly competitive subspecialties like orthopedics would also develop shortages (Hayek et al., 2018).

The long-term optimal solution to this physician shortage in the US requires the formulation of federal policy to analyze the number of physicians needed in every specialty, and to balance this with the creation of an equal number of seats in medical schools in the country.

4.0 Study Rationale

While the challenges IMGs face in the US are well documented, the acculturation

strategies effective at facilitating their transition to the healthcare system lag behind (Chen et al., 2010; Kamimura et al., 2017, Paradies et al., 2014). In contrast, researchers from other developed countries, such as the UK, Europe, Canada and Australia, brought forth evidence regarding development of optimal professional integration practices of IMGs in their health systems (Kalra et al., 2011; Kussio et al., 2014; Klingler & Marckmann, 2016; Davda et al, 2018; Neiterman et al., 2019). Research on this topic is nascent in the US as compared to other HICs.

Equity is a human rights issue. Hence acculturation of IMGs also has an ethical imperative. As they are providing care on a par with that provided by their US trained counterparts, they must feel as valued and welcome as the latter (Zaidi et al, 2020).

A recent theoretical perspective from the US has proposed a list of strategies for 'promoting equity and belonging' among IMGs and accelerating their acculturation into their host country health systems. These strategies have been grouped co-terminus with specific points where they would be helpful to the IMGs' careers, starting before entry to US, just after entry, during the first year, and so on (Zaidi et al., 2020). Hence, a systematic review aligning this increasing evidence available for acculturation of IMGs in HICs is needed. This theoretical perspective will provide a fresh frame of reference, help organize the data, and guide future research in the US. It will facilitate better and faster acculturation of IMGs with resultant stronger bonds and trust with their health systems, patients, and ultimately improved patient outcomes.

Secondly, IMGs exhibit diversity in their demographic characteristics, professional backgrounds and acculturation needs. Studies recommend further research to explore the unique culture specific needs and strengths of the IMGs from the 150+

different countries so as to align the acculturation strategies with their needs (Chen et al., 2011; Osta et al., 2016). Quicker and deeper acculturation will ensure better integration of IMGs, leading to their increased acceptance by patients and health systems in their host countries.

This study aims to act on this recommendation. Based on the premise that the single largest immigrant group of physicians is from India and that they constitute 38% of the IMGs in the US, the second part of this study will interview IMGs from India who have been practicing in the US for 15 years or more, with a view to identifying the unique challenges and facilitating strategies they have adopted to navigate their professional journey. Such a process can identify the distinctive needs and coping mechanisms of this community. It will pave the way for further research on the subject in line with the recommendation to help develop acculturation interventions tailored to the specific needs of different racial and ethnic groups of IMGs.

Enhancing the acculturation of IMGs would pave the way for improved physician-patient communication, trust and satisfaction even with race and ethnicity discordance. In an increasingly global society, 18.8% of the US population is projected to be foreign-born by 2060 (Census, 2016). IMGs will continue to constitute a growing portion of the needed healthcare workforce in the US. IMGs work predominantly in primary care specialties and in underserved areas. This entails multitudinous patient interaction (Thompson, 2009; Ahmed, 2010; Chen, 2010; Fordyce, 2012; Rabinowitz, 2012). Consequently, although racial and ethnic concordance between physicians and their patients has been shown to generate greater physician-patient trust, respect and treatment adherence, this may not always occur without careful thought and planning (Sewell, 2015).

5.0 Problem Statement

IMGs make an acknowledged and growing contribution to the delivery of healthcare services in the US and yet, they face challenges transitioning to professional practice in their host country. These challenges can be addressed through acculturation strategies tailored to the unique needs of IMGs. Implementing these strategies enhances the professional and personal interactions of IMGs with their patients and other health personnel, with resultant positive impact on patient outcomes. These acculturation mechanisms remain under-researched. Further, current acculturation strategies treat all IMGs as a homogenous group even though they come from more than 150 countries.

6.0 Purpose Statement

This study will review the facilitatory strategies impacting the acculturation and professional career navigation process of IMGs in HICs and explore the strategies adopted by IMGs from India to successfully integrate into clinical practice in the US.

7.0 Research Questions

1) Based on a systematic review**,** what are the strategies designed by health systems in host HICs to help IMGs overcome challenges and facilitate their transition into professional practice?

2) What are the experiences of IMGs from India regarding the successes/facilitators they have identified to help them transition to practice in the US?

8.0 Leadership implications and relevance

8.1 Leadership in medicine

Physicians have traditionally been the leaders in the provision of healthcare and their leadership styles can be analyzed in various ways. Until the 1980s the physician was the figure of authority for patients as well as for any team of health personnel comprising ancillary personnel. Since then, medicine has advanced, become more complex, and is delivered by teams of specialists and other personnel, each of whom plays a precise role to facilitate delivery of care as a continuum from facilities to outpatient care to care delivered within communities and homes. This section will analyze this scenario through the lens of various theories of leadership and highlight the styles of leadership that will be utilized to conduct this study.

Team leadership includes both leadership influences and team dynamics (Zaccaro et al., 2001). Hence leaders must ensure their team members have specific and unique roles. The performance of each role must be essential to achievement of desired results within the current complex and dynamic environment. The path goal theory specifies that a leader must create performance expectations and valences for their team subordinates. It does not elaborate on how leaders develop and maintain their team's interaction and integration (House, 1996). The situational leadership theory asserts subordinates have different levels of competence and commitment and their leaders must tailor their leadership style accordingly to achieve their goals (Northhouse, 2016). The servant leadership style is integral to the practice of medicine and public health because both fields are meant to serve mankind by improving their health and need to be practiced with humility and putting concern for others over concern for self (Northhouse, 2016).

8.2 Team leadership

Team leadership will be the style of leadership guiding the conduction of the systematic review. This is based on the premise that conducting a systematic review and analyzing the data of this qualitative study involves coordinating the functioning of a group of professionals to ensure mutual co-operation for the creation of manuscripts. Successful completion of this dissertation requires shared efforts between different departments within the Penn State College of Medicine, and other institutions such as Penn State Harrisburg and Harrisburg University. The research team has a librarian, who has specialized knowledge of conducting searches and accessing data. The respondents would represent the myriad disciplines within medicine and surgery. This requires collective learning, innovation and building a shared culture. The Principal Investigator (PI) needs to engage with others in creating a shared meaning. The PI must ensure opportunities for participants to voice their concerns in a way that makes a difference and maintains integrity and adaptive capacity. The intent of the PI is to allow adverse events, if any, to serve as crucibles of transformation (Bennis & Thomas, 2002). The PI's resilience and commitment can endow her with referent power, which would facilitate coordination with the expert power faculty team members have. Working across sectors broadens knowledge base, improves communication skills and enables diverse networks that create more professional opportunities (Petty, 2017). It can also pose challenges. Success depends on the 'fit' between the capital base the PI brings with her in terms of strategy, public health expertise, knowledge of research methods and people skills and the outcome to be achieved. Hence team leadership is an apt style of leadership for the systematic review portion of this research.

8.3. Servant leadership

Servant leadership is an apt model for healthcare because the core tenet of both the

leadership styles, as well as the healthcare profession, is the rendering of service unto others (Trastek, 2014). Physicians are servant leaders for they take the Hippocratic Oath, thereby committing themselves to provide beneficial treatment to their patients while respecting their privacy. This reflects the principles of servant leadership by practicing humility and remaining committed to the growth of people (Northouse, 2016). Physicians serve as servant leaders for they listen to their patients and remain persuasive and empathetic. Simultaneously they maintain an awareness of illness and provide stewardship to ensure their patients adhere to prescribed treatment. This requires a mix of knowledge of evidence-based medicine as well as an appreciation of the art of communicating effectively, winning, and maintaining trust of their patients. Thus, medicine is acknowledged as both, a science as well as an art, and requires innovation (Panda, 2006).

The Covid-19 pandemic has changed the way we work. Research shows routine work involving co-ordination and transaction can be successfully done virtually. Innovative work requiring a team culture and collaboration needs to be done in person (Hooijberg & Watkins, 2021). The pandemic has forced physicians to work virtually part of the time, but the practice of medicine, being an innovative science, requires in-person consultation. The laying-on of hands, an ancient concept, is still valued today. The photo of a physician, fully clothed in PEE, hugging a Covid-19 patient on Thanksgiving, exemplifies this practice of servant leadership (Caldera, 2020). IMGs constitute a substantial percentage of the physician workforce in states with a large number of COVID-19 cases and deaths, as can be seen in Table 3 below.

Table 2:
*Distribution of IMGs in States With the Highest Mortality From COVID-19**

Table. Distribution of IMGs in States With the Highest Mortality From COVID-19*

State	COVID-19 Cases, *n*	COVID-19 Deaths, *n*	IMGs, *n (% of Total State Health Care Work Force)*
New York	392 037	30 839	30 684 (36.2)
New Jersey	168 834	12 857	16 373 (41)
Massachusetts	106 650	7799	13 108 (33.6)
Illinois	137 402	6842	13 802 (32.2)
Pennsylvania	85 678	6467	10 742 (23.5)
Michigan	67 716	6091	10 451 (27.4)

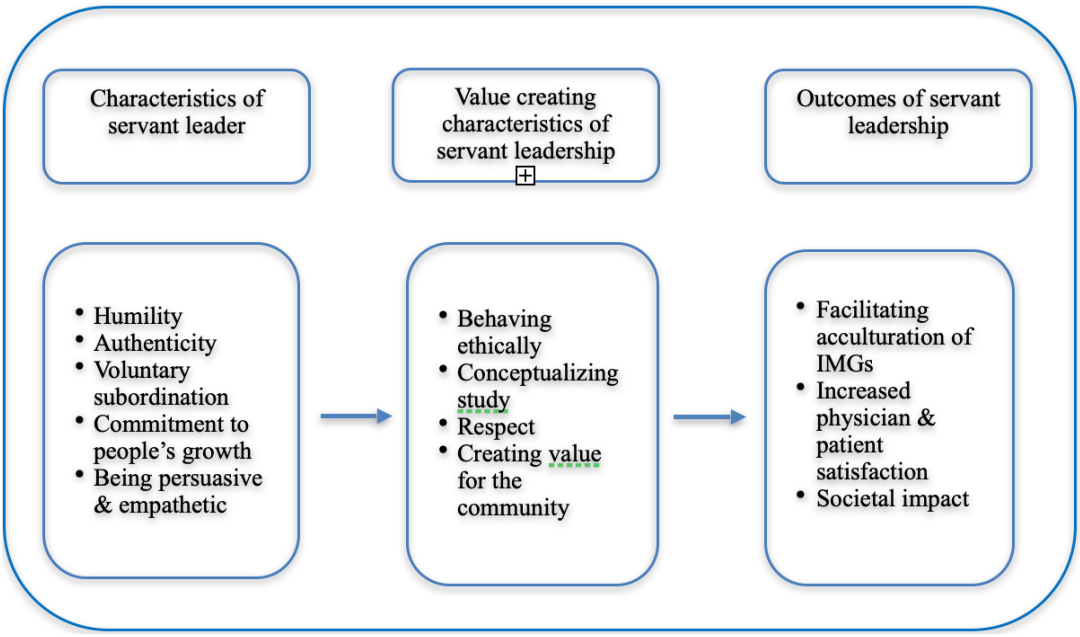
COVID-19 = coronavirus disease 2019; IMG = international medical graduate.

Based on data from American Community Survey 2018 and CATO Institute (Tiwari, Bhardwaj, Sonani, & Mehta, 2020)

Servant leadership would be ideal to practice for conducting the qualitative study. This study will identify acculturation strategies designed to help IMGs facilitate their transition to professional practice in their host countries by handling microaggressions successfully and leveraging their strengths. In this sense, this research has deep leadership implications for it would contribute mightily to the larger fight against systemic racism.

I would need to practice empathy, be respectful, accountable and a good listener (Center for Servant Leadership, 2017). This would help me develop a rapport with the interviewee and encourage the sharing of deeply personal and sensitive experiences. The manner in which this practice of servant leadership will affect the study is depicted in Fig.6.

Figure 6:
Conceptual framework of servant leadership



This study will use in-depth interviews. This research technique allows reciprocity, flexibility, trust and rapport building and observation of body language of the participants. Thus, it helps to generate honest, insightful responses when deeply personal experiences and sensitive topics such as acculturation are discussed. The characteristics of the servant leader that will be practiced are at Figure 7 (Rocco, 2019).

Figure 7:

Characteristics of servant leadership to be used in interviews

Servant leadership serves the health system well. Its ethical and moral aspects and characteristics, as shown in Figure 7, help physicians put the physical, mental and

emotional needs of patients first. This aligns neatly with the needs of leadership for physicians for their commitment is to serving their patients well (Trastek, Hamilton & Niles, 2014).

Thus, servant leadership is the leadership model apt for this study.

9.0 Literature Review

The literature reviews the concepts of microaggressions, and the intersectionality framework and applies them to identify the barriers and the facilitators in the health system affecting IMGs' transition to professional practice in their host countries. A conceptual model is built on the basis of this understanding. Next, this review collates evidence about the mechanisms through which these barriers and facilitatory factors interact to impact IMGs. This is depicted as the integrative framework. Finally, a synopsis of the available research on how the facilitatory factors act to accelerate the acculturation process is processed and presented as a logic model to complement the integrative framework.

9.1 Microaggressions

Dr. Derald Wing Sue, who has done seminal work on this topic, defines microaggressions as the verbal, behavioral, or environmental degradations, committed during daily life by members of a dominant group towards individuals belonging to marginalized populations (Sue, 2015, p. 27). They are called 'micro' because they are individual, ephemeral, hard-to-prove, covert, and sometimes unintentional. However the 'putting down' or 'otherizing' effect they cause is 'macro' in terms of the damage done to the target audience's confidence, attitude and motivation (Berk, 2017). Microaggressions

are subtle, often caused subconsciously by the perpetrator. They have racial, gender or sexual orientation connotations. The intended target experiences real trauma, anxiety and anger. This has a negative effect on mental health, leading to stress and depression.

As the silent recipients of repetitive microaggressions from colleagues and patients, IMGs frequently internalize them (Schmidt, 2018). They leave their mark. This makes microaggressions an integral part of their identity and impairs their ability to view and value themselves as they really are. This in turn effects their relations with other physicians and patients detrimentally. The resultant harm caused is deep-seated and long-lasting at the intrapersonal, interpersonal and institutional level (Torino et al., 2018).

It is everyone's responsibility to acknowledge the accountability they have and use them to help create an inclusive organizational culture (Rimmer, 2020). This is the reason training is required for leaders and professionals to address microaggressions adeptly (Schmidt, 2018). Research shows microaggressions should not be handled in silence, for it condones the insult. Instead, an active dialogue should be held, without the intent of shaming the aggressor (Ella, 2020; Rimmer, 2020). The conversation should explain the context from different perspectives. The differences between the intent and impact of the act should be communicated (Ella, 2020; Rimmer, 2020). It is a learning experience and not another episode in the "Blame Game." This becomes possible only when the 'heat' is taken out of the response to the micro-aggression (Rimmer, 2020).

Emerging evidence demonstrates the perceived and objective effectiveness of inclusion of these strategies in initiatives designed to facilitate IMG acculturation (Bogle et al, 2020, Fournier et al, 2020).

9.2 Intersectionality

Application of the normative theoretical framework of intersectionality explains the different ways in which IMGs experience and react to microaggressions. Intersectionality states peoples' social identities are constituted by the intersection and overlap of their micro-level social identities and their macro level determinants such as systemic racism (Bowleg, 2021). The micro-determinants such as age and generational status, social and sexual orientation, race, ethnicity, gender and physical attributes are those one is born with and are not amenable to change (Hays, 2016). Other micro-determinants are educational status, socio economic background, geographical location, parental status, marital status, work background, religion, personal thinking styles, medical specialty, and being in practice or academics. Using the lens of intersectionality can enable researchers to critique the social context and identify oppressive power mechanisms. This can pave the way for identification of ways to address inequities (Dhamoon, 2010).

9.3 Challenges IMGs face during the transition to host country health systems.

9.3.1 Health systems

At the outset of their immigration journey to the US, IMGs face challenges with the matching process for US residencies, where final training takes place. (Desbiens & Vidaillet, 2010). Program directors at American healthcare organizations concede that IMGs are similar in ability and skill to their US trained counterparts. Yet, they protect their programs with 'quotas or caps' of foreign graduates because they worry that IMGs may be perceived as a higher risk. These programs are unfamiliar with the medical training these IMGs have received in their home countries (Zhang et al., 2017). They may

be responding to patient preferences for American born providers even if they do not perform as well. They accomplish this by ranking American medical graduates higher, even those with lower USMLE scores in the overall selection process (Moore & Rhodenbaugh, 2002). No one will deny a bias in the selection process that handicaps Indian IMGs in America.

If the IMGs do match to a residency, they are given the J-1 visa. This mandates them to serve in a Health Personnel Shortage Area (HPSA) for seven years after completing their residency. It is only since 1991 that IMGs have been eligible to apply for the H-1B visa. Unfortunately, there is an annual cap on the number of these visas and many doctors must still rely on a J-1 visa.

The IMGs fortunate enough to survive this obstacle course arrive in the US to perceive isolation and insensitivity within the organizations where they work (Chen, 2011). These organizations do not invest enough time and resources in any additional training. Orientation programs are standard in residency programs these days. Increasingly they address diversity, both of patients and providers. The better they are, the smoother the transition for everyone. This training is necessary for both, their existing employees as well as the incoming IMGs (Neill et al., 2011). The existing employees need to be informed about the ways in which the IMGs are different so that they become sensitive to the needs of the latter.

The majority of the existing training courses created for IMGs are only and implemented at a regional, rather than an organizational level. This leaves the IMGs unprepared to acclimate themselves to the local language inflections, idioms, customs and other unique features of the areas in which they live and work (Kehoe et al., 2016).

Courses that veer towards the opposite end of the spectrum and focus solely on the host country's culture makes IMGs feel they must shed their own customs. They can find this unsettling (Fry & Mumford, 2011). Existing employees remain unprepared to understand the different cultural and the communication needs of the IMGs. Overall, IMGs feel they do not receive enough institutional support (Filut, Alvarez & Carnes, 2020) and the medical professional organizations do not address their concerns (Agrawal, 2016).

9.3.2 Other physicians

The majority of challenges IMGs face in Canada come from their own professional group (Neiterman & Bourgeault, 2015). Once they join a residency, IMGs report facing demeaning behavior from their program directors and colleagues in their daily lives (Coombs & King, 2005; Agrawal, 2016). Such behavior is termed 'microaggression' (Sue, 2007) and its perception is a subjective experience. Objective criteria to measure the experience are not always available, although initial efforts to quantify them in healthcare settings have been made (Cruz et al, 2019). However, the outcome can be clearly assessed in terms of an adverse effect on workplace attitudes and behavior and hence, decreased productivity (Ehie et al, 2021). IMGs have found that reporting the microaggressions they face sometimes does lead to improvement, but more often the situation remains unchanged or actually worsens (Coombs & King, 2005). It follows then that IMGs hesitate to speak up about the microaggressions they face at their workplace (Desbiens & Vidaillet, 2010). When these microaggressions become systemic, IMGs feel unfairly disadvantaged and discriminated against for promotional avenues (Coombs & King, 2005; Agrawal, 2016).

9.3.3 Patients and their relatives

Research from Finland shows IMGs face the greatest number of microaggressions from patients and their relatives (Heponiemi, Hietapakka, Lehtoaro, & Aalto, 2018). In the US, there has been a recent uptick in the microaggressions physicians of color, including IMGs, face. A plausible factor put forth by researchers is the implementation of the Affordable Care Act. This Act binds payment to healthcare organizations to the reported satisfaction of patients through the Hospital Consumer Assessment of Health Care Providers and Systems scores (Filut, Alvarez & Carnes, 2020). Patients may use this feedback as a way to assert their inherent biases and vent their personal preferences (Poole, 2019; Sotto-Santiago, Slaven, & Rohr-Kirchgraber, 2019). Misplaced national pride figures into this. Furthermore, healthcare organizations can turn a blind eye to all this in their quest for profits and ratings (Gogineni, Fallon & Rao, 2010; Paul-Emile, Smith, Lo, & Fernandez, 2016).

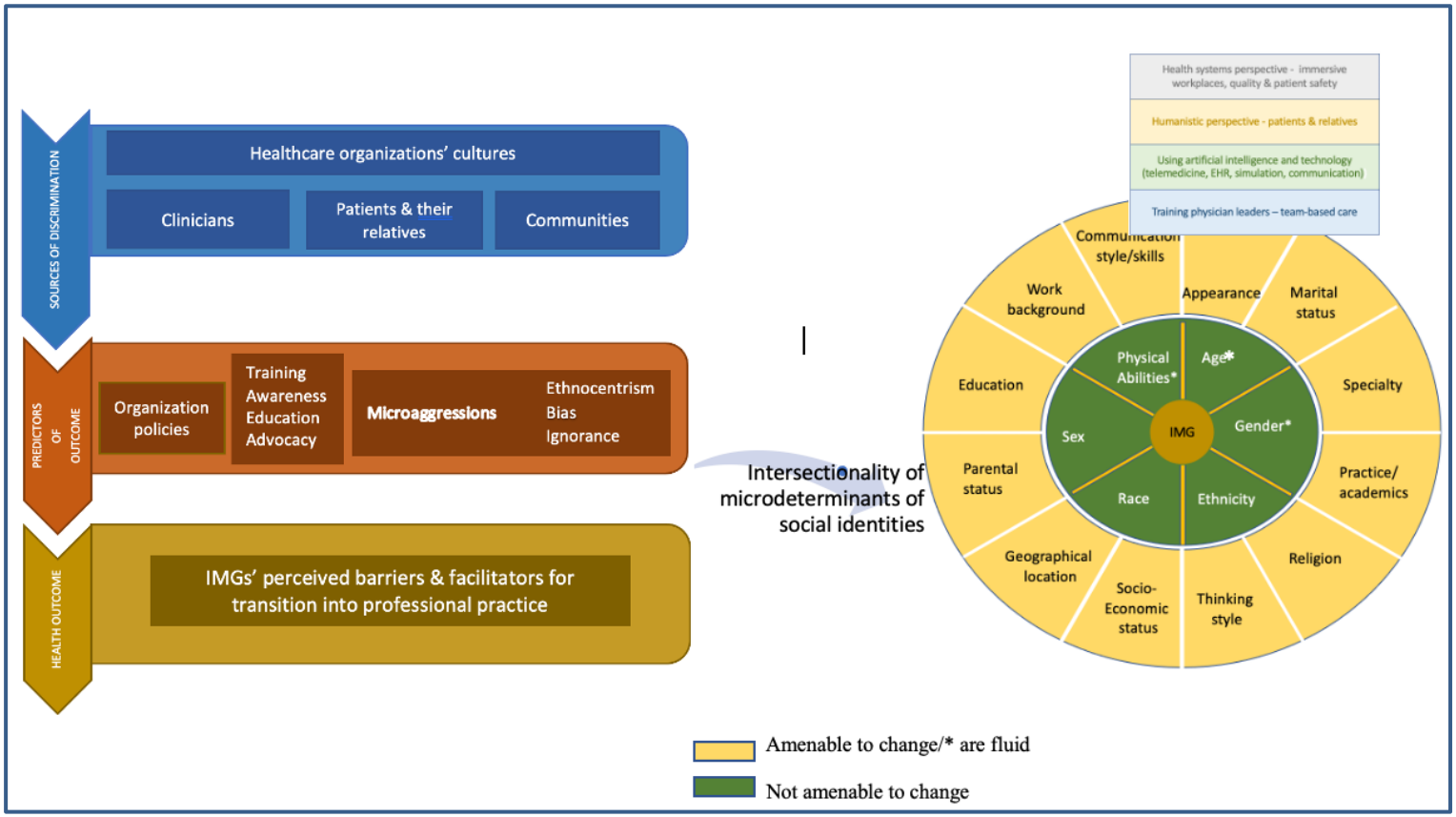
This interplay of microaggressions and intersectionality within the healthcare system is shown overleaf as a conceptual model in Figure 8. The conceptual framework examines the micro-level perspective of how IMGs perceive, internalize and react to their health systems. It is depicted overleaf at Figure 10. This conceptual framework adapts the Intersectionality theory and microaggressions to explicate how IMGs perceive, interpret and react to the barriers they face within the broad context of the health system. Ethnocentrism, or ignorance of other cultures or beliefs; or bias, both implicit and explicit, in the clinicians/physicians, patients and their relatives, and communities, results in microaggressions towards IMGs. These are detrimental to the IMGs themselves, their families, and their interactions with patients and other physicians. IMGs are a diverse group from more than 150 countries and there is wide cultural, ethnic, linguistic, religious and socio-economic diversity among them. These different micro-determinants of their

personalities intersect in various ways to shape how IMGs cope with these microaggressions. These need to be studied to identify their different needs and strengths, so that interventions can be tailored to help them respond to these microaggressions and achieve social justice.

9.4 Overcoming microaggressions within health care organizations

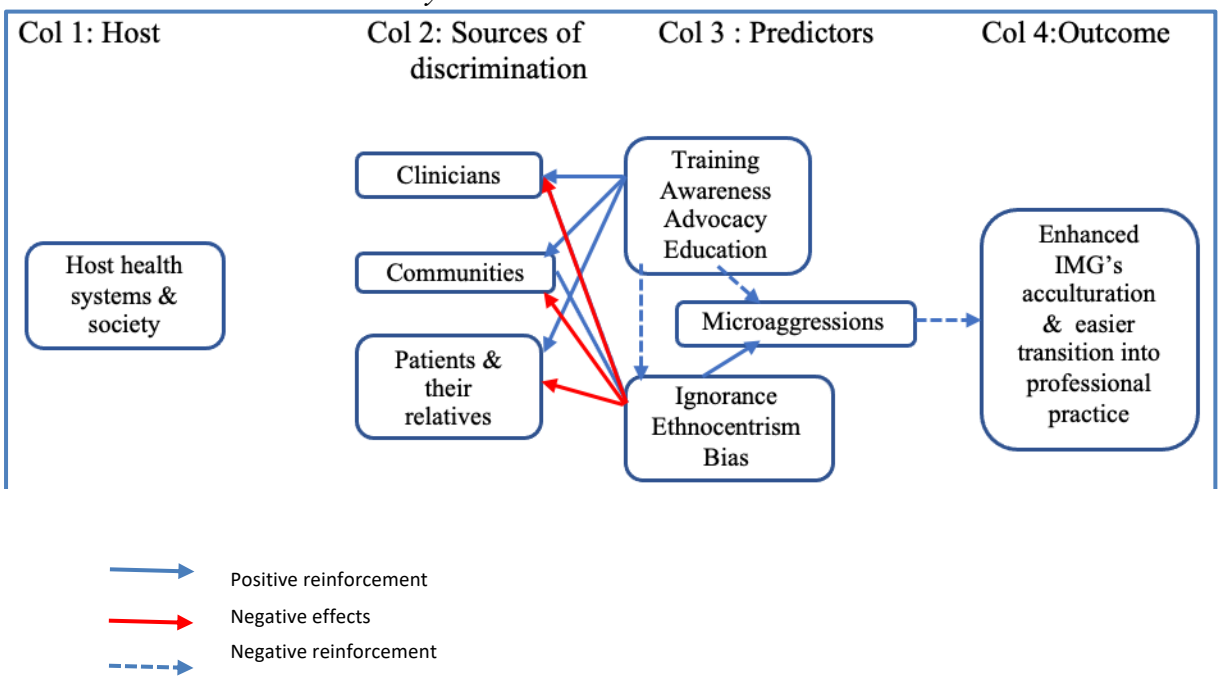
Research supports the notion that organizations should have explicit policies to recognize and handle microaggressions (Kim, 2020). Such policies should be communicated clearly to their employees and displayed prominently at common areas in languages easily understood by patients. This should be supplemented with context specific initiatives such as training for all their employees including IMGs (Michalski et al, 2017; Davda et al., 2018). Having a designated champion for IMGs and training both employees and IMGs on handling microaggressions constructively have been found to be also useful in other reviews on this subject (Lineberry et al, 2015; Kehoe et al., 2016). The American (Desbiens & Vidaillet., 2010) and Canadian Psychiatric Associations (Kirmayer et al., 2018) have published statements of support for the IMGs and called for action to proscript microaggressions against IMGs. A predictive framework representation of the interaction of sources of microaggressions and the acculturation practices in the IMGs' host country is depicted as at Figure 9 .

Figure 8:



Conceptual Model of barriers to acculturation for International Medical Graduates

Figure 9:
Predictive framework of interaction of sources of microaggressions and the acculturation practices in the IMGs' host country



9.5. Training, advocacy, awareness, education, ongoing support

Training of health personnel supplemented with advocacy, educational efforts and awareness generation activities have been found to be effective at enhancing acculturation of IMGs (Lineberry et al, 2015; Kehoe et al., 2016). However, few of these initiatives have been evaluated with objective outcome criteria (Lineberry et al, 2015; Kehoe et al., 2016).

At the systemic level, seasoned physicians, based on their experiential learning, have called for the creation of targeted systemic and peer mentoring programs, with participation of other USMGs (Chakraborty et al., 2019) to help IMGs specifically address the issue of microaggressions and bias. These physicians have initiated action for creation of such programs by the International Section of the American Academy of Pediatrics with ECFMG (Chakraborty, 2019).

Marginalized populations, such as IMGs who are new to rural practice in the US, face microaggressions from local communities and other physicians (Woods, 2006; Filut, 2020). Female IMGs report facing gender-based microaggression (Neiterman et al., 2015). Immigrant physicians are disproportionately represented in 'primary care' specialties (Morris, 2006) with their US trained counterparts opting for the more lucrative specialties such as dermatology, ophthalmology, orthopedics and plastic surgery (Ahmed et al., 2018). IMGs working in rural communities feel 'being othered' (Rosenblatt & Hart, 2000). Medical colleges, professional organizations of healthcare personnel, state primary care organizations and offices of rural health can play an active role in ensuring restorative justice and aiding physician retention (Morris, 2006).

Evidence from Australia suggests broad based programs integrating communication as a key element do more than produce the intended outcome of IMGs adept at communicating within the defined norms of their host countries. Right from its inception, such training changes the body language, tone, style of communication of the IMGs and goes over and beyond linguistic improvement. These changes enhance the perception of IMGs by their patients and the healthcare professional teams they work with and hence increases their acceptance and belonging in their host countries (Dahm & Cartmill, 2015).

At the interpersonal level, initiatives promoting IMG acculturation act by providing social support, aiding social mirroring, and enhancing self-esteem. Working class people in the UK perceive IMGs as one of their own, as compared to physicians who graduated in their country, who are perceived as privileged (Blanco, Carvalho & Olfson, 1999). This empathy with IMGs made them feel accepted. In the US, patients who perceive a greater bonding with people of a particular race/ethnicity seek out physicians with those

racial/ethnic backgrounds. This is known as social mirroring and makes those IMGs feel an enhanced sense of professional identity (Gogineni et al, 2016, p.257-267). Latino IMGs form strong bonds with other IMGs on the work front, and with other Latinos on the social front. They make it a point to live near other Latino families. This is their mechanism to create a buffer and insulate themselves from the microaggressions they face at work (Stabile et al., 2011) and exemplifies the intersectionality of the Latino and IMG facets of their personalities. IMG physicians make efforts to be accepted by their host countries in other ways. They form associations to gain a collective voice and power to promote their professional and cultural interests, assume leadership positions within national professional organizations and volunteer their services and resources for larger causes (Laird, Abu-Ras & Senzai, 2013; Chakraborty et al, 2019).

Cultural competence training is being increasingly advocated as an acculturation strategy to improve knowledge, awareness and skills for dealing with patients from diverse racial and ethnic backgrounds (Govere & Govere, 2016). It has the potential to improve patient satisfaction rates. Residents who have undergone cultural competency training cite its usefulness to their clinical practice and in maintaining relationships with their patients (Neff et al., 2017). However, the evidence on whether it translates to improved health outcomes is scarce (County Health Rankings & Roadmaps, 2020). Online cultural competence training has been provided by the US Department of Health and Human Resources (US DHHS) since 2004. I sent the department an email on 6th January 2021 requesting for the number of physicians, state wise, who have completed this program. Jennifer Kenyon replied on 19th January 2021, informing me there are three courses within the online physician's cultural competence training program. Since 2004,

more than 38,000 physicians have completed one or more of the three courses, and they practice in New York (11%), California (8%), Texas (7%), New Jersey (6%), Florida (5%), and Pennsylvania (5%). These results reflect the training has not been taken up by the majority of physicians.

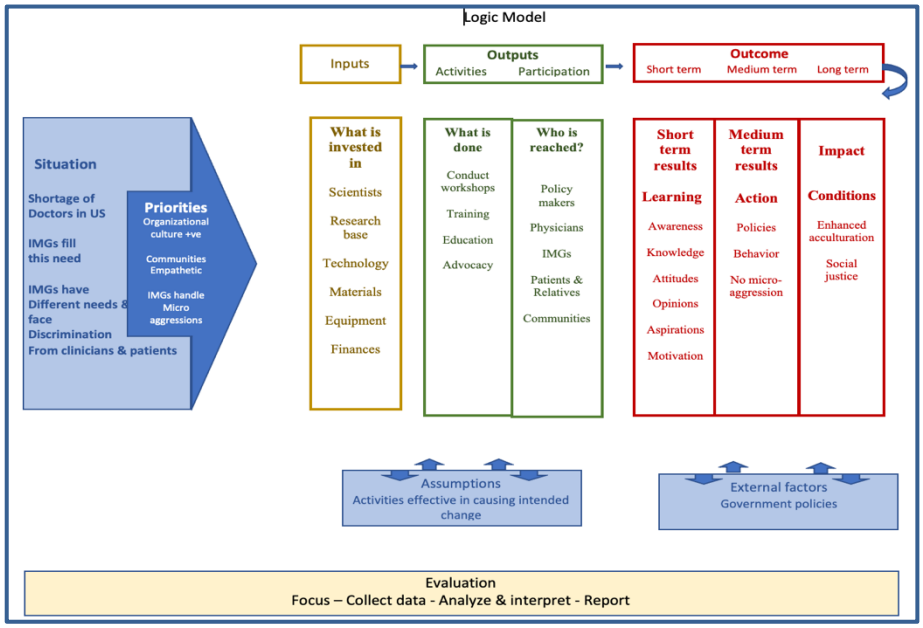
Cultural competence training does not address the impact the physicians' own cultural background has on their own biases, both overt and covert (White et al., 2018). This is addressed by adopting the lifelong practice of self-reflection to becoming self-aware of one's cultural identity and decreasing unconscious bias (Hays, 2016). Evidence-based courses for health professionals have recently been created to address this issue (White et al., 2018). These courses go beyond creating cultural awareness to creating contextual awareness, facilitating understanding of power and privilege, and engaging students as co-teachers exploring racial/ethnicity development models (Chou et al., 2011; Kutscher & Boutin-Foster, 2016; White et al., 2018).

9.6 Logic Model

To sum up, HICs face a shortage of physicians. They are unable to overcome this shortage in spite of an increase in the number of medical graduates they train annually, and hence remain dependent on IMGs to fill this need. IMGs immigrate from LMICs for the prospects of practicing in advanced health systems, earning financial benefit and living a better quality of life. However, despite meeting quality assurance standards in the form of passing medical equivalency exams and attaining high language proficiency, IMGs experience considerable administrative, economic, cultural, linguistic, familial, and career ascendancy constraints transitioning to professional practice in their host countries.

These barriers manifest as microaggressions, which are detrimental to the IMGs. They spring from workplace attitudes and organizational cultures, harming inter healthcare provider and patient-provider interactions, which can lead to poorer patient outcomes. Training, awareness generation, advocacy and education of all stakeholders decreases these microaggressions. Such a reduction produces a highly motivated and better performing physician workforce, develops deep provider-patient relationships, and increases trust and team thinking, which results in better patient outcomes. This process is depicted as a logic model in Figure 10.

Figure 10:
Logic Model summarizing the acculturation process of IMGs



Chapter 2: Methods

1.0 Overview

The objective of this dissertation was to generate evidence for promoting acculturation for IMGs. The research design chosen to achieve this objective had two aims:

1) A systematic review of literature to aggregate and synthesize evidence for acculturation strategies facilitating IMG transition to practice in the health systems of their host HIC.

2) A qualitative study to identify the health system and personal strategies found useful by IMGs from India as they navigated their professional careers in the US.

2.0 Study One: Acculturation initiatives for International Medical Graduates - a systematic review

Where appropriate and feasible, our review adhered to the revised reporting guidelines and criteria set in Preferred Reporting Items for Systematic Reviews (PRISMA) (Page et al., 2020).

2.1 Search strategy

The purpose of the study was to examine and assess interventions developed in health systems within HICs to help IMGs transition to their host country health systems by enhancing their acculturation. Articles included in this review either focused on the development and implementation of such interventions or described the perception of IMGs about the interventions that facilitated their acculturation or documented the perspicacity of trainers regarding ‘what works’ to facilitate the acculturation of IMGs. It was not relevant in this context whether these studies used qualitative or quantitative methods for analyzing the acculturation practices of IMGs. The pace of change in society, medicine and the health systems has been very rapid in the recent years and the majority of research on this topic is recent. Hence it was felt

these criteria made it feasible to focus on studies conducted since the year 2000. The defined exclusion criterion were studies conducted prior to the year 2000, not published in English and studies on IMGs not focused on promoting their acculturation. A detailed list of the inclusion criteria is at Tables 1 and 2.

Table 3:
Inclusion Criteria

(1) Providing evidence base of interventions aimed at enhancing the acculturation of IMGs. (2) Qualitative studies of IMGs listing interventions /activities they found helpful in their acculturation to the health systems in their host countries (3) Policy articles/commentaries/viewpoints of trainers of IMGs of 'what works' in facilitating acculturation of IMGs to their host country health systems (4) Have been published in the English language (5) Published between 2000 to 2021

Table 4:
Exclusion criteria

(1) Not focusing on the challenges International Medical Graduates working in High Income Countries face (2) Not providing an evidence base for addressing these challenges (3) Not published in the English language (4) published before the year 2000

The Population, Issues, Context, Outcomes (PICO) [1] framework was used to create the review protocol and is listed at Table 5.

Table 5.
The Population, Issues, Context, Outcomes (PICO) Study Design of the systematic review (Davda et al., 2018)

Population	International Medical Graduates (IMGs) working in High Income Countries (HICs)
Issues	Challenges faced by the above population in their host country
Context	Working in the health sector
Outcomes	Initiatives to facilitate acculturation

The search strategy was developed with expert input from a librarian (ED). The searches followed the standards of the Cochrane Collaboration and covered the electronic databases PubMed, Embase, PsycINFO, CINAHL and Web of Science for peer-reviewed articles, abstracts and other literature published in English between 2000 and 2021. Google Scholar was used to search the gray literature using the same criteria. The selected literature had to be empirical evidence intended for facilitation of acculturation of IMGs in their host countries with the aim of facilitating the navigation of their professional careers.

The search was conducted initially using the different and truncated designations for IMGs. The phrases and the MeSH terms/keywords used are listed at Table 6 in columns A and B with the Boolean operators OR and AND. Although it was planned to be narrowed subsequently by combining these terms with the MeSH terms in column C, the search was stopped after using the search terms in columns A and B. This was done because the number of search articles which found words from Column C was very small (<20). Sieving through such a small number of articles could have precluded relevant articles from the findings. Hence the larger numbers of

results listed from searches of Columns A and B were combed to ensure no study fitting the inclusion criteria was missed.

Table 6:
Search phrases and keywords used in the review

Column A	Column B	Column C
international medical graduate	discrimination	acculturation
overseas trained doctor	bias	Coping
foreign doctor	implicit bias	Transition
	racism	health system
	Microaggressions	facilitatory

2.2 Study selection and quality assessment

The literature search yielded 256 articles. These were imported into Endnote online. Duplicates were removed (n=39) and the results from all databases were compiled. Articles were screened by title and abstract (SGS) as shown in detail at Fig.1 (Chapter 3). A second researcher (ED) evaluated the selected studies for eligibility. Articles were included for review if they were empirical studies reporting quantitative or qualitative data facilitating the acculturation process of IMGs. The perusal of references in the resulting papers yielded two additional research articles eligible for inclusion in the review. A detailed list of inclusion and exclusion criteria is found at Tables 3 and 4.

Each study was qualitatively appraised using the relevant JBI Critical Appraisal Checklists as assessment tools for qualitative and quantitative research (Ma et al., 2020). Grey literature was reviewed using the AACODS checklist (Tyndall, 2010). 46 studies were included in this review.

2.3 Data extraction

The studies (n=46) included in this review are heterogeneous. The study target populations and targeted effects were the same, but the survey recruitment and administration methods, measurement instruments, interventions, timing of outcome measurements, and analytical methods were different. Hence meta-synthesis was chosen as the method of choice (Imrey, 2020). It is a robust approach capable of dealing with heterogeneous studies found fit for inclusion in this review (Imrey, 2020). By focusing on synthesizing study findings (the author's analytical interpretation of study data), and not on the study data itself (such as the empirical data collected), (Munn et al., 2019) meta-synthesis delivers. Thus, as long as studies focus on the same phenomena of interest, their findings can be pooled, irrespective of the study methodology. The reviewer identified and extracted the findings from the studies included in the review, categorized these findings and aggregated the categories to develop synthesized findings (Lockwood et al., 2015). Care was taken to reproduce the findings of the studies as described by the original authors. Care was taken not to interpret any finding.

Data were extracted in tabular form for the intercultural setting (year of publication, country of the study, ambulatory or hospital setting). Demographics of the study participants, question and aim of the study, study methodology, the results of the study were rendered as text (qualitative and quantitative) or data (quantitative). The following data were extracted and listed in separate tables for qualitative and quantitative studies: detailed description of the study participants (number, region of origin of the IMGs, specialist field of the IMGs and training

status of the IMGs); detailed description of the methods while differentiating between qualitative (interviews, focus groups, author notes or evaluation of a video-taped conversation) and quantitative methods. Three kinds of studies were included in this review: intervention studies (n=15) documenting the implementation of interventions devised to facilitate acculturation of IMGs, qualitative studies (n=21) documenting the perceptions of IMGs who had participated in interventions implemented to enhance their acculturation and finally studies documenting the efforts and experiences in maximizing acculturation of the trainers of IMGs (n=10).

2.4 Data analysis

Extraction of the findings in meta-synthesis is both the second phase of data extraction and the first step in data analysis. For qualitative studies the units of extraction were ‘a verbatim extract of the author’s analytic interpretation of the results or data’ (Lockwood et al., 2015 p.183). The ‘data’ extracted has been recounted in the form of a theme, metaphor or simply a rich description. This extracted ’data’ finding has been supported by an illustrative excerpt from the study (Munn et al., 2019). This excerpt is a direct extraction of the words used by the researcher to illustrate the finding. The final stage in the meta-aggregative process develops a meta-synthesis, a set of synthesized findings that draw evidence-based conclusions of use in practice. The JBI definition of synthesized finding “A synthesized finding is an overarching description of a group of categorized findings that allow for the generation of recommendations for practice” was adhered to during this review (Munn et al., 2019). Efforts have been made to assess the strength of evidence of the first group of studies included in this qualitative evidence synthesis by using the GRADE-CERQual (‘Confidence in the Evidence from Reviews of Qualitative research’) tool (Lewis et al., 2018).

2.45 Strengths and limitations

To the best of my knowledge, this is the first systematic review on the strategies to handle the microaggressions IMGs face as they transition to the health systems in their host countries. This is an under-researched area in the US. This review has used JBI methodology recognized internationally for its rigor and quality to support synthesis of qualitative data into generalizable statements and/or recommendations. The findings could inform further research and interventions on this topic, for IMGs are expected to continue to form an important sector of physicians in the US for the foreseeable future. Two reviewers (SGS and ED) were involved in the systematic review process in order to minimize researcher bias. The search strategy enabled meta-synthesis of findings from heterogeneous studies. Efforts were made to contact the authors for details and further information about officers who are currently working on the topic in the UK. Though this was followed up repeatedly, responses were not received.

One limitation to be noted is that only literature published in English has been included in this review. And only studies published from the year 2000 onwards have been included in this review. This was a conscious choice because we believe the world is changing at such a rapid pace, recent research is more likely to be useful for informing practices to facilitate the acculturation of IMGs as interest in this topic deepens. Although the GRADE-CERQual framework has been used to assess the strength of evidence of the first group of studies included in this study, publication bias may have affected the results of the database search for the studies included in groups II and III.

The decision to review research only articles published in English limits the number of articles reviewed and limits the generalizability of our findings to English speaking HICs. Although efforts were made to include as many heterogeneous studies as possible and compare

the findings of published studies with unpublished research by contacting trainers of IMGs, publication bias may have limited the results of this review. A limited number of studies list the nationalities of the IMGs. Others treat IMGs more generically as a homogenous group. In reality, IMGs are a very diverse group. In the US alone, IMGs come from 154+ countries (Batalova, 2020), with varied cultural backgrounds as different from one another as they are from their host country. The sample sizes of the intervention studies are either not mentioned (Ong et al, 2002; Kehoe et al, 2019) or are small, ranging from 5 (Pillai et al., 2019) to 36 (Katz et al, 2020). Although efforts were made to include as many heterogeneous studies as possible and compare the findings of published studies with unpublished research by contacting trainers of IMGs, publication bias may have limited the results of this review.

3.0 Study Two: Acculturation Strategies facilitating the career navigation of International Medical Graduates from India in the US - a qualitative study

3.1 Overview

The qualitative study used a phenomenological study design to gain a deeper understanding of the experiences of IMGs from India as they navigate professional careers in the US. Phenomenology is a qualitative research method described by Husserl (Grossoehme, 2014). It is focused on making meaning of phenomena through the life experiences of people (Grossoehme, 2014). This concept was later expanded by Heidegger giving a wider meaning to the lived experiences of people by studying them with a view to interpreting and making meaning of them (Grossoehme, 2014). This is the inductive, interpretative approach or hermeneutic phenomenology (van Manen, 2017). This approach has been used to focus on the meaning of lived experiences of IMGs as they become acculturated within the US healthcare

system learning to handle microaggressions. Phenomenology is apt for this purpose because the researcher will play an active role in documenting and interpreting the IMGs' perspective in a chronological flow (Neubauer, Witkop & Varpio, 2019). The study is guided by the research question aimed at identifying strategies that IMGs from India have found beneficial, both from within their personal lives and the health systems in which they work, helping them navigate their professional careers in the US.

I, the researcher, am a physician from India who has never taken the certification exams to practice in any country outside of India. In a desire to minimize bias, I took care to be mindful of my beliefs, arising from both, my being an Indian and a physician. I used an epoché and bracketed my values, interests, perceptions and thoughts on this topic and held them in abeyance for the course of the study. This ensured my subjectivity and personal knowledge did not shape the collection of data and its analysis. Throughout the study the central focus will be perception and interpretation of the experiences from the IMGs' point of view.

3.2 Study approval

The study was conducted vide approval **STUDY00017847** dated 7/30/2021 from the Penn State College of Medicine.

3.3 Sample and sampling procedures

Purposive, snowball sampling was done to recruit study participants. The recruitment script can be found at the Appendix. The inclusion criteria for this study are physicians who were born in and completed their initial medical degree from India and have been practicing in the US for more than 15 years. This time period has been chosen as representing a period long enough for the IMGs to have gone through all stages of the acculturation process and to have permanent

residency status, indicating their intention to permanently adapt to their life in the US. IMGs take a period of at least three years to complete their residency in the US, followed by seven years of practice in an underserved area or six years on an H-1B visa, after which they may get their Legal Permanent status. It is acknowledged that temporary immigrants have far less incentive to integrate themselves into the larger society than those who become permanent residents (Gibson, 2001). Many times IMGs go into one or two fellowships to specialize further. There are various reasons for this. Data from the US (Roy, 2021) and Canada (Matthews, 2021) show the number of visa-trainee graduate residents who stay back in their host countries has been decreasing over the years. Hence fifteen years was selected as being long enough for the IMGs to have got their Legal Permanent Resident (LPR) status and integrated within the US culture and workplace ethics. The sample population was recruited to try to represent maximum variety by gender, age, geographical location, specialty and type of practice (academic, practice – solo, group, large HMO, hospital based).

The physicians from India who are practicing in the US known to the researcher were used as a starting point. They were requested to participate in the study as well as motivate others to do so via email and through phone calls. The American Association of Physicians of Indian Origin (AAPIO) is an organization of IMG physicians from India. We requested participants twice on their web site over email. Voice mails were left three times on the telephone numbers available on their website for help in recruiting physicians. No responses were received.

3.4 Data collection procedures

Data in the qualitative study were collected through online Zoom interviews and audio-visually recorded. Consent was implied. Interviews were conducted well past the time when saturation was reached, i.e., no new information and themes emerged. This was done to

maximize representation from both medical colleges in different parts of India and residencies in different states in the US. There was no time limit set for the interviews and the respondents were encouraged to share as much information as they wished. The recording allowed observation of facial expressions and body language including voice inflections. The data was collected during the period August 5th 2021 and September 27th 2021.

3.5 Instruments

The socio-demographic and practice profile as collected during the interview has been tabulated as shown in the Appendix. A semi-structured questionnaire developed by Chen et al (2010) has been adapted and utilized for conducting the interview (Chen et al., 2010). Prior permission was received from the study authors (Chen et al., 2010) to utilize their instrument. The questionnaire is at the Appendix.

3.6 Data Analysis

The data were analyzed iteratively and simultaneously along with its collection. Transcripts were edited for clarity and the intelligent transcripts were coded independently and iteratively by researchers. Inductive coding was done independently by two researchers (SGS and NA). The Kappa Coefficient calculation yielded a value of 0.93 which was an acceptable measure of Inter-Rater Reliability (IRR). Discussion among the researchers (SGS and NA) was used to resolve differences of opinion. A combined code book was created and analyzed for emerging themes. Member checks were performed to maintain data credibility. The NVivo software was used to code the transcripts, create themes and develop a report. Thick, rich descriptions about the IMG experiences, behavior and context have been included in the results and an audit trail has been maintained throughout the course of the study.

3.7. Strengths and Limitations

This was a qualitative study and therefore findings are not generalizable. Respondents were initially randomly recruited from associates of the primary researcher and her husband from their medical schools who were settled in the US. Snowballing technique was then used to recruit further participants. Multiple attempts to recruit respondents through the American Association of Physicians of Indian Origin (AAPIO) met with no response. Of the first 35 potential interviewees contacted, all affirmed their participation. This high rate of participation was not expected when contacting the potential respondents. The primary researcher learned that one potential interviewee was facing a life-threatening health concern. After due consideration, this respondent was not included. The final study included 34 interviews. Efforts were made to select respondents from as many medical colleges, regions of India and US as possible, and maintain a balance between genders and physicians in practice and academics. IMGs included in the study were found to be living in 28 states of the US. Other states were unrepresented. The majority of states represented were in the North-East region of the country with many living in the coastal states (n=14) or the larger cosmopolitan towns, such as Chicago, Philadelphia or Baltimore (n=19), and only one respondent was residing in a rural area. The respondents were predominantly from northern, central and western parts of India, with the southern states being minimally represented. Although 14 medical colleges in India were represented by the respondents in this study, the majority of the respondents (n=24, 82%) had studied for a part of their medical education in India in four of the medical colleges in Delhi. This could be a strength as well for this study could serve as a comparison for future studies coming in from medical colleges of other parts of India. This study also includes IMGs who immigrated to the US from UK.

Chapter 3

Facilitating International Medical Graduates' (IMGs) transition to professional practice in High Income Countries (HIC) to facilitate – a systematic review

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1.0 Introduction

International Medical Graduates (IMGs) — physicians whose country of origin and primary medical training is not their host country — constitute a significant percentage of the physician workforce in High Income Countries (HICs) (Lineberry et al., 2015). They represent a quarter of the physician workforce in the United States (US) (25%) (Desbiens & Vidaillet, 2010, Michalski et al., 2017). Over the last decade, the proportion of these foreign-born and foreign-trained physicians, or IMGs, has continued to grow in the Organization for Economic Co-operation and Development (OECD) countries Although the number of physicians being trained domestically has grown in the US, the country is projected to face a shortage of 1.8 million physicians by 2030 (42%) (Zhang et al, 2020). IMGs are projected to continue to be an important resource to fill this gap.

IMGs' process of integrating their professional careers into the US health system is fraught with difficulties, and the overall experience remains arduous and frustrating (Fiscella et al., 1997; Sandhu, 2005; Rao et al., 2007; Triscott et al., 2016; Szafran, 2017). The challenges occur simultaneously at many levels. They face the stress of acculturating to life and culture in their host countries, such as language difficulties, absence of familial and social support networks and experiencing a social status lower than they experienced in their home country. Logistical issues pose added stressors in the form of securing living accommodations and work certifications. In addition is the inherent challenge of coping with postgraduate medical education through systems very different to the ones they were trained in their home countries (Fiscella et al., 1997).

Their reactions of IMGs to these stresses in their host countries are shaped by the intersection of the micro-determinants of their social identities - nationality, race/ethnicity,

gender, cultural values, mores, and perceived professional status as a physician. They have interpersonal styles different from their American counterparts (Pilotto et al., 2007; Jain, 2011; Triscott et al., 2016). US informality seems awkward or disrespectful to many of them (Fiscella & Frankel, 2000) and they may remain hesitant to seek clarification from, and discuss cases with, colleagues. This isolates IMGs from their colleagues and hinders the development of open, relaxed, collegial communication with peers and mentors (Kamimura et al, 2017). Another consequence of their different interpersonal styles is their comparative ineptness at the skills required for provider-patient communication in the US health system (Pilotto et al., 2007; Jain, 2014; Rao, Mehra & Kramer, 2016; Triscott et al., 2016). Hence, they remain unaccepted by many American patients from non-cosmopolitan backgrounds and receive lower patient satisfaction scores (Kamimura et al, 2017).

Simultaneously host country health systems and communities face significant challenges in integrating these immigrant IMGs. Program Directors and trainers are not equipped to train in English language acquisition, cross cultural psychology and communication, cultural anthropology and acculturation skills (Cross, 2011). This strains the diverse health systems they work in. Patients may also face language barriers and not receive the empathy they expect from their physicians while consulting with IMGs (Cross, 2011).

We sought evidence of best practices ameliorating IMGs acculturation to life in their host countries, including transition to health system practice. A systematic review of educational interventions supporting the acculturation of IMGs (Lineberry et al, 2015) exists. However, our topic is broader, based on the premise that equity and a sense of belonging is the foundation for immigrant physicians to feel ‘at home’ in their host countries, and thereby be in a better position to enhance their professional lives and contribute to improved patient outcomes. In line with this

premise, we have explored initiatives where more avenues of reaching out to the IMGs have been explored, such as social support, different practices utilized, such as virtual mentoring, and online training which has been the norm during the Covid-19 pandemic. Our aim is to encapsulate the recent evidence to inform and guide future practice in the US, which has the projected highest high need for immigrant physicians (Scheffler & Arnold, 2019).

2.0 Methods:

2.1. Eligibility criteria

Studies had to meet a set of eligibility criteria for inclusion (Tables 1 & 2)

Table 1:
Inclusion Criteria

(1) providing evidence base of interventions aimed at enhancing the acculturation of IMGs. (2) qualitative studies of IMGs listing interventions /activities they found helpful in their acculturation to the health systems in their host countries (3) policy articles/commentaries/viewpoints of trainers of IMGs of 'what works' in facilitating acculturation of IMGs to their host country health systems (4) have been published in the English language (5) published between 2000 to 2021

Table 2:
Exclusion Criteria

(1) not focusing on the challenges International Medical Graduates working in High Income Countries face (2) not providing an evidence base for addressing these challenges (3) not published in the English language (4) published before the year 2000

2.2 Search strategy

This review adheres to the revised reporting guidelines and criteria set in Preferred Reporting Items for Systematic Reviews (PRISMA) (Page et al., 2020). The search strategy was developed with expert input from a librarian (ED). The search followed the standards of the Cochrane Collaboration. It was conducted between June 30, 2021 and October 24, 2021 and covered the electronic databases PubMed, Embase, PsycINFO , CINAHL and Web of Science for peer-reviewed articles, abstracts and other literature published in English between 2000 and 2021. In the next step, all reference lists of included studies were examined for any additional studies and Google Scholar was searched for grey literature. Thepace of change in society, health systems and medicine has accelerated since the turn of the century, and with the wealth of new evidence available, the review was restricted to research done since 2000. The selected literature is empirical evidence intended for facilitation of acculturation of IMGs in their host countries with the aim of facilitating the navigation of their professional careers. The Population, Issues, Context, Outcomes (PICO) [1] framework was used to create the review protocol and is listed at Table 3.

Table 3.
The Population, Issues, Context, Outcomes (PICO) Study Design of the systematic review (Davda et al., 2018)

Population	International Medical Graduates(IMGs) working in High Income Countries (HICs)
Issues	Challenges faced by the above population in their host country
Context	Working in the health sector
Outcomes	Initiatives to address challenges & facilitate acculturation

Study Design	Eligibility criteria defined for selection of research articles and gray literature Information sources defined Search strategy designed Data collected JBI checklists used

The search was conducted initially using the different and truncated designations for International Medical Graduate. The phrases and the MeSH terms/keywords used are listed at Table 4 in columns A and B with the Boolean operators OR and AND. Although it was planned to subsequently be narrowed by combining these terms with the MeSH terms in column C, the search was stopped after using the search terms in columns A and B because the number of search articles found inclusion of words from Column C was small (< 20). Sieving through such few articles could have precluded relevant articles from the findings. Hence larger numbers of results listed from searches of terms under Columns A and B were combed to ensure no study fitting the inclusion criteria was missed.

Table 4.
Search phrases and keywords used in the review

Column A	Column B	Column C
international medical graduate	discrimination	acculturation
overseas trained doctor	bias	coping
foreign doctor	implicit bias	transition
	racism	health system
	microaggressions	facilitatory

A sample of the search conducted of PubMed is available in the Appendix.

2.3. Assessment of methodological quality

The standardized critical appraisal instruments from the JBI System for the Unified Management, Assessment and Review of Information's (JBI SUMARI) Critical Appraisal Checklist for Qualitative Research. Two independent reviewers (SGS, ED) assessed the eligible qualitative studies independently for methodological rigor and quality using. After both reviewers completed the initial appraisals, the appraisals were compared, discussed where there was a lack of consensus and reached a final agreement. This process helped the reviewers to understand the methodological strengths and limitations of the included primary studies.

2.4. Data extraction

The JBI standardized data extraction tool—JBI Qualitative Assessment and Review Instrument Data Extraction Tool for Qualitative research, qualitative data was used to extract data from the included primary studies. The data extracted included details on type of study/paper, participant demographics; study methodology and methods; and findings relevant to the review question. For qualitative studies, relevant quotes have been included. In line with meta-aggregative approach, when extracting findings from the intervention studies, the reviewers allocated a level of credibility to each finding based on the degree of support each intervention had (satisfaction by trainees, perceived usefulness of intervention, objective test of learning included in intervention and measure of on-the-job performance).

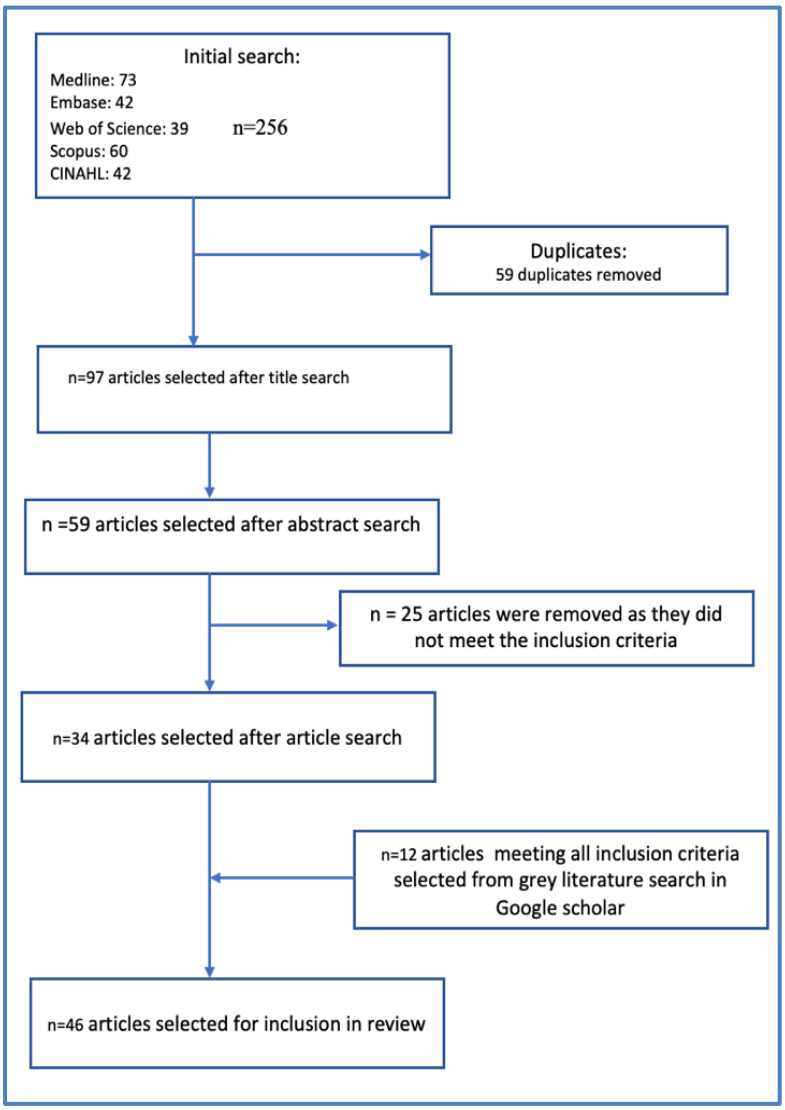
2.5 Results

3.1 Study inclusion

The process of the literature search by SGS yielded 256 articles. These were imported into Endnote online. Duplicates were removed (n=59) and the results from all databases were compiled. Screening by title yielded 97 articles and subsequent abstract screening yielded 59 articles. These were reviewed in full, of which 34 were deemed eligible for they met the inclusion criteria. An additional 12 articles were selected as meeting all the search criteria after searching Google scholar for grey literature. A second researcher (ED) independently researched PubMed and Scopus and evaluated the selected studies from all the databases for eligibility. Both researchers were able to resolve differences on opinion regarding eligibility by consensus discussion. Every effort was made to contact authors where more details were required. Some authors provided additional information (Gogineni et al, 2014; Rao et al, 2020; Makker et al 2020). The flow of articles through the screening and selection process is at Figure 1.

Figure 1:

Flow chart of articles selected for and excluded from review



None of the studies used comparison groups to assess the effectiveness of their curricula and duration and mode of training.

3.2. Methodological quality

The JBI Critical Appraisal Checklist for Qualitative Research was used to assess the quality of the included studies. Studies that got scores against the appraisal criteria of 7–10 were

of high quality; moderate quality if they scored between 4 and 6 and low methodological quality if they scored lower than four.

3.3 Study characteristics

Three groups of studies were identified. The first group were intervention studies (n=15). All the studies were multifaceted interventions, involving tutoring, mentoring and guided activities. The second group of studies (n=18) are the qualitative studies documenting the experiential practices/ induction programs they have found useful in transitioning to professional practice in their host HICs. The third, and smallest (n=10) subset of studies is also the most recent, with the majority (n=7) of the articles having been published in 2018-2021, one in 2002 and two in 2014. This group consists of the commentaries, viewpoints, experiential learnings of trainers of IMGs who have come together to share their knowledge and opinion about 'what works' for training of IMGs. Nine host countries have been identified for the 43 studies, and the distribution of the studies is at Table 5.

Table 5:
Types of studies and the host countries for the studies in this review

Country	Case/ evaluation studies (n=15)	Studies with IMG perspectives on what they perceived useful (n=21)*	IMG trainer perceptions (n=10)	Number of countries (n= 46)
USA	3	2	4	9
UK	8	4	5	17
Canada	2	4*		6
Australia	2	7	1	10
Finland		1		1
Netherlands		1		1
Ireland		1		1
Sweden		1*		0
New Zealand		1		1

*Neiterman et al., 2015, compares Canada & Sweden

Overall, the UK leads the quantum of research in this area in all three categories identified (18/46). Australia comes in next, with the major share of studies being from the IMGs' experience of what facilitated their acculturation to their host country and its health system. The US comes in a close third, but the majority of research here has been in the form of interventions and the IMG trainers' perspectives of what works. Canada, on the other hand, has focused on studying the IMGs' perspective in what they have found most useful in terms of what facilitated their transition to professional practice here. Research in other HICs is nascent on this subject.

Group I: Case studies

The details of this group of studies are listed at Tables 6 -9. Two studies are independent third-party mixed-methods evaluations of three courses which are systemic and being conducted at scale (Kehoe et al., 2019; Bogle et al, 2020). Another two of the UK based studies, have

served as pilots and their findings have been inputs to create systemic courses for IMGs (Bansal et al., 2015; Makker at al., 2020)(personal communication). One case study researches the utility of peer mentoring over a period of two years while the other fifteen studies assess the effectiveness of IMG transition to residency (TTR) orientation programs in improving the transition into residency training for new IMG trainees (Fournier et al., 2020). The trainings have been delivered at one time as a full time training format (Bansal et al., 2015; Bogle et al, 2020; Cross & Smallridge, 2011; Fry & Mumford, 2011; Katz et al, 2020; Kehoe et a., 2019; Makker et al., 2020; Pillai et Tran, 2019; Porter et al, 2008; Sockalingam et al., 2015; Whyche, 2009) or in individual sessions spread out over a period of months (Baker & Robson, 2012; Bogle et al, 2020; Fournier et al., 2020; Myers, 2004; Wright et., 2012). The duration of the training interventions ranged widely, from one full day (Wyche et al., 2009; Bansal et al., 2015) to modular training delivered over 6 months (Baker & Robson, 2012). One study (Katz et al., 2020) is a three-day workshop done for PG1 year residents annually over a total period of 3 years. Other intervention studies included in this review were one-off courses. The multifaceted interventions utilized various combinations of pedagogical methods including discussions, presentations, videos, role-plays, simulations, language training, mentoring, clinical scenarios, focus group discussions and clinical supervisions. Four studies (Myers, 2004; Porter, 2008; Wright, 2012; & Katz et al., 2020) listed the home countries of their trainees. These IMGs represented 22+ countries. However, all the studies treated the IMGs as a homogenous group. None of the studies used a control group or included a pre-test in their outcome variables. Methodologically, the studies were evaluated on an increasing degree of effectiveness of the interventions. These were categorized as measures that showed satisfaction with intervention (I), perceived usefulness of the intervention by the trainees (II), incorporated use of an objective

measure of learning or behavior (III) and a measure of on-the-job performance (IV). This is an assessment of the strength of evidence by using the GRADE-CERQual ('Confidence in the Evidence from Reviews of Qualitative research') tool (Lewin, 2018). The results are at Table 7.

Table 6 :
Characteristics of Intervention Studies

Study & Year	Sample size	IMGs home country	Host Country	Journal	Specialty
Baker & Robson, 2012	14 IMGs	India, Pakistan, Sri Lanka, Libya, Sudan	UK	The Clinical Teacher	GPs
Bansal et al, 2015	7 IMGs	Not stated	UK	Education for Primary Care	Primary Medical Care
Bogle et al, 2020	n=21 for Epsom Heller program. Sample size not indicated for Kings Overseas Development Program	Not stated	UK	The Physician	Primary Medical Care
Cross & Smalldridge, 2011	20 participants per course; number of courses not specified	Not stated	UK	Medical Teacher	Primary Medical Care
Fournier et al., 2020	17 mentor(peer volunteer IMG) & mentee(IMG) pairs	Not stated	Canada	Mental health and social inclusion.	Multiple
Fry & Mumford, 2011	13 IMGs who had previously been unable to clear the Clinical Skills Assessment Test; 6 passed after the intervention	Not stated	UK	Education for Primary Care,	Primary Care
Katz et al., 2020	36	China, India, Iraq, Egypt, Jamaica, Korea, Latvia, Nepal, Nigeria, Pakistan, Palestine, Syria, Taiwan	USA	MedEdPORTAL	Pediatrics
Kehoe et al, 2019	mixed methods (10 data sets)	Not stated	UK	Report	Multiple
Makker et al., 2020	Six NHS hospitals , n not stated	Not stated	UK	BMJ Simulation & Technology Enhanced Learning.	Primary Medical Care

Myers 2004	12	Asian and Eastern Europe countries	USA	Academic Psychiatry	Psychiatry
Pillai & Tran, 2019	6	Not stated	UK	Future healthcare journal	Not stated
Porter et al., 2008	11	India (n=7) & others not mentioned	USA	Teaching and learning in Medicine	Internal Medicine
Sockalingam et al,2015	19	Not stated	Canada	Academic psychiatry	Psychiatry
Whyche, 2009	not stated	Not stated	USA	Psychiatric news.	Psychiatry
Wright et al., 2012	n=15 IMGs completed the study	Sri Lanka, Philippines, Colombia, India, Bulgaria, Bangladesh, Iran, Afghanistan, Vietnam, China, Egypt, Bosnia	Australia	Rural and remote health	Not stated

Table 7:
Intervention Studies : Methodological details

Study & Year	Country	Type of study	Intervention Duration	Intervention content	Pedagogy/Methods	Method of assessment	Categories of measures used*
Baker & Robson, 2012	UK	Case study	Training courses conducted by GP tutors and language tutors	Language & communication skills (for consultation)	Program run over 6 months, consisting of 15 sessions of language training delivered by a language tutor, and six sessions of consultation skills training from experienced GPs	GP tutors and language tutors (ongoing); supervisors (end evaluation through email questionnaire); IMGs(FGDs)	I,II,III,IV
Bansal et al, 2015	UK	Case study	A full day course followed by a follow-up half day course two weeks later was piloted	One day course : morning - **understanding patient centered approach** (patient as a person; bio-psychosocial perspective; therapeutic alliance & sharing power & responsibility); afternoon - **cultural diversity workshop** Follow up half day course: **consultation skills**	Videos, discussions, role plays, trainee led role plays, in class exercises;	IMGs: Oral feedback; documented; anonymous questionnaire Tutors: Meeting immediately after workshop	I
Bogle et al, 2020	UK	Case study	Epsom program:;King's Overseas Doctors Development Program:	Epsom: 6 or 12 week orientation (pre-Covid) Kings College: Leadership; NHS structure; ethical dilemmas, communication skills, interview practice, psychological support & well-being; regular teaching days(every 4-6 weeks)(Covid era) - different from UK Training Days	Epsom College: Clinical supervision, mentoring pastoral support Kings College: Faculty members trained in principles of coaching and mentoring; were IMGs themselves - used hi-fidelity simulations, FGDs, discussions, role plays, discussions, clinical scenarios, case presentations, face-to-face mentoring	Epsom College: Multiple clinical assessments by supervisors Kings College: Feedback from IMGs; assessment by trainers at end of each training day	Epsom: I, III, Kings College: I

Cross & Smalldridge, 2011	UK	Case study	Two half day sessions followed by a one full day session	History taking, summarizing, discharge summaries, presentation skills and a communication model; cultural context	Presentations, workshops and practice using linguists, healthcare professionals and simulated patients	Language teachers - adjustment to syntax, pronunciation & context; Clinicians - analyzed clinical content & structure required for verbal handover & written notes	II, III,
Fournier et al., 2020	Canada	Case study	Short sessions conducted periodically over 2 years	Matching of mentors and mentees - frequency of contact, mode of discussion left flexible. Program administrators available to offer support/answer questions	Peer mentoring. Session was offered for mentors to exchange, reflect and provide feedback on their experiences	Questionnaire using a five-point Likert scale assessing the perceived helpfulness of the program, satisfaction with the frequency and quality of contact with the mentor, and satisfaction with the mode of communication used (in-person, e-mails, text messages, etc.) developed separately for mentors and mentees - answered anonymously using Survey Monkey	I

Fry & Mumford, 2011	UK	Case study	Three sessions: Session one: Three role plays of ten minutes each followed by discussion of unstated duration; Session two: case cards led discussion; Session three: focused examination for selected clinical condition	General principles of cross-cultural competency Language training	Behavior modelling/roleplay	Subjective feedback from trainees plus objective in the form of pass rate in Clinical Skills Assessment (CSA). Difficult to ascribe degree of improvement due to course versus individual study.	I,II,III
Katz et al., 2020	USA	Case study	3 day workshop done for PG1 year residents annually over a total period of 3 years	Four module curriculum developed covering topics related to patient-centered care, challenging communication with patients, complex psychosocial histories, and health literacy.	Didactics, discussion, and role-play	1-year follow-up survey reported the workshops resulted in IMGs': 1) improved understanding of US medical culture. 2).shift from a doctor-centered approach to one more focused on patient-centered care. 3) facilitate communication in challenging patient encounters. 4) demonstrate an increase in confidence in communicating with patients.	I,II,III,IV

Kehoe et al, 2019	UK	Evaluation	Three months : Welcome to UK(WtUK) is a free half day program for IMGs and EEA area graduates conducted by the UK General Medical Council(GMC)	Pre- and post -course evaluations; researcher observations; FGDs, interviews with trainees, non-attendees, trainers, Regional Liaison Officers	Independent third party evaluation using mixed methods approach : Pre- and post course evaluations; researcher observations; FGDs, interviews with trainees, non-attendees, trainers, Regional Liaison Officers	Trainees report improved awareness and understanding of the ethical issues covered in medical practice in the UK, guidance provided by the GMC and ethical issues in UK practice. Scores on validated scales measuring doctors' patient centeredness and communication self-efficacy improved	I,II,III,IV
Makker et al., 2020	UK	Case study	2 days	Day one: Personal skills: concepts of mindfulness, being proactive, building resilience to deal with rejection and setbacks, building optimism, understanding the importance of robust well-being strategies. Day two: Clinical skills	Day one: interactive zoom meeting complemented by power point presentation Day two: remote simulation with demonstration through pre-recorded scenarios Debriefing by Zoom	Written feedback by educators and attendees	I
Myers 2004	UK	Case study	Eight monthly, 1-hour seminars	Culture-specific information - individualist and collectivist; principles of cross-cultural competency; clinical psychiatry cases	Discussions; behavior modelling; presentations; role plays; guided independent study	Eight-item, Likert-type 7-point scale, post-then-pre questionnaire	II

Pillai & Tran, 2019	Canada	Case study	1 day	Four clinical scenarios: Protecting patient safety within the pressures of bed shortages; Decision on escalation care plans in a critically unwell patient without mental capacity; Management of needlestick injury and patient confidentiality in high-risk patients; Acting on a serious patient incident and communicating it to relatives as a duty of candor.	High-fidelity simulation using manikin and simulated actors.	Questionnaire with a mixture of open and closed questions graded on a 6-point Likert scale used by attendees	I, III
Porter et al., 2008	USA	Case study	2 weeks pre-residency course	Information about US; general cross-cultural competency; medical knowledge and clinical skills	Discussions; behavior modelling; lectures; role modelling; presentations; simulation; mentoring; tutoring	Pre and post test: 16-item test of medical knowledge and skills (instrument not formally validated)	I,II,III
Sockalingam et al,2015	Australia	Case study: prospective single site	1 day, case study	Evidence-based mental health (EBMH), psychiatric documentation, enhancing psychotherapy, learning communication challenges in psychiatry, learning and integrating feedback, and managing social isolation.	Co-taught by faculty paired with psychiatry senior IMG trainees currently enrolled in the residency training program using role-plays, case-based learning, demonstration (for EBMH resources),discussions, reflection, and lectures.	Curriculum evaluation consisted of participants completing questionnaires with a 5-point Likert scale to assess perceptions regarding the orientation day and their comfort with each of the topic areas covered in the curriculum at three time points: (1) pre-orientation, (2) immediately post-orientation, and (3) 3-month post-orientation.	I, II

Whyche, 2009	USA	Case study	1 day IMG Institute at Annual Meeting of Psychiatrists	Supervision and feedback, cultural diversity in the U.S. health care system, and special issues of communication and the doctor-patient relationship in psychiatry	Modeled after a program developed for IMGs training in family medicine at Canada's McMaster University. Lectures, informal discussions, video vignettes and small group discussions	Not stated	I,II
Wright et al., 2012	Australia	Case study	offered in 5 sessions over 3 months.	Clinical knowledge, attitudes and skills; language, professional, cultural and communications skills	Simulation-based training. Training program was underpinned by a website offering diverse learning resources	Audio visual review of perfomance found positive directional changes for clinical and communication skills which remained sustained 3 months post course.	I,II, IV
*Measures used: I = satisfaction with intervention; II = perceived usefulness of the intervention; III = objective test of learning or behavior; IV = measure of on-the-job performance							

Table 8: Frequency of use of evaluation measures in studies

Measure	Number of studies	Study & year
I = satisfaction with intervention	11	Baker & Robson, 2012; Bansal et al, 2015; Fry & Mumford, 2011, Katz et al, 2020; Kehoe et al., 2019; Makker et al. 2020, Pillai & Tran, 2019; Porter et al., 2008; Sockalingam et al,2015; Whyche, 2009; Wright et al., 2012
II = perceived usefulness of the intervention	10	Baker & Robson, 2012; Cross & Smallridge, 2011; Fry & Mumford, 2011; Katz et al, 2020; Kehoe et al., 2019; Myers, 2004; Porter et al., 2008; Sockalingam et al, 2015; Whyche, 2009; Wright et al., 2012
III = objective test of learning or behavior	8	Porter et al., 2008; Cross & Smallridge, 2011; Baker & Robinson, 2012; Kehoe et al., 2019; Pillai & Tran, 2019; Bogle et al, 2020; Katz et al, 2020; Sockalingam et al,2015; Whyche, 2009; Wright et al., 2012
IV = measure of on-the-job performance	4	Baker & Robinson, 2012; Wright et al., 2012; Kehoe et al., 2019; Katz et al, 2020

Table 9: Course Content in Training

Study & Year	Clinical training	Host country health system, culture & customs	Communication & language skills including active listening and shared decision-making	Self-awareness skills, including feedback skills, clear setting of expectations
Intervention Studies with a training component				
Baker & Robson, 2012	✓		✓	
Bansal et al, 2015	✓	✓	✓	
Bogle et al, 2020	✓	✓	✓	✓
Cross & Smalldridge, 2011	✓		✓	
Fry & Mumford, 2011	✓	✓	✓	
Fournier et al., 2020	"Doc-to-doc" psychosocial support and practical/professional guidance over e-mail			
Katz et al., 2020	✓	✓	✓	
Kehoe et al, 2019	✓	✓	✓	✓
Makker et al., 2020	✓		✓	✓
Myers , 2004		✓		
Pillai & Tran, 2019	✓			
Porter et al., 2008		✓		
Sockalingam et al,2015	✓			
Whyche, 2009	✓	✓	✓	
Wright et al., 2012	✓	✓	✓	
Studies focusing on perceptions of IMGs regarding 'what works in training				
Curran et al., 2008	✓	✓		
Hawken, 2005			✓	
Hepponemi, 2018			✓	✓
Lockyer et al, 2007	✓	✓		
Huijskens et al., 2010			✓	
McGrath et al., 2009			✓	

McGrath et al., 2012				✓
Odeunmi et al., 2021		✓	✓	✓
Wearne et al., 2019	✓	✓	✓	✓
Commentaries/Viewpoints/perspectives of Trainers of IMGs on 'what works' in training				
Broquet & Punwani, 2014				✓
Rao & Roberts, 2020	✓	✓	✓	✓
Woodward-Kron, Fraser, Pill & Flyn, 2014			✓	
Zaidi, Dewan & Norcini, 2020	✓	✓	✓	✓

Group II: Studies that documented IMGs' perspectives on acculturation strategies they perceived to be helpful

The methodological details of these studies are at Table 11. They include qualitative studies (n=15), a quantitative study (n=1) (Heponemi, 2018), a mixed methods study (n=1) (Han & Humphreys, 2005) and an observational study (n=1) (Odebunmi, 2021). One qualitative study utilized the grounded theory framework (Malau-Aduli et al, 2020), the rest were descriptive studies. The sample size of the qualitative studies varies from 8 (Snelgrove et al, 2015) to 57 (Han & Humphreys, 2005). The quantitative study had a sample size of 371, while the observational study describes the creation of an IMG support group which moved from being an in-person group to the online mode during the Covid-19 pandemic. Thirteen of the 22 studies state the home countries of their respondents.

Group III: Commentaries/perspectives/viewpoints/books

There has been a recent increase in the papers/book using the lens of experiential learning to describe the IMGs trainers' perspectives on 'what works' to facilitate the acculturation of their trainees, for six of the 10 papers described in this review have been published since 2018. As in the other groups, UK is the source country of a major part of the research reviewed in this group (n=5 of 10).

Findings:

Intervention studies:

The evaluation measures used and their frequency of in the studies included in this review are shown at Table 8. Researchers have progressed from limiting their evaluation to feedback from stakeholders on the training (I) and of the trainees on their performance in clinical practice (II) to including data on more evidence-based measures such as performance on objective tests of learning (III) and measures of on-the-job performance (IV). Of the eight studies generating type III evidence, seven have been conducted since 2010. All four of the studies with results incorporating type IV measures have been conducted after 2010. As none of the studies included a pretest in their outcome variable, it was not possible to rule out pre-intervention growth trajectory as an alternate explanation of the findings.

UK is home to highest number of studies included in this review, has made acculturation strategies systemic at scale for its IMGs, has transitioned to the online mode of training during the Covid-19 pandemic and has evaluated some of the acculturation strategies it implements. The evaluation measures used range from all four types of evaluation measures (higher evidence) (Kehoe et al, 2019) to weaker evidence (type I evidence) in the online acculturation trainings (Bogle et al., 2020; Makker et al., 2020), perhaps because of circumstantial constraints. Although

this is subjective evidence, it shows that pivoting to the online mode of training requires minimal expense, enables a wide reach of the training and is feasible in exigent circumstances. The study on peer mentoring (Fournier et al., 2020) provides additional evidence for the provision of mentoring support through e-mails, although the mentees expressed the need for enhanced in-person contact.

The curriculum in the case study (Sockalingam et al, 2015) was developed using the Kern's curriculum development framework. This is an accepted six-step framework routinely used in practice to develop curricula for training of all physicians in different specialties (Lee et al., 2013; Khamis et al., 2015; Robertson et al., 2019). A conceptual framework about cross-cultural differences was utilized by Myers to guide curriculum development and analysis (2004). Other studies did not make use of any theory or framework to develop curricula. These were developed based on the experiential learning of trainers of IMGs, personal experiences of IMGs who served as trainers, prior formal needs assessments or published research regarding IMGs needs. One program (Whyche et al., 2009) was modeled on a pilot initiative developed for training of IMGs in family medicine at Canada's McMaster University (Psychiatric News, April 18, 2008). On contacting the Family Medicine department at McMaster University, we found their program has been discontinued (personal communication, dated 8/28/2021).

Twelve of the intervention studies included content on clinical training, eight included information about host country culture and customs, and nine had components on communication skills (Table 9). Only four studies in this group (Bansal et al., 2015; Bogle, et al., 2020; Fry & Mumford, 2011; Katz et al, 2020) included all three components. Two studies from the UK (Bogle et al, 2020; Makker et al, 2020) describe trainers' experiences of training

programs conducted for IMGs in the online mode during the Covid-19 pandemic and they measure satisfaction of the trainers and the trainees with the intervention.

Group II: Studies documenting IMGs' perspectives on acculturation strategies they perceived to be helpful

The findings of studies included in this review are listed in Table 11 and relevant quotes from these studies are at Table 12. As this group includes studies regarding the perception of IMGs regarding the strategies facilitating their transition to professional practice in their host countries, it corroborates with the level II evidence listed in the previous group of studies. The major themes emerging from this group of studies is the perceived increase in self efficacy of trainees through induction training, importance of a positive organizational climate, collegial colleagues, buddying with senior IMGs, shadowing physicians, clinical rotations, IMG support groups and caring communities. These studies also iterate the importance IMGs place on balancing work, family and lifestyle, and these priorities change as they move the varying work-, family- and age- related life stages.

A common finding of both the aforementioned groups of studies is that all of them treated their IMGs as a homogenous group, and none of them had tailored their intervention to identify or address the unique needs of IMGs who represent these diverse countries.

Table 10 :
Characteristics of studies of perspectives of MGs on 'what worked for them'

Author &Year	Type of study	Sample size	IMGs' home country	Host Country	Journal
Curran et al, 2008	Qualitative study interviews multicenter	13 GPs/FM physicians, 6 specialists;4 administrators	Africa, South Asia & Middle East	Canada	Canadian journal of rural medicine. 2008;13:163-169.
Chen et al., 2011	Qualitative (interviews)	n=25	Not stated		
Han & Humphreys., 2005	Qualitative study using life history perspective	57 Overseas Trained Doctors	Europe/America, UK, Asia, Africa, Middle East	Australia	The Australian Journal of Rural Health,
Hamoda, 2017	Qualitative study	17 questionnaire responses & 3 semi-structured interviews of IMGs	Majority of participants from India and Pakistan	UK	Advances in Medical Education & Practice
Hawken, 2005	Qualitative (interviews)	n=30	not stated	NZ	N Z Med J.
Heponiemi, 2019	Quantitative	n=371	Estonia, Russia, other EU countries, other countries	Finland	BMC health services research.
Huijskens et al., 2010	Qualitative study using in-depth interviews	32/58 IMGs	Middle East, South Asia	Netherlands	Medical Education
Lockyer et al.,2007	Qualitative	19 telephonic interviews	South Africa; Pakistan, South America, United Kingdom, Europe, and Japan.	Canada	Journal of Continuing Education in the Health Professions
Maddock & Kelly, 2017	Qualitative study using semi-structured interviews	n=16		Ireland	25th European Congress of Psychiatry / European Psychiatry
Malau-Aduli et al., 2020	Qualitative approach employing grounded theory methods	IMG(n=20) & supervisors (n=5)		Australia	PLOS ONE
McGrath et al., 2009	Qualitative study using in-depth interviews	n = 9	China, Yugoslavia (Bosnia), Philippines and Sri Lanka	Australia	Education for health
McGrath et al., 2012	Qualitative, iterative research methodology	n = 10	China, Yugoslavia (Bosnia), Philippines and Sri Lanka	Australia	Australian Family Physician

McGrath et al., 2012	Qualitative descriptive study using iterative, open-ended interviews	n= 30	India ; Sri Lanka; Iran; South Africa; Sudan; Pakistan; Caribbean); Russia; Philippines; Indonesia; Egypt; Serbia; and Afghanistan	Australia	Australian health review.
Neiterman et al., 2015	Qualitative, FGDs	n= 15 Swedish and 67 Canadian immigrant physicians	not stated	Sweden & Canada	Journal of the Royal Society of Medicine.
Odebunmi, 2021	Qualitative observational study: IMG support group started in 2019 in University of Minnesota to help connect IMGs to support one another. Short-term goals are to continue to host social events and to work with the GME office in updating an intern survival handbook	not stated	not stated	USA(University of Minnesota)	International journal of medical education.
Rao et al., 2012	Quantitative study				
Slowther, 2012	perspectives of IMGs on what they have found helpful in acculturation, qualitative study : interviews and FGDs	n=26	Pakistan; Nigeria ;India ; Italy; Greece; South Africa ;Hungary; Iran; Poland; Egypt; Russia; Spain; Germany; United States	UK	Advances in Health Sciences Education.
Snelgrove, 2015	Qualitative studies : Opinion of IMGs regarding what helped them(interviews & FGDs)	n=8	Itlay, Germany, Greece, Poland, Spain	UK	*Medical teacher*. 2019;41:1065-1072.
Umberin et al., 2019	Qualitative case control study at Toronto University Medical School	11 IMGs (I-IMGs) and 11 Canadian IMGs (C-IMGs) Internal Medicine (9), Family Medicine (7), and General Surgery (6)	South Asia, Middle East, South America, and Eastern Europe	Canada	Advances in Health Sciences Education
Wawdhane, 2007	Qualitative study through questionnaire for Opinion of IMGs and physicians about Clinical Attachments	573 IMGs applying for a house officer post and 102 consultant physicians	South Asia, Middle East, Africa and European Economic Area (EEA)) and 102 consultants	UK	Postgraduate medical journal
Wearne et al, 2019	Qualitative interviews	16 expert informants from Australian group training stakeholder	Australia, UK, Canada, Netherlands, Ireland, NZ	Australia	Medical Teacher

		organizations; 12 international interviews from 10 international group training organizations in 5 countries – UK, Canada, Netherlands, Ireland, NZ			

Table 11:
Main findings of qualitative studies

Author &Year	Main Findings
Curran et al, 2008	I. Orientation training for IMGs is needed. It must be attentive to both professional and personal needs and should be comprehensive, multifaceted and sustained with inclusion of: 1) details of the health care system and 2) the peculiarities of the specific practice context in which they will be working. 3) opportunities for reflecting on one's own cultural biases 4) learning about the cultural background and beliefs of a new patient population. II. Mentoring and opportunities for effective integration within the community are also essential
Chen et al, 2010	
Han & Humphreys, 2005	IMGs do not expect excessive support from the communities they practice in, but appreciate a welcoming culture and a supportive environment within the clinic and community they practice in. They expect tolerance, for they maintain their respective cultural and religious values and links with their respective ethnic communities.
Hamoda, 2017	IMGs benefit from: 1) mandatory induction program organized as teaching sessions on appreciation of the values and structure of the National Health Service (NHS), ethical and medicolegal issues & different learning strategies in the UK 2) receive feedback from colleagues 3)supervised shadowing period prior in the first job in the UK 4)assessment areas to be incorporated into the prequalifying examinations on NHS structure and hospital policies 5)buddying schemes with senior IMGs 6)educating NHS staff on different needs of IMGs

Hawken, 2005	Satisfaction with living in Finland, good team climate at work, cross cultural empathy, flexibility, patience, skill discretion & language skills essential for integration of Foreign-born physicians
Heponiemi, 2019	Facilitators: 1)Financial and social support on arrival, through transition 2) Support with language 3) Own qualities & motivation 4) Guidance from counsellors during clerkships 5) Prior medical knowledge
Lockyer et al., 2007	Collegial support in host communities is important for IMGs to acculture well in their host communities. In addition to studying for the professional licensing exams, IMGs needed to learn about regulations and systems, patient expectations, new disease profiles, new medications, new diagnostic procedures, and managing the referral process. This learning was facilitated by interaction with colleagues; the Internet, personal digital assistants (PDAs), and computers; reading; and continuing medical education programs. Patients stimulated learning and were a resource for learning.
Huijskens et al., 2010	IMGs face challenges in their host countries in: 1) accents, culture-specific sayings and non-verbal cues 2) difference in doctors' status relative to patients and different expectations of the doctor–patient relationship differences in patient confidentiality . 3) Training in cross-cultural communication skills would be beneficial to new IMGs
Maddock & Kelly, 2017	IMGs found accents, culture-specific sayings and non-verbal cues challenging. IMGs' differences in doctors' status relative to patients and staff, expectations of the doctor–patient relationship were challenges and, at times, demotivating. Training in cross-cultural communication skills would be helpful Significant differences existed in attitude to patient confidentiality in Ireland versus the country of origin .
Malau-Aduli et al., 2020	IMGs stated they benefit from: 1) information before departure from their country of origin, 2) improved website information, 3) more support for bridging courses, 4) more observer programs, 5) an IMG liaison officer at hospitals, 6) reduction of the difficulties associated with passing the Australian Medical Council examination, 7) support for their families, and 8) relaxation of the rules about when and where IMGs can practice medicine.
McGrath et al., 2009	IMGs perceive a major shift from the culture of their country of origin (paternalistic doctor-dominated communication system; standard practice to talk to the family and not the patient) to the very different health care culture of Australia (more educated and informed consumers who demand high levels of information and discussion).IMGs benefit by learning about patient-centered communication upon arrival, during integration and practice. IMGs perceived the need for education on patient-centered communication to facilitate their integration into the Australian health system.
McGrath et al., 2012	IMGs find it helpful to have access to study groups and bridging courses
McGrath et al., 2013	Professional identity & sense of belonging of IMGs is constructed as an amalgamation of different identities - ethnic, gender, professional status, being as 'other'. IMG participants reported that these events helped them build connections and better navigate practical aspects of living in the United States. In particular, the events improved their sense of well-being and helped them better cope with stress and adapt more easily to the local culture.

Neiterman et al., 2015	Depending on the context, feelings of belonging to a professional group (Canadian or Swedish) are fluid, ephemeral and changing. More attention to be paid to the social context in which experiences of processes of being *othered* and feeling *belonging* are being constructed and interpreted by people themselves.
Odebunmi, 2021	Observational study. Short talks by IMG panelists on topics they wished they had known about at the beginning of residency, such as culture shock, adapting and thriving in residency, and imposter syndrome. Feedback from new residents indicated that this event helped their anxiety about starting their residencies. IMGs' orientation programs are helpful when they address the following: 1) communication skills and English proficiency, including issues such as eye contact 2) gender related issues 3) adapt to learning styles in Canada: Medical education in Canada is based on principles of adult self-directed learning, is problem-based, focuses on the development of critical thinking skills, and emphasizes collaboration and relative equality between teacher and learner. In contrast, medical education in other cultures has been described as hierarchical, subject oriented, lecture-focused, and teacher-centered 4) adaptation to ethical norms 5) lack of exposure to mental health conditions 6) lack of comfort in working in a collaborative team-based model with other health professionals 7) adopt a more egalitarian relationship between the patient and physician and including the patient as an active member of the team who can make his/her own decisions about care
Rao et al, 2012	Quantitative survey. Perceived increase in self efficacy of trainees through induction training, importance of a positive organizational climate
Slowther, 2012	IMGs need: 1) faculty and peer mentors to help them adapt and progress successfully in their residencies. For future IMGs, mentors should not be involved in their formal evaluations and assessment processes but should rather be able to focus on creating an open mentoring relationship. 2) IMGs are very willing to help other IMGs
Snelgrove, 2015	Different inputs are needed to reach the same output; concept of equity with learner-oriented training
Umberin et al., 2019	I-IMG and C-IMG participants perceived two major challenges: discrimination because of negative labelling as IMGs and difficulties navigating their initial residency months. C-IMGs listed a third challenge: frustration around the focus on I-IMGs. Participants from both groups expressed mentorship as as a useful strategy for acculturation and stated their desire to help other IMGs.
Wawdhane, 2007	IMGs and physicians find Clinical Attachments (CAs) useful - IMGs for the experience they gain and physicians for the additional manpower they get. They found the induction training useful. A third of the IMGs had been assessed at the end of their induction training.
Wearne et al, 2019	IMGs find the induction training and ongoing support helps them battle prejudice, orients them about host country culture, improves language and communication skills, and aids development of a new professional identity. They prefer modular training rather than having it all at one go. Supportive supervisors aid this process. IMG trainers feel IMGs need extra time to transition successfully into professional practice than the physicians trained in their host countries.
Wong & Lohfeild, 2007	IMGs benefitted from support from designated faculty mentors for IMGs; the second was peer support from other IMGs in training; and the third was sufficient time spent in the training programme.

Table 12:
Quotes from qualitative studies of IMGs perspectives of what they perceived to be useful

Author &Year	Quotes
Curran et al, 2008	"There probably needs to be some focus at some point during the year on the richness of the multicultural community that we do have in our physicians. I don't think we actually celebrate that in any way, and it may be helpful for some sort of process that recognizes, appreciates, complements the diversity that we do have and lends itself to mutual respect in a variety of cultural practices". — Regional health authority senior administrator of medical services "A lot of priority should be given to helping physicians and their families adjust and settle in these parts and that, of course, goes into help with schools for the kids and jobs for the spouses if they are so inclined to work and especially with housing". — IMG, general practitioner "I think there needs to be some sort of transition period in which people have a chance to acquire those skills because all of a sudden they're staff and that's not a good transition for them, and I know several of us have been quite stressed with that". — IMG, general practitioner
Chen, 2011	Professional experiences of IMGs are optimized via education, acculturation strategies, and enhanced support, particularly during transitional periods.
Han & Humphreys., 2005	'Most . . . Iraqis prefer to come and see me. . . . one reason is for the language. . . . we have lots of things to do and every weekend we have a great time, we have great friends and we enjoy every minute here'. 'I applied for a few practices and [this town] was one of the ones that showed the most interest and there was a telephone interview and then I came here to have a look for a week . . . before we actually came here, and had a look around and spoke to as many people as I could and did a little cam-cording . . . I wanted to show the family what it is like.'
Hamoda, 2017	IMGs- introduction of a mandatory dedicated induction program in the form of formal teaching sessions, a supervised shadowing period prior in the first job in the UK, buddying schemes with senior IMGs and educating NHS staff on different needs of IMGs - majority IMGs spent more time in UK than in their home countries "Everybody is coming from different countries and working together. I think the support from the [IMG] colleagues; I felt that yeah, it has been a good support throughout ... ."I think shadowing in a way that you are made to take some responsibility, not just observe. [Interview participant 1] Possibly with a robust induction and time spent in clinical attachment. [Survey participant] I think both, shadowing at the same time having proper, formal teaching sessions. [Interview participant 1]

Hawken, 2005	Mixed methods study of IMG reflections "One day during the interview with the patient, I learnt that she was 'brutally' told by her doctor that the best option for her (based on her current condition) was to go to rest home. The patient was still in total disbelief. I knew that was the only viable option for her, yet I did not offer my opinion, just reflected on her feelings. At the end, the patient thanked me for being there for her and said she would consider the rest home option. I felt I just learnt something towards being a better doctor". "PD (professional development) has been the most essential component of the course. Medical knowledge can be easily learned/studied but to master communication skills, lots of practice and usage is needed for most of us. It's not only with patients but also among colleagues &friends. Understanding cultural differences and ethical views helps us to be more holistic" .
Huijskens et al., 2010	"My husband investigated all options, but it was difficult, and gathering the information was a slow process. Most of the information was obtained through family and friends and not through official sources. Without my husband I would never have succeeded". "Thanks to several funds, especially UAF [University Asylum Fund] and the Schuurman Schimmel van Outeren Fund, I had the opportunity to start and complete my medical studies.
Maddock & Henderson, 2017	"I am very fortunate that the people I work with, it's quite easy to consult with them".~#12! "I think the biggest resource for me is the daily clinical patients....Some of the patients are conscious that I'm new to Canada and they are willing to tell me what they think about my approach, or my language, or my attitude and I get constant feedback even from the patients and the family".~#14
Malau-Aduli et al., 2020	Exploratory, interpretivist, and qualitative approach, using grounded theory methods for data collection and analysis; theoretical data used to create a questionnaire, tested on 11 IMGs, then refined and n=17 for second larger phase " The most important people in my life is just my family, my wife and kids. They are like shock absorbers for you and sometimes you have ups and downs and stress, and sometimes something doesn't go well you get upset and that is part of work and life. So you need some like you need to unwind your stress, so you need your partner just to sit and talk and de-stress yourself". "The thing that unravels everything is the partner. If your family's unhappy, the whole thing comes unstuck" ."… very nice lifestyle. It's not as busy, not as fast, not as crowded, everything is just nice. You know, you've got short ways everywhere. You don't have to drive so far. You get parking spots everywhere. You don't have to pay for everything. … The nature is easily accessible. The people are usually relaxed and nice. Hospitals are small, you know, more working in a family than like in the big [urban] Hospital..
McGrath et al., 2009	"Just provides us a chance. You can get into this system quickly". "So you have the full view of whole system, so you understand how system functions. It gives you the opportunity to see where you are and where you think you can contribute". "The team leaders and the mentors and supervisors were fantastic. I just would feel really comfortable there - very supportive". "The communication was fantastic. It wasn't just the supervisor and myself, but the whole team worked very well. And you were accepted as part of the team". "I think the most, most important thing is the respect". "because it doesn't matter where you come from, the system is different. So I was able to get used to the system. And to have first whole picture [have an overview of the health system].
McGrath et al., 2012	The bridging course at University of Queensland is quite good. More support to that.
McGrath et al., 2013	[India] Whereas in Delhi you could not [tell patients what to do], so that actually helped me a great deal when I came to Australia because I realized I have to conduct myself like I am working in the hospital in Delhi. [India] You have to have a much clearer idea of the background before you make a diagnosis… so that really helps, the fact that people are very open, that helps a great deal

	"The thing that I was attracted to in Brisbane was you have study groups. And that was one of the main reasons I got through that (exam). I'm good friends with a lot of people since we studied together. The hospital you work in, there are overseas doctors and they come in. And because they're going through the same phase of their development, they have the same common problems. " (Participant from India). These IMGs described licensing examination in positive terms, such as 'wasn't so difficult' and they 'didn't have any problems'. South Africa" I think you must acknowledge the CIMG (University of Queensland, Centre for IMGs). They are trying their best to get as many doctors as they can through the exam Sudan" I've done the bridging course before doing the exam. I've been in there twice, at Monash University. It's also very helpful" l Afghanistan" We had GPs who instructed using the bridging course and at the end we had a trial exam that helped a lot. We had lectures and practical you know, role playing with each other like one doctor, one patient interview. It's useful" India "There are many different bridging courses. The one I went to- three-quarters of them were overseas graduates themselves who had come to this country and then qualified to work here. That was a huge help because they could give us an insight into the transition between working from where they had come from to here because that meant they came from the same system I'd come from and they could show me the journey
Slowther, 2012	'I think that the biggest impact was my first manager, well first line manager, and I suppose while I was doing my training I think she was really the best in following ethical issues so I think she taught me a lot.' I1]
Snelgrove, 2015	" It was really reassuring to see how people did things and asking questions and you know [ ] standing on the edge but looking in. It was my way to know the system!"
Wawdhane et al., 2007	"My consultant guided me in my career options and gave me every possible opportunity of understanding the NHS, but an honorary SHO post would be better" "Clinical attachments are very essential to acclimatize to the new system and help to get into the system. Also they keep us engaged so that we don't slump into depression" "There should be a list of hospitals with specialties available for observership made available at the BMJ site/GMC site and a clear-cut process for application made"

Wearne, 2019	*Battling prejudice*: "There are differences in training international medical graduates but one mustn't be prejudiced in it at all because many of them are absolutely exceptionally good" [I1]."We're very aware of trying not to have preconceived ideas about anybody. We battle that. You know, people say, "I don't want an IMG"… what do you mean you don't want? You know, what are you saying? Cos many are great"[Can 1]. *Selection and admissions*: "I think the most important thing is just the screening and the admissions process—that they have the right fit for the program that they want to go to. *Orientation*: "there's some intercultural differences in this so we as Western people are… we really believe in reflecting on our own experiences and sharing them and there's sometimes some problems with people with other backgrounds—non-Western backgrounds—that they work from like a 'we' society and they're not so keen on reflecting on their own experience, they don't find those so important; so there's some mismatch between our…perspectives on this" *Assessment at entry to training*: "Multiple choice, we as educators, about 15 of us, we sit there and we mark their written, and then as they pop out of the multiple choice, one by one, we grab them and we give them feedback right there and then on what they've done. And then we collate that and we put it on a database and so that information there, strengths and weaknesses summary really, is given to the supervisor before they enter practice, and a consultation skills assessment so it takes a day and a half" [A11]. *Direct observation*: "Well we encourage all the preceptors to observe all of them very closely at the beginning. We like to know early when there's gaps. *Monitoring and early intervention:* "You intervene at a more appropriate stage, try and support them to overcome those deficits, hopefully they'll come back into the program and flourish and move through. If you are leaving it very late in a process and not identifying it early enough, then that becomes a problem and hence that is why we've got to start to look at those sort of benchmarks along the way" [A09]. *Flexible training*: "So, we get IMG's who've been obstetricians for 20 years in Egypt. We would adjust their program once we assess their competence, so they would spend relatively little time in obstetrics—just enough to maintain their skills and focus on the paeds that they may have never done" [C1]. *Language skills and communication skills*: "We've brought in an English as Second Language teacher" *Modular learning*: "With organizations like xx and yy, we don't want to buy the whole pack. We just want to be able to access, on an individual identified learner's needs, a module" *Developing a new professional identity*: "I think that the face-to-face stuff is important for lots of reasons. I think that as human beings we like that contact so I think it's really important that that's there and that collegiality and that discussion amongst the trainees themselves. They see how other people behave or not just within the group, certainly within the group but also outside of the group how they behave or their understanding of what they should or shouldn't be doing within practices and then the medical education team" *Supporting supervisors*: "There is a massive group out there that have even greater needs and less fundamental skills or abilities—and that's not necessarily their individual fault, it's a collective issue—who are being put into general practice environments in all geographic circumstances, and not supported or trained to do so." *Extra time*: "I'd say 30 percent of our IMGs require two-and-a-half to three years of the same content."	

Group III: Perspectives of Trainers of IMGs on 'what works'

This group use diverse lens to make recommendations from different angles and these are summarized in Table 13. Observership programs in the US (Hesham et al., 2014) are perceived to be beneficial to IMGs by Program Directors, and this is in line with the finding about the usefulness of Clinical Attachments (CA) and shadowing by IMGs in the UK (Wawdhane et al., 2007). Authors describe the development of a website, 'Doctors Speak Up' which functions as resource for IMGs for language and communication skills development (Woodward-Kron et al., 2014). Although there has been no formal evaluation of this initiative, the fact that over 19,500 users visited the website between March 2012 and November 2013, and the website, maintained by the University of Melbourne, continues to function, can serve as practice-based evidence that this initiative serves its intended function. The website can be accessed by IMGs before leaving their home country, which is similar to the recommendation that information should be provided to IMGs in advance (Jalal et al., 2019).

The three groups of studies find currently changing times provide emerging challenges and opportunities, and this review was conducted to identify the strategies designed by health systems in High Income Countries (HICs) to help IMGs handle microaggressions and facilitate their transition into professional practice, A striking feature is the consonance of findings between the three groups of studies included in this review. Evidence for multiple modalities of support relating to the different times in the careers of IMGs, is listed at Table 13.

Table 13:

Perspective/Commentaries/Viewpoints of IMGs' Trainers on 'what works'

Authors	Country	Journal	Main Findings
Broquet & Punwani, 2014	USA	Academic Psychiatry	IMGs in HIC most often have had their basic medical training in high hierarchical cultures. They have anxieties in receiving and giving feedback, They need to be provided with a fostering learning culture that values feedback as an expected and important part of all learning, ensuring that all (learners and supervisors) are trained in feedback skills, and clear setting of expectations.
Farag & Olaogun, 2020	UK	Cureus	There is a need for a national-scale effort to organize evidence-based teaching programs tailored to IMGs' needs, using social media, for these have a wide reach among the target population of IMGs, and are easily accessible from all over the world.
Hesham et al., 2014	USA	Academic Psychiatry	Observership programs provide a unique opportunity to integrate IMGs into the U.S. medical system. Benefits of observership programs to IMGs, psychiatry departments, and the U.S. medical system as a whole are listed. A framework for establishing such programs in a way that will optimize their benefits and avoid potential pitfalls is provided. The different components of an observership program, core competencies that need to be acquired, challenges that observerships programs may encounter as well as recommendations for overcoming them are presented.
Jalal et al., 2019	UK	Future healthcare journal.	Making the necessary information available in advance; create programs to bridge the cultural gap; have a 'point of contact' responsible officer to be available to provide answers to questions and provide reference to available resources; have a national induction program
Kehoe et al., 2018	UK	The Clinical Teacher	A Culture of Support, individual needs assessment and access to - an adequate induction program, continuing support, supervision and a buddy are essential elements needed to acculturate IMGs to their host country. Action at the individual level should include job expectations, help develop a personal development plan and create a work-based assessment. Provision of detailed feedback increases confidence and self-awareness. Simultaneous action at the organizational level to increase staff cultural awareness and facilitate the development of a supportive culture, identify a champion, establish links within and between groups of IMGs and regional bodies.
Lagunes-Cordoba et al., 2021	UK	BJPsych Bulletin.	Regulatory bodies to host IMG specific resources and disseminate them on a regular basis; professional associations of specialties to explicitly investigate differential attainment in the qualifying and licensing examinations; explicitly include IMGs in examination and curriculum design; .publish data on IMG representation in these organizations; have IMG-specific events, resources and examples of best practice. Organizations: to hav an IMG champion working with Human Resources to inform on IMG appointments; existing staff to have training to help them become competent to deal with IMG issues; explicit racism policy in place, displayed and implemented; local induction program, mainly during fi two years of practice; focused support and mentoring of training; encourage and facilitate interaction of IMGs with graduates of host country; host events dedicated to their IMGs – to celebrate successful journeys and foster a sense of community; Continuing professional development events to learn how IMGs' experience in their host countries cand how they can contribute positively to improved patient care. Individual leve pair IMGs with mentors; include modules focused on IMG issues for educational and clinical supervisors; encourage IMGs to attend local Balint groups; encourage IMGs to attend local academic days for trainees in specific specialties.

Ong, McFadden, & Gayen, 2005	UK	Hospital Medicine	Central induction course, complementing local trust-based induction programmes, was developed for IMGs and evaluated by the London Deanery. Most participants found the course helpful, and their comments were used to further improve it.
Rao & Roberts, 2020	USA	Book	First comprehensive title on training IMG physicians in psychiatry. Developed by distinguished panel of US and IMG educators who have had deep experience in training IMGs. Focuses on the principles, practices and core clinical competencies that contribute to the making of a competent and ethical psychiatrist. Part I emphasizes how to understand the processes and components of psychiatry training and how to adapt to the local medical, social, geographical, ethnic, and religious cultures within the diversity US offers. This is highlighted for psychiatry is a discipline where nuances of language and culture clearly impact the delivery of care. It explains how programs presently operate, and the fundamentals of Graduate Medical Education, development of Core Competencies and Milestones, expectations that ACGME Accredited programs have for the graduation of competent psychiatrists. In addition, topics covered include the Doctor-Patient Relationship, the Psychiatric Interview, the Biopsychosocial Formulation, Psychotherapy, Professionalism and Ethics, and legal issues. Part II of the book provides an overarching description of the impact of immigration and identity development for the IMG and how to facilitate their transition and amalgamation in the US system. It also focusses on the issues Program Directors need to understand, such as visa issues, and provides guidance on how to prepare faculty members to appropriately supervise and give feedback to IMGs during the course of training.
Woodward-Kron, Fraser, Pill & Flyn, 2014	Australia	Medical Teacher	Evidence based Website developed (still functional) - functions as resource for IMGs for language and communication skills development. Doctors Speak Up http://doctorsspeakup.com/ is an open access English language resource for IMG doctors from non-English speaking backgrounds and their supervisors. It focusses on improving language and communication skills. It features video scenarios, which feature IMG doctors interviewing simulated patients. These serve as triggers for discussion in face-to-face teaching; has communication tasks highlighting effective, patient-centered communication skills. IMG doctors get to practice the language tasks in self- study mode while supervisors gain enhanced awareness of aspects of English that pose problems for IMGs from non-English speaking backgrounds. Over 19 500 users visited the website between March 2012 and November 2013,

Zaidi, Dewan & Norcini, 2020	USA	Academic Medicine	There are opportunities for facilitation of IMGs' transitioning to professional practice and enhancement of their careers at the time of their selection; pre-entry to their host country, entry, through training, start of practice career and during practice Selection: Immigration reform to address visa issues IMGs face; residency spots to be increased nationally to address physician shortages; World Federation for Medical Education data to use quality standards to recognize accrediting agencies; provide space on national forums to highlight problems IMGs face; make available optional formal certificate programs for IMGs Pre-entry: Familiarize IMGs with nuanced U.S. professional behaviors, ethics, communications, and interactions through assignments using simulated doctor/patient video vignettes; orient IMGs to milestones and performance evaluation tools used during residency training Entry: Cultural orientation and assistance with day-to-day issues (in addition to standard institutional orientation process); IMG support group; Peer support group; Implicit bias training for faculty, staff, and trainees; Orientation to evidence-based medicine tools, responsible conduct of research, teamwork, and feedback skills Training & support: IMG support group; peer support group; mentorship; availability of well-being program and mental health support fostering IMG identity formation by preventing alienation from country of origin, denigration, and by providing environment where differences can help with transformational learning; recognizing specific challenges that women IMGs face and providing them with support. Start of practice career: Residency program directors to understand IMG visas and waiver programs; sessions for IMGs on negotiation skills and understanding contracts; incentivize practice in underserved areas During practice: Encourage IMGs to volunteer in country of origin or global medicine program; (if of interest); create IMG regional and national forums led by them and connected to national accreditation bodies; build national leadership programs for IMGs; institute national awards for IMGs for outstanding contribution to their field

Use of online channels for acculturation initiatives for IMGs

As HICs are predicted to continue their dependence on IMGs to overcome their physician shortage, the comparatively large volume of evidence from the United Kingdom (Bogle et al, 2020; Makker et al., 2020) utilizing online channels for training IMGs at scale bears deeper analysis. Although these studies did not include objective tests of learning or behavior, perhaps because these studies were conducted during the Covid-19 pandemic, they serve as an experiential guide of the ability to pivot nimbly in the face of extenuating circumstances. This can be examined with the concurrent feasibility of providing peer mentoring online (Fournier et al., 2020) and offering online panel discussions by senior IMGs on acculturation practices and resources available for new IMGs (Odebunmi, 2021). Additional evidence about the website, 'Doctors Speak Up' strengthens the evidence for using online channels of communication to expand the reach of acculturation efforts (Woodward-Kron et al., 2015). These studies demonstrate the use of innovative channels and mechanisms of providing support to IMGs. Collating these with established acculturation strategies could lead to new models of providing training and ongoing support that are better able to align with emerging needs while being cost-effective.

Incorporate evidence-based measures for evaluating interventions in online training

Although evaluation of induction interventions is becoming holistic by increasingly incorporating class III & IV level measures along with level I and II measures, they are missing from the online inductions which have been introduced during the Covid-19 pandemic. Class III and IV measures provide a stronger evidence base and enhance the credibility of the broad but generally weak evidence base supporting induction training for IMGs. Further, online

interventions are likely to be the norm as the world adjusts to the 'new normal' after the Covid-19 pandemic has set in.

Table 14:
Aggregation of findings, study wise

Finding	**Evidence**
More information about host country before departure from home country; as in on professional body websites in host country for IMGs/ use social media; Access to study groups & bridging courses	Farag & Olaogun, 2020; Jalal et al., 2019; Lagunes-Cordoba et al., 2021; Malau-Adali et al., 2020; McGrath et al., 2009Woodward-Kron, Fraser, Pill & Flyn, 2014; Zaidi, Dewan & Norcini, 2020
Induction training beneficial	Baker & Robson, 2012; Bansal et al., 2015; Bogle et al, 2020; Cross & Smalldridge, 2011; Curran et al., 2008); Fry & Mumford, 2011; Hamoda et al., 2017; Huijskens et al, 2010; Jalal et al, 2019; Katz et al., 2020; Kehoe et al, 2018, 2019; Lagunes-Cordoba et al., 2021; Maddock & Kelly, 2017; Malau-Adali et al., 2020; McGrath et al, 2009;Ong, McFadden, & Gayen, 2002; Wearne, 2019; Whyche, 2009; Wright et al., 2012; Zaidi, Dewan & Norcini, 2020
Mentoring opportunities beneficial	Bogle et al, 2020; Curran et al., 2008, Fournier et al, 2020; Lagunes-Cordoba et al., 2021; Slowther 2012; Umberin et al; 2019; Zaidi, Dewan & Norcini, 2020
Welcoming culture & supportive colleagues, organization & community; point of contact/champion for IMGs; explicit racism policy in place - displayed and implemented	Bogle et al, 2020; Broquet & Punwani, 2014; Jalal et al, 2019; Han & Humphreys, 2005; Hawken, 2005; Kehoe et al., 2018; Lagunes-Cordoba et al., 2021; Lockyer et al, 2007; Rao & Roberts, 2020; Zaidi, Dewan & Norcini, 2020
Training of organizational staff including training of trainers on different needs of IMGs to develop cross-cultural empathy	Bogle et al., 2020; Hamoda et al., 2017; Hawkens, 2005; Lagunes-Cordoba et al., 2021;Maddock & Kelly, 2017; Zaidi, Dewan & Norcini, 2020
Supervised shadowing/Clinical Attachments /Observership program is beneficial	Bogle et al, 2020; Hesham et al, 2014; Hamoda et al., 2017; Wawdhane et al, 2007
Buddying schemes with senior IMGs	Hamoda et al., 2017; Kehoe et al, 2018; Lagunes-Cordoba et al., 2021; Slowther, 2012; Zaidi, Dewan & Norcini, 2020
Observer program helpful	Hamoda et al., 2017; Malau-Adali et al., 2020
Modular training - as add on to induction training	Baker & Robson, 2012; Bogle et al., 2020; Fournier et al, 2020;Kehoe et al, 2019; Wearne et al, 2019
Host IMG specific events for IMGs and to extend support to spouses and families	Broquet & Punwani, 2014; Jalal et al, 2019; Kehoe et al., 2018; Lagunes-Cordoba et al., 2021; Whyche et al., 2009; Zaidi, Dewan & Norcini, 2020
Attention to be paid to the social context in which experiences of processes of being othered and feeling belonging are being constructed and interpreted by people themselves and there is a need for equity with learner-oriented training	Neiterman et al., 2015; Snelgrove, 2015

Utilization of conceptual frameworks to guide curriculum development

Content of training of IMGs has recently expanded to include self-awareness skills. While this has received positive feedback from IMG trainees, only three of the interventions in this review had curriculum based on conceptual frameworks (Myers et al., 2004; Chen et al, 2010; Sockalingam et al., 2015). Use of conceptual frameworks based on theories or models to create curriculum helps focus on key variables and lead to conclusions that are more generalizable than interventions which lack the use of a conceptual framework (Lee, 2013). Health personnel have experienced unprecedented levels of stress and burnout during the Covid-19 pandemic. Theories of stress and coping strategies from clinical psychology may help explicate how to provide the support IMGs need to face the strain of being away from family and loved ones and the stress of being in new environments under such challenging circumstances. Going forward, curricula should be based on evidence-based design frameworks (Vahey et al., 2018).

Tailoring of acculturation strategies according to the unique needs of IMGs

All studies included in this review treat IMGs as a homogenous group although systematic reviews (Chen et al., 2011; Govere & Govere, 2016, Osta et al., 2016) and two studies included in this review (Neiterman et al., 2015; Snelgrove, 2015) recommend further research to explore the unique culturally specific needs and strengths of the IMGs for they come from 150+ countries. This is essential to tailor the empowerment strategies in line with their needs. This is important in light of the evidence that IMGs express the desire to amalgamate within their host country cultures while simultaneously remaining connected to their home country identities (Han & Humphreys, 2005; McGrath et al., 2012, Neiterman et., 2015).

Empathetic organizations are receptive to IMGs

Trainers of IMGs need to be deeply aware of, and receptive to, the needs of IMGs (Katz

et al., 2020). Many trainers of IMGs are IMGs themselves and hence have the advantage of experiential learning of strategies effective in overcoming the challenges the new IMGs face (Rao, 2007). Collegial organizations are more receptive to IMGs and this requires hospital personnel to be empathetic towards them (Gogineni et al., 2010). All this requires ongoing training created for these personnel. Creation and conduction of such training requires allocation of resources and is an aspect that needs to be explored.

State, regional and national organizations to host IMG specific events for IMGs and to extend support to their spouses and families

Hosting IMG specific events would allow IMGs to share their experiences and contribute to strategies to address the challenges they face and leverage opportunities for themselves and their families. An acculturation training for IMGs used to be held as a one-day additional IMG specific event at the annual meeting of the American Psychiatrists Association (Wyche, 2009) and the program received good response and used to be repeated till it was discontinued. It was led by senior IMGs and the event provided an opportunity for new IMGs in psychiatry to connect and learn from one another and senior IMGs (Wyche, 2009).

Discussion

This systematic review includes forty-six studies on acculturation strategies facilitating IMGs' transition to professional practice in their host countries. To our knowledge, it is the first systematic approach with this objective. Three different categories of studies were identified. Although these studies are heterogeneous in terms of the survey recruitment and administration methods, measurement instruments, types of interventions, timing of outcome measurements, and analytical methods, their findings are complementary. Traditionally, acculturation has focused on induction training and this review amalgamates available evidence regarding the expansive scope of newer delivery channels, content, and strength of evidence of acculturation

strategies for IMGs, as can be seen in Table 14.

Although induction training for IMGs have been in place for nearly four decades, studies included in this review highlight initiatives conducted since 2010 that are different in a number of ways. Traditionally evidence of effectiveness of induction trainings has been subjective. Recent studies have generated objective evidence of the effectiveness of induction trainings. Independent evaluations of induction trainings have become available from the UK, and induction training is being conducted at scale there (Jawad et al., 2019). The review by Pilotto et al. (2007) has listed the issues clinicians training IMGs must consider, and research conducted since 2010 documents how efforts to address these issues have been initiated. This has been done by expanding the content of induction trainings from clinical training to include information about host country health system, culture and customs, communication and language skills and self-awareness skills. Communication experts have been brought in for training of IMGs. Another innovation is the use of different channels of communication, such as the internet, and different software to facilitate the expanded reach and enhance the flexibility of timing of training, all without a concomitant increase in costs. This allows sharing of information before the IMGs leave their home countries and has allowed IMGs to be supported during the Covid-19 pandemic, while enhancing the efficiency of scarce resources.

This review highlights the need for sustained support after induction training. Initial available evidence has been included in this review about the effectiveness of modular training, as a follow up to induction training. Other hand holding initiatives such as peer mentoring and informal support networks, which pivoted from the in-person to the online mode, also demonstrate how technology has expanded the reach of the initiatives and how pivoting the

channel of dissemination can effectively allow uninterrupted continuity of support in times of crisis. Evidence included in this review demonstrates how organizational events held specifically for IMGs strengthens their self-esteem, confidence and facilitates their integration in their organization, and support provided for the families of IMGs enhances their acculturation.

This review collates evidence regarding organizational preparedness to integrate their IMGs. Such preparedness aids development of cross cultural empathy by training of staff including training of trainers on different needs of IMGs. It creates a welcoming culture where colleagues, organization & community are supportive.

Only one study in this review comprehensively documents the short- and long-term effects of modular trainings on IMGs, its effect on their relationship with colleagues, and report on feedback from trainers and patients (Katz et al., 2020). It is a three-year pilot study by IMG trainers, who iteratively created a context specific curriculum based on feedback from focus group discussions (FGDs) with local IMGs. Didactics, discussion, and role-plays were used to cover topics related to patient-centered care, challenging communication with patients, complex psychosocial histories, and health literacy. Post training surveys measured workshop satisfaction, levels of knowledge and skills related to patient-centered care and communication with patients and measured on the job performance of IMGs. Such studies provide robust evidence of 'what works', especially with reference to patient-provider relationships, which are known to affect the most important healthcare indicator - patient outcomes (Chipidza, 2015).

Another valuable study is the independent, third-party evaluation of at scale trainings that are being conducted by the Epsom and the Kings Overseas Doctors Development Programs (Bogle et al., 2020). They did not include a measure of on-the-job performance, perhaps because the evaluation was conducted during the Covid-19 pandemic. They are nevertheless valuable for

they demonstrate that varied components are essential for inclusion in induction trainings for IMGs and they can transition to online channels very nimbly in times of crisis, thereby providing much needed support.

While all these initiatives strengthen the acculturation strategies available for IMGs, there is more that needs to be done. This review highlights how few curricula for the interventions have been based on a conceptual framework, with the majority being based on experiential learning. Utilizing conceptual frameworks as the foundation for experiential learning-based curricula for interventions for IMGs could strengthen them further. Racism and 'othering' based on microaggressions have been brought up to a small extent in the studies included in this review, with recommendations for point of contact/champion to be designated for IMGs and an explicit racism policy be in place, displayed and implemented. Gender issues have not emerged in the included studies. A significant percentage of the IMGs in the US come from LMICs (Torrey, 2012), where the cultures are hierarchical and significant gender-based disadvantage exists (Bornstein, 2016). Political and economic uncertainties are other acknowledged factors affecting the migration and retention of IMGs (Desbiens, 2010). They may create an unfair climate for selection of IMGs for residency positions in the US (Desbiens, 2010) and limit the selection of the effect of bespoke support programs put in place to help IMGs navigate their professional careers in HICs. However, this review has limited its scope to factors that are within the scope of the health system.

All studies included in this review treated IMGs as a homogenous group. Of the 46 studies included in this review, 17 mentioned the home countries of their IMG trainees, but none made attempt to offer acculturation strategy tailored to the needs of this diverse group of physicians. Studies have made recommendations that the acculturation needs of IMGs from

different countries be identified (Osta, 2015), thereby enabling the tailoring of strategies to suit context specific needs (Lineberry et al., 2015).

Further, this review (Lineberry et al.,2015) recommends studies that document how variation in content and delivery of acculturation strategies would be of greater value than single intervention studies. Healthcare facilities vary considerably in terms of their structure, their organizational culture and the communities they serve. IMGs from different countries would also have diverse needs. Finally, from a broad perspective, host country professionals may also benefit from targeted interventions to help create a more open and welcoming climate for professionals and patients from diverse races and ethnicities. This would help the country be better prepared for the future, for the US is projected to become a more diverse nation (Frey, 2018).

Strengths and limitations

To the best of our knowledge, this is the first systematic review on the strategies to handle the microaggressions IMGs face as they transition to the health systems in their host countries. This is an under researched area in the US. This review has used JBI methodology, which is recognized internationally for its rigor and quality, to support synthesis of qualitative data into generalizable statements and/or recommendations. The findings have the potential to inform further research and interventions on this topic, for IMGs are expected to continue to form an important source of physicians in the US for the foreseeable future. Two reviewers (SGS and ED) were involved in the systematic review process in order to minimize researcher bias. The search strategy enabled meta-synthesis of findings from heterogeneous studies. Efforts were made to contact the authors for details and information they provided about officers who are

currently working on the topic in the UK was followed up repeatedly, although responses were not received.

A limitation of this study is that only literature published in English has been included. Furthermore, only studies published from the year 2000 onwards have been included in this review. This was a conscious choice because we believe the world has changed at such a rapid pace, recent research is more likely to be apt for informing practices to facilitate the acculturation of IMGs. The decision to review research only articles published in English limits the number of articles reviewed and limits the generalizability of our findings to English speaking HIC, but this was a practical limitation. Although efforts were made to include as many heterogeneous studies as possible and compare the findings of published studies with unpublished research by contacting trainers of IMGs, publication bias may have limited the results of this review. A limited number of studies list the nationalities of the IMGs. The rest treat IMGs as a homogenous group. In reality, they are a diverse group, for in the US, IMGs come from 154+ countries (Batalova, 2020), have varied cultural backgrounds and are as different from one another as they are from their host country. The sample sizes of the intervention studies are either not mentioned (Ong et al, 2002; Kehoe et al, 2019) or are small, ranging from 5 (Pillai et al., 2019) to 36 (Katz et al, 2020). Although efforts were made to include as many heterogeneous studies as possible and compare the findings of published studies with unpublished research by contacting trainers of IMGs, publication bias may have limited the results of this review.

Conclusions

IMGs constitute a significant percentage of physicians in HICs and are likely to continue to do so in the foreseeable future. Creating and implementing acculturation strategies to help

them transition to professional practice can positively impact their professional and personal lives and the patient care they deliver. Host countries are at various stages of researching, creating and implementing such acculturation strategies. Facilitating cross-country learning can optimally utilize resources and guide further research on variation in the content and delivery of acculturation strategies. There is scope for greater synergy between conceptual frameworks and practices to create more meaningful content and initiating a nuanced consideration of the diversity of IMGs and their experiences.Doing so would help health systems better respond to the evolving needs of an increasingly diverse US population.

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Chapter 4:

Acculturation Strategies facilitating the career navigation of International Medical Graduates (IMGs) from India in the US: A Qualitative Study

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Abstract

Purpose: International Medical Graduates (IMGs) come to the US from 150+ countries. Researchers recommend the unique strengths of the social and cultural capital these immigrants bring be identified to tailor the acculturation interventions being implemented for new IMGs. The purpose of this study is to explore the acculturation strategies IMGs from India have found useful in transitioning to the US health system. India is the most common country of origin for IMGs in the US. The results can help tailor the support initiatives created to facilitate IMGs' navigation of their professional journey in line with their unique needs.

Method: We interviewed 34 IMGs from India who have been practicing in the US for at least 15 years. We conducted Zoom interviews between August and September 2021 using an adapted semi-structured questionnaire, followed by a qualitative analysis of the transcripts for identification of primary and secondary themes.

Results: The respondents were between the ages of 53 to 62 years, were married (n=34), 47% were men, all except one lived in urban areas in 28 states in the US, represented 15 physician specialties, 16 were in academic positions, a majority had competed fellowships (n=25, 82%) and respondents had studied in 40 medical colleges in India. The strategies facilitating acculturation were grouped into three broad categories – medical education system, cultural and personal. The medical education system cultivated a strong work ethic and developed a proficiency in English at a comparable age with their US counterparts at the start of their second residency in the US. The cultural strategies included maintaining the sanctity and stability of their marriages, which accorded them the opportunity of familial support, and spending their

formative years in the diverse Indian society encouraging them to pursue their dreams. Personal attributes such as having a clear vision of their goal and persevering in a single-minded pursuit towards achieving it made them mentally prepared to repeat their residencies, work very hard and use emotional intelligence to handle the microaggressions they encounter in their professional lives. They nurtured broad and deep informal support networks and maintain strong ties to India while embracing American culture.

Conclusion: IMGs have leveraged concepts learned in the Indian medical system, and cultural and personal strategies to successfully navigate their professional careers in the US. The strategies reported in this study could be used to tailor interventions to help new IMGs transition to the health system in the US.

Overview

What is already known on this subject

International Medical Graduates (IMGs) play an important role in the health system in the US. They are a diverse group and they face issues in matching to residencies, training, credentialing and recruitment. Although acculturation strategies are being identified, it is acknowledged that 'one size does not all' and recommendations have been made to identify race/ethnicity specific acculturation strategies. India is the most common country of origin for IMGs in the US and within the span of a single generation, immigrants from this Low-Middle Income Country have become the most educated and prosperous ethnic minority in the US.

What this study adds

This study identifies the Indian medical education system, personal and cultural strategies IMGs have leveraged to navigate their professional careers in the US. Indian IMGs attribute a strong technical base and professional attitude to the training they received in the medical schools in India. Respondents conceded they have had to work harder than their US trained counterparts to achieve the same level of success, but they perceive the US as a meritocracy which enthuses them with the grit and determination to follow their dreams in the face of challenges. Their spouses, medical school network and friends in the US provide them with a strong emotional and physical support system.

Suggestions for further research

Further research is required to substantiate and refine the findings. These may facilitate the development of tailored initiatives to support other IMGs.

1.0 Introduction:

International Medical Graduates (IMGs) constitute a quarter of the physician workforce in the US [1, 2]. They are a heterogeneous group, for they immigrate from more than 154 countries[3] and exhibit diversity in their demographic characteristics, professional backgrounds and acculturation needs. IMGs' process of integrating their professional careers into the US health system is fraught with difficulties, and the overall experience remains arduous and frustrating [4, 5, 6, 7, 8]. The care IMGs provide is on par with that of their host country trained counterparts[9, 10,11,12,13] and IMGs are likely to continue to fulfill the persistent shortage of physicians in the US. Studies recommend further research to explore the unique culturally specific needs and strengths of the IMGs from the 150+ different countries so as to tailor the empowerment strategies in line with their needs[14, 15]. India is the most common country of origin for IMGs and within the span of a single generation, immigrants from this Low Middle-Income Country have become the most prosperous ethnic minority in the US. Hence this study explores the acculturation strategies IMGs from India have found useful in transitioning to the US health system. Qualitative research methodology has been utilized for it is formative research that explores contextual factors and rationales for behaviors to provide insight into the perceptions, values, opinions, and community norms[16,17].

2.0 Methods

This qualitative study[16,17] used an inductive, interpretative approach, that is, a hermeneutic phenomenology[18,19,20] study design to gain a deeper understanding of lived experiences of people by studying them with a view to interpreting and making meaning of them [21]. The main tools of of phenomenological studies are interviews, focus group discussions (FGDs), supported by

observations and artifacts[19,22]. Qualitative research studies issues in depth and the findings are transferable or extrapolatable under defined conditions, but are not applicable to the population at large in the statistical sense [22].

2.1 Study Design and Sample

The principal investigator contacted 35 IMG physicians from India who have been practicing in the US for at least 15 years with the goal of conducting qualitative interviews[18] with a purposeful homogenous sample[19] of these IMGs. A time period of 15 years' practice in the US was selected for this time period was considered long enough for the IMGs to have gone through all stages of the acculturation process and succeeded in acquiring the legal status to become permanent immigrants. This would likely cement their acculturation process. It is acknowledged that temporary immigrants have far less incentive to integrate themselves into the larger society than those who become permanent residents[18].

The recruitment and interviewing were conducted by the principal investigator (SGS), who is a physician from India. Physicians who have been practicing in the US for more than 15 years and known to SGS were used as a starting point and snowball sampling was used to recruit additional participants. The American Association of Physicians of Indian Origin (AAPIO) was contacted to recruit participants, but no response was received.

2.2 Data Collection

E-mails, phone calls and WhatsApp messages were sent to 35 physicians and 34 responded. The non-responder was found to be facing a major health concern and was not included. Consistency was preserved for all the 34 interviews conducted in English over Zoom. Saturation was achieved earlier but interviews were continued in an effort to get equal representation of both genders, and diversity in terms of age, specialty, type of practice,

geographical residence in the US, native language and medical school in India. A semi-structured questionnaire developed by Chen et al (2010)[14] was adapted with the authors' permission and utilized for conducting the interviews[18]. Verbal implied consent was taken prior to the start of the interviews. No time limit was set for the interviews and the participants were encouraged to share as much information as they wished. Probes were used to seek clarification and elaborate on the strategies that respondents found useful. Demographic information was collected at the conclusion of the interview. All interviews were recorded and transcribed. The data were collected between August to September 2021. The transcripts were the primary data and were supplemented by field notes, interview summaries and member checks by the participants.

2.3 Data Analysis

We followed the guidelines of the modern proponents of interpretive phenomenology[19 ,20] and analyzed the data using the technique of phenomenological reduction[20,21,22] . The principal investigator (SGS) edited the verbatim Zoom transcripts for clarity, imported them in NVivo software and open coded the interviews[20,21,22]. The four-step process of Bracketing, Intuiting, Analyzing and Describing[23] was followed. The researcher (SGS) identified her preconceived beliefs and opinions concerning the phenomenon research, journaled them and held in abeyance (epoché)[23].

The relevant segments of transcripts were extracted and examined line by line. With NVivo software, selected phrases with tentative thematic codes were labelled. The data were clustered into sets of 59 secondary codes and 27 primary codes and linked to representative quotes (exemplars). The process was repeated independently by a second researcher (NA). Both authors independently reviewed the codes, subthemes and exemplars, created a combined code

book and discussed it until consensus was reached on the final themes. Thick, rich descriptions about the IMG experiences, behavior and context have been included in the results. Reporting is in line with the COREQ checklist (Appendix). To preserve the integrity of the data, quotations from IMGs' transcripts have been edited solely to promote clarity and readability, while retaining each respondent's voice as much as possible. Rigor has been maintained by following accepted methodological procedures during sampling, data collection and analysis, maintaining an audit trail, member checking, and peer review. Potential sources of researcher bias were identified and addressed by reflecting on presuppositions and maintaining a reflexive journal.

3.0 Results

Each interview lasted an average of 87 minutes, ranging from 45 to 104 minutes. The participants' socio-demographic variables, age, specialties, medical colleges in India and states of residence in the US are at Tables 1 and 2 and Figure 1. The participants' were currently residing in 27 states in the US, with the majority living in the coastal states (n=14) or the larger cosmopolitan towns, such as Chicago, Philadelphia and Baltimore (n=19), and only one living in a rural area. The participants had earned their basic medical degrees from 14 medical colleges in India, and these are listed at Table 3. The facilitatory strategic results are summarized in Table 4. There were no differences in the results by age, place of current residence, caste, native language, religion and medical specialty. The men acknowledged to be 'domesticized', a term they used to acknowledge they partake of domestic responsibilities at home, something they would not have done in India.

All the participants expressed satisfaction with their career paths, in academics and practice. They had been able to access high quality training, were pleased with their work-life balance and their quality of the life. This was echoed even by those participants who had had to change their

specialty after immigrating to the US. On the other hand, three (9%) of the participants got into specialties of their first choice here in the US, something they had not been able to achieve in India.

"It's satisfying professionally. The training you get, the work you are able to do and the respect one gets makes the whole journey so worthwhile [P3]".

Nine (27%) of the 34 participants did not pursue a fellowship. Of these four (12%) were men and two of these were economic immigrants.

"I was exhausted after my residency. The rigors of pursuing a fellowship, the consequent delay in starting my practice and the marginal increase in potential earnings wasn't worth the effort"[P8].

"I was clear I wanted to earn better. I am content with my practice."[P1]

"I felt my children and home needed my time." [P10]

Five women (15%) did not opt for a fellowship for they wanted a comfortable work-life balance and were not willing to put in the extra effort needed.

3.1 Indian ducation system strategies: useful in navigating their professional careers

This category includes the characteristics of the education system in India the IMGs have found beneficial to the development of their professional attributes and facilitated their careers.

3.1.1 Strong technical knowledge base and work ethics developed during training in medical school in India

All the participants studied for the licensing exams on their own and passed their exams on their first attempt. They did not take the help of coaching classes.

"*I don't know a single student from my college who has not been able to clear the US licensing exams."* [P11]

" Even though I had completed my residency in Dermatology in India and was doing a second one in Psychiatry here, my inputs during the ward rounds were appreciated by the Program Director" [P10].

During their residency programs, they (n=34, 100%) had high comfort levels with the technical knowledge required during their practice. They ascribed their success to the strong work ethic and rigor of their medical training in India.

3.1.2 High comfort level with English language

The participants were already fluent communicating in English professionally when they arrived in the US for it had been the language of instruction in their schools, as well as in their medical colleges in India.

"I have a colleague who emigrated from Poland, who had to learn English, then study medicine in the language before she could take the qualifying exam. I was comfortable speaking English in daily life as well as professional when I left India."[P3]

They perceived their comfort with speaking English as their strength for they had colleagues who were uncomfortable with the language.

"All I needed was to become comfortable with the accent and the different words they use, as in fries and not chips."[P31]

It took study respondents up to six months to become comfortable with the accents and local lingo.

3.1.3 Advantage of a shorter time span to graduation in medical schools in India

In India, students gain admission to medical college straight after high school, spend the next five and a half years earning their basic medical degree, during which time many start the process of taking their US licensing exams. Some of them take up a residency, which is of a uniform duration of three years for all specialties, while waiting for all the formalities of coming to the US for a residency to be cleared. Indian IMGs arrive having spent the same number of years in college as their counterparts here who start their residency. Those who pass their licensing exams early, often come to the US younger than their US counterparts to start their residency.

"We don't spend four years in college before medical school and this helps us not lag behind our US educated counterparts even though we may have to repeat residency [P1].

3.2 Personal strategies

3.2.1 Clear vision of goals and a perception of the US as a meritocracy:

The prospects of acquiring a structured, advanced training and gaining the opportunity to further their careers in a meritocracy were the prime motivators for the majority of the participants (n=15, 56%), including the ten who had practiced in another country before arriving in the US (n=8 from UK, n=1 from Australia, n=1 from South Africa).

"I wanted to be a neonatologist, but there were no prospects of getting that training in the UK. So, I came to Chicago, where the level III tertiary care I wanted to be trained in, was available." [P12]

"My parents had trained as surgeons in the UK. But I came to the US because it offered the best training. My sister was here in a surgery program in NY, so I came here." [P7]

"I've risen solely on the basis of my training through the ranks of academics to become a Professor - progressed well in my career "[P27].

"The playing field is much more level here despite the challenges that you face "[P7].

"You do get pretty much the same opportunities… barring some areas… but it's been fairly equivalent .I am the Infectious Diseases Director, and I could get into academics and do even more, but it's my choice to maintain a work-life balance . Patients are very appreciative [P16]."

The perception of the US as a meritocracy motivated these IMGs to stay permanently.

Three of the participants [P6, P17, and P21] immigrated to the US because they had stagnated on the career ladder in the UK.

"Usually you hear it said – may the best man win. In the UK, it is – may the best white man win". I knew I could never be a Consultant in the UK "[P1]).

All three were directly recruited by universities based on their experience in the UK and did not have to take the qualifying exams to be able to practice in the US.

"I had seen the other side of the pond and… it was much better, so no thank you". [P6]

[P6] received an offer to become a Consultant in the UK after he had immigrated here, but he declined to return for he perceived the working atmosphere to be better in the US. All three have since been promoted to Professors and perceive the professional environment and the opportunities to be better than those available in the UK. [P17] joined an Ivy League university, where he went on to become the Residency Program Director and Head of the Department, and after a long stint there, has since transitioned to private practice.

Economic prosperity was the primary pull factor for some (n=4, 12%) participants (P1,P8, P23 P32), who, coincidentally did not opt for a fellowship.

" I had a faculty job at my alma-mater, but my family expenditures and income were a mismatch. I immigrated to the US. I faced initial hardship, but the long-term financial gains were worth it." [P1]

Existing family members residing in the US were another pull factor and they were a source of major logistics support initially and continue to remain emotional and social supports (P18, P28).

Lack of transparency in governance, and a weak health system infrastructure were the major push factors from India.

" I joined a government job in India, but the administrative issues were too painful , so I decided to emigrate." [P2])

Female physicians migrated mostly to join their spouses who were already practicing in the US. Of the 18 women participants, 15 had immigrated to the US to join their husbands. Another two [P7 & P30] immigrated for advanced training but came with their partners. One female respondent (P19) had stagnated in the UK and visited the US for a holiday before returning to India. Here, she received a ten-month job offer from a hospital that was trying to start a Gynecology Obstetrics residency program with the assurance this period would be adjusted as her residency tenure. She took up the offer and has stayed on.

3.2.2 Persisting with a singular focus on the long-term goal, being mentally prepared to repeat their residencies in the US and a readiness to work hard, and harder if you are a female

Participants faced challenges such as visa issues, microaggressions and separation from family and loved ones and they overcame these challenges by maintaining a singular focus on their long-term goal. The participants were mentally ready to repeat their residencies in the US at the start of their preparation to immigrate. Of the 34 participants, 24 (71%) had completed a residency before immigrating to join their second one in the US. Once they joined their residency programs, they experienced microaggressions from diverse sources, such as their patients, health system and communities, but handled it by working hard to prove themselves better than their detractors and then moving laterally to other organizations as soon as they got the chance.

"I had an edge during my residency because I had already completed my residency in India before joining my second one here. My Program Directors appreciated my inputs."[P29]

They acknowledged it gave them an edge in the technical knowledge required during residency and allowed them the benefit of time to familiarize themselves with knowledge of the systems and procedures of the hospitals, and trade names of medicines, as well as enhance their professional communication styles to suit the changed needs.

They maintained readiness to work hard over long periods of time, as was the case for twelve of the participants (35%) interviewed, for they had to work through their visa waiver periods before going back to do their fellowships.

"I think it's just an immigrant thing. You work harder, you work longer hours. You just innately feel you have to prove yourself to be better," [P18]

"You've got to be two to three steps ahead of your peers to be able to do well in this country… have to be two steps ahead of the game." [P15]

"The hostility from colleagues was never overt. They would make derisive comments about physicians from 'third world' countries. Sometimes we reacted. But for the most part, I kept quiet but was academically so strong and worked so hard, the difference stood out. I kept my focus clear as to why I had come here and let my work do the talking." [P25]

"The atmosphere was so toxic, I moved laterally to another program." [P10]

There were occasions when IMGs were let down by their employers, who went back on their promise to sponsor them for their visas, or did not stand by the IMGs when they faced microaggressions based on their identity.

"My Program Directors let me down by not sponsoring my O1 visa although I had been recruited to Louisiana based on that premise. The local community never allowed me to access childcare. I resolved the issue by moving back to Rhode Island with the help of my former Program Directors." [P7]

"You have to realize that the employer is a very powerful organization but is not always going to stand by its employee, even if it is a case of microaggressions due to perceptions of our race. And the way to face it is not to directly confront it - but either address it calmly and firmly, or leave the institution, and make place for yourself elsewhere. Institutions are meant to serve their function and not to stand up for rights." [P15]

"Such instances are few and far between. There are difficult people everywhere. Overall, it's been a very satisfying journey in the US." [P2, P21]

Sometimes employers took advantage of the visa waivers IMGs use to continue to work in the US such as by employing them at low wages and making them work longer hours but there also many others who valued and supported their work.

"My husband made less money during his J-1 waiver job in Kentucky than he did during his residency, and he had no health insurance - he had a leg fracture and had to attend his rounds on crutches; he had a renal stone, had a stent inserted, and would still go to work - all because his employer knew he needed the job. However, my partner and the office staff in my clinical practice were very understanding. They cooperated by scheduling my working hours flexibly and even cared for my daughter while I worked." [P18]

The participants have patiently borne difficult times and leveraged available sources of support within their working environments. All the participants received only the induction training meant for all incoming residents and wished there had been a structured additional formal support during the first few months of their residencies. Only one participant [P31] recalled being advised to read a book on life in the US as an additional advice. While they acknowledged the professional and personal issues they faced were comparatively minor, in the absence of a support network, they often fumbled, and it took them longer and required more effort to resolve them.

Participants mentioned some experiences of microaggressions in their personal lives but they acknowledged these were few and far between and the overall experience has been comfortable. One Ivy League professor [P21] recalls being spat at while waiting at a red light.

"I served my waiver period working in a remote village with a population of 700 deep in rural Illinois. I felt respected. But it was, long after I had become a US citizen and had been living in

the country for 25+ years that on two separate incidents I was told it was high time I went home"[P2].

Participants (n=22, 65%) who got their Legal Permanent Residency (LPR) cards or citizenship on the basis of their family ties did not have to work in underserved areas, yet had to strive hard consistently for years to succeed professionally. For example, although P5 arrived as the spouse of a US citizen, he was so apprehensive about being accepted into a residency, he accepted the first residency he was offered, although on hindsight he acknowledged he might have got a more lucrative one had he gone for more interviews. The respondents mentioned the frustration of many IMGs who were in primary care specialties or in rural areas, or both, but felt these IMGs did not persevere long and hard enough. They believe consistent hard work for long periods of time is required to realize their goals.

"Those IMGs who are dissatisfied with their careers perhaps lost their self-motivation and the will to continue to work hard. They compromised with their dreams, and their unfulfilled dreams spark discontentment." [P15]

"I met a group of doctors of Indian origin…working as primary care doctors in rural MA and when I introduced myself as the Program Director at (an Ivy league), I could see the discontentment in their eyes. They didn't work hard enough for long enough." [P17]

This is evidence of gender-based disadvantage, as female respondents continue to bear the larger share of household and parenting duties in spite of being as educationally qualified as their spouses and having to work just as hard in their professional capacities. As the length of their stay in the US increases, male respondents admitted to becoming 'domesticized' as their family becomes more influenced by the Western way of life. The workload is harder for female physicians, especially when they become mothers.

"If you want to have kids, it is often not easy nor affordable to have help at home, so your career takes a backseat because as a mom the primary caregiver responsibility is yours. There are a lot of compromises one has to make - more so if you are a female." [P3].

3.2.3 Lifelong support of family and strong college informal networks

Twenty of the participants' (59%) decision to immigrate to the US was influenced by the presence of family. They received initial logistics and financial support from them and family remains a social and emotional anchor. Four of these participants got sponsorship [P5, P8, P23 & P33] from their family living here and hence did not have to go through visa issues while navigating their professional careers in the US. Fourteen participants (41%) stated knowing a Program Director facilitated their being offered a residency from that program.

"My sister was in the same program, two years ahead of me. So the Program Director knew her, had supervised her, and so when she put in a request for me, it must have facilitated my being accepted."[P7]

"My mentor in the UK put me in touch with the Program Director in Chicago and supported my application, who in turn, sponsored me for a H1B visa."[P12]

Another 14 of the participants had the support of an informal strong college classmates' network which provides immense help based solely on having the same alma mater. This support started before their arrival in the US, in the form of advice regarding IMG friendly programs, specialties with higher chances of being accepted, and the study material to use for the licensing exams. Three of these participants (P3, P9, P34) count their extended informal network as the mainstay of their support. The logistical, social and emotional support continues right through to the present day.

"Italians always stick around with Italians…, so it's only natural we stick together."[P34]

3.2.4 Using emotional intelligence to handle microaggressions faced due to various facets of their identities

IMGs face microaggressions due to many facets of their personalities, such as their race, gender, age, physical appearance, sartorial style and geographical location. They handled these with emotional intelligence to resolve conflicts and foster collaboration.

"During my residency some colleagues 'otherized' me, but I was young, enthusiastic, and the majority of the people were great, so I just didn't care. But then at XYZ, when I asked to be promoted from an Assistant Professor to an Associate, I was told bluntly that an Assistant Professor at XYZ is worth more than an Associate anywhere else, and now that I am at ABC, even my Caucasian colleagues tell me there is gender discrimination here – it is systemic."[P9]

They relieved the stress they faced by depending on those who empathized with them. [P11] recalled facing microaggressions by her colleagues but felt supported when her Program Director silenced them by speaking out in her favor. The confidence boost it gave her continues to equip her handle subsequent microaggressions in the University hospital she subsequently came to practice in after completing her residency and fellowship. Two patients were apprehensive of being operated on by her because of her identity as an IMG and a female. She defused the conflict and assuaged their fears by having frank, open conversations with them and offered them the option of being transferred to another doctor. Both patients gave their consent to being operated on by her, with one of them going on to become her champion to other patients. She recalls microaggressions have decreased in healthcare organizations due to the widespread awareness campaigns to tackle it. Other respondents voiced similar reflections.

3.2.5 Strong ties with India and openness to American culture

Most participants visit India every year along with their children and have retained strong family links while simultaneously maintaining an openness to the US culture. They identify themselves as bicultural. Although observing rituals has never been their strong point, they are proud of their heritage while simultaneously having incorporated American culture and customs in their daily lives.

"India and the US are like my parents. I love them both…I was surprised when my son took his school group here in the US on a detour to show them a temple." [P18]

They celebrate Indian and American festivals with equal gusto and maintain a cosmopolitan outlook and lifestyle. They maintain a contemporary Western sartorial style in their professional practice and often stick to traditionally Indian attire for their celebrations. The Hindu, Muslim and Sikh respondents were areligious and although they practiced religious festivals, it was as a cause for celebration and promotion of the culture they felt connected to, rather than any religious significance. The Sikh respondents' male family members practiced wearing the turban but had not faced any discrimination because of it. Religious dietary restrictions were not practiced by the majority (n=31) of the respondents. After an initial period of few months, they became comfortable with the apparent classlessness of the US society, for it felt freer than the rigidly hierarchical Indian society they had grown up in.

3.3 Cultural strategies

Cultural strategies for the purposes of our study are the characteristic behaviors people from a country exhibit that are based on the beliefs and values of its society.

3.3.1 Universality of marriage

The participants were in the age group 53 to 63 years, and an incidental finding is they all had long term, stable marriages and cited their families as indispensable sources of emotional and social support. It was the first marriage for 32 of the participants. Two participants had had short-lived (under a year) marriages but had since remarried. One couple did not have any children. Six of the respondents were couples, and another fifteen of the participants (total 62%) were married to doctors, and they considered it a bonus for they felt their spouses understood better the tensions clinicians face.

3.3.2 Prior acclimatization to societal microaggressions

A unique observation mentioned independently by three female participants (9%) is that prejudice, both overt and covert, is such an intricate part of the fabric of Indian society, one subconsciously learns how to deal with it.

"Right from childhood, we are used to being perceived as a Bengali or Punjabi and treated differentially based on our caste and the color of our skin. It's a very divided society we are accustomed to." [P26]

Caste, a hereditary social stratification and native language remain major social cleavage and sources of social exclusion in India and growing up in this society reflexly equips Indians to deal with diversity. This does not in any way condone the injustice. This is akin to systemic racism and having been born into a world filled with caste inculcates a deep ability to handle it with emotional intelligence and respond to it by working harder than ever and proving their worth.

4.0 Discussion and Conclusion

The majority of participants were found to reside in the coastal states, and this corroborates with the findings of the US Census. IMGs from India tend to segregate in these states and in urban locations for these are perceived to be 'IMG friendly'.

On arrival in the US, the IMG respondents were challenged with colloquialisms, accents and other subtleties of the English language as they transitioned to life here and acknowledge receipt of an acculturation training would have accelerated their integration into the US health system. Overall, they perceived their comfort with the language, which was their instructional medium in their schools and in medical colleges, as a strength in their professional life while observing that some of their fellow IMGs from other countries needed support with English language. This adds strength to the recommendation by researchers for tailoring acculturation strategies to the unique needs of IMGs from different countries.

Our participants encountered cultural, procedural, and systemic barriers during their period of transition to the culture and practice of medicine in the US. They experienced social isolation, difficulties with professional advancement, and challenges in navigating the workplace environment during the initial phase of their careers. It took them time and considerable effort to navigate the marketplace forces and the complex federalism in the US health system, which mandates the licensing regulations in the states. These challenges are in line with the findings from existing research[14,21,22].

This study identifies the support received from familial and alumni networks, the mental preparation and emotional intelligence strategies a purposeful sample of Indian IMGs found useful in navigating their careers in the US. They reported receiving support from family who

were settled in the US and from an informal network of friends and classmates. They voiced the need for systemic sources of formal and informal support to be in place for immigrants.

Our participants overcame these challenges by persisting in their efforts, for they perceived a high degree of professional satisfaction from practicing in the US health system and report having attained the expertise and recognition that was their primary goal. Overall, their positive experiences have been pervasive, interspersed with some nuanced, isolating and difficult interactions within workplaces. They have come to feel accepted within their organizations and by their patients and attribute this to their patience, hard work, perseverance and emotional intelligence. They had come prepared to repeat their residencies and immigrated with the mind set of having to work longer and harder than their US born and trained counterparts. All respondents, including the small group of primarily financial immigrants, were content with their remuneration.

All the participants reported the support of their spouse, extended family, informal network of friends and college mates as a major aide in navigating their professional careers and acculturation to the US. They continue to maintain deep ties with their kith and kin in India even after having lived in the US for more than two decades. All respondents had heterosexual marriages lasting longer than 20 years. Although this is an incidental finding, it is consistent with available evidence. Cultural norms make marriage nearly universal and a sacrosanct institution among Indians [25, 26] and divorce rates remain amongst the lowest in the world, with 0.24% of the marriages ending in divorce [26, 27]. Marriage acts as a buffer, insulates them from negativity, and relieves stress and acts as a coping mechanism. Further, the LGBTQ community has been ostracized within the Indian Americans, and it's only recently that this diaspora is becoming

open and more accepting [27]. Participants invest in maintaining their broad and deep informal network of classmates and friends, retain strong cultural ties with India while building bonds within their local communities.

India is a diverse, multi-ethnic, multilingual country. It's society is divided on the basis of physical attributes, native language, caste, religion, sartorial style, and skin color[28, 29]. Having been born and raised against this backdrop, the participants stated they had become conditioned to microaggressions as a reality of life and had internalized the practice of dealing with them. On immigrating to the US, they experienced covert racism, but were able to take it in their stride because of the conditioning of their experiences during their growing up years in India. This is supported by recent evidence that foreign born Indians are less likely than US born Indian Americans to report having faced microaggressions[30]. In spite of efforts to expand the diversity base of the participant sample, there was no respondent from the lower castes. This could be because the privileged group or high caste population constitutes the majority of the immigrants in the US, with only 1.5 percent of Indian immigrants in the US being from lower castes[31,32]. This precluded the study of the effect of caste among the acculturation practices of IMGs from lower castes.

This study finds gender plays a distinct role in Indian immigrant behavior. Migration of the female physicians in our sample majorly followed the pattern set by their spouse. A few (n=3) immigrated when they had strong family support in the US. They are more likely than their male counterparts to opt out of fellowships for the sake of maintaining a work-life balance. When they do opt for fellowships, they acknowledge they have to work harder than their spouses for they remain the primary homemakers and caregivers for their children. This finding is substantiated by existing evidence that gendered roles are deeply invested in the South Asian psyche[33. 34, 35,36].

The group of participants in this study came from privileged backgrounds in India, for they had come from higher socioeconomic backgrounds. They had access to high quality English medium, private schooling, which facilitated their entry to competitive medical schools, and were able to finance the expensive process of attaining licensing and relocating to the US. The existence of this social system creating a selective pool of persons receiving higher education, living in urban areas, and from high/dominant castes, synonymous with high socio-economic status is similar to the findings of recent research[37]. Our study adds to this by finding that the participants reported familial support to play a facilitatory role in their acculturation process. As first-generation immigrant, they conform to the near universality of marriage in India[26,27]. Another finding is that distinct from the findings of some researchers [31,32] , they remain bicultural. On the surface, they have become "structurally integrated", that is, they have attained high socio-economic status and are cosmopolitan American professionals. Within this larger self-identity, they retain strong links to their Indian roots, and they do not fit in either the category of being fully assimilated or being separated from American culture. As Bhatia[38] describes it, there is no "fortuitous, congenial amalgam". Our respondents describe this characteristic as contributing to their successful acculturation in the US.

5.0 Recommendations

The findings from this qualitative study may be substantiated by a quantitative study to use the deductive strengths of quantitative methods to demonstrate the greater generality of these findings. Replicating this study with IMGs from other parts of India may help identify the unique needs and strengths of Indian IMGs for India is linguistically and culturally a very diverse country. The evidence could tailor interventions designed to accelerate acculturation of IMGs. For instance,

IMGs from India may require less language support, but need to be linked to informal support groups and guided through visa issues for India is the country with the largest backlog of immigrant visas in the US. Maintaining strong cultural and ethnic ties with their roots, deep family and informal support networks, imbibing strong work ethics and retaining the ability to work long and hard could well be the key contributing to this group's success.

This qualitative study is, to the best of our knowledge, the first study to act on previous recommendations and explore the acculturation practices of Indian-born and trained physicians as they navigate their professional careers in the US. IMGs from India are the largest group from a single country to practice medicine in the US and have become the most affluent ethnic minority in the US in the span of a single generation. Hence, the findings have the potential to inform the formulation of acculturation strategies to help future IMGs from India, and perhaps other countries.

6.0 Strengths and Limitations

This is a qualitative study and hence the findings are not generalizable to the population. Respondents were initially randomly recruited from the medical school classes of the primary researcher and her husband among those who were settled in the US (selection bias). The respondents had earlier been predominantly residents of northern, central and western parts of India, with the southern states being minimally represented. Although 14 medical colleges in India were represented by the respondents in this study, the majority of the respondents (n=24, 82%) had studied for a part of their medical education in India in four of the medical colleges in Delhi. This could be a strength as well for this study could serve as a comparison for future studies coming in from medical colleges of other parts of India. This study includes IMGs who immigrated to the

US from UK and opined that UK was more racist than the US, but Indian immigrants who live in the UK may voice a different opinion.

Table 1:

Socio-demographic variables and specialties of participants

Gender	
Men, *n* (%)	16(47%)
Women, *n (%)*	18(53%)
Age (years)	
45-49	2
50-54	11
55-59	10
60-64	11
Age range	48-63
Duration of practice in the US (years)	
15-19 years	1
20-24	5
25-29	16
30-34	9
35-39	0
40+	3
Average duration of practice in US	28
Marital status, n (%)	
Married	34 (100%)
Home State in India	
Andhra Pradesh	1
Bihar	1
Delhi	11
Kerala	1
Maharashtra	4
Punjab	8
Rajasthan	2
Sikkim	1
Uttar Pradesh	5
Native tongue	
Hindi	12
Malayali	1
Marathi	1

Marwari	2
Punjabi	12
Sikkimese	1
Telugu	1
Urdu	4
Religion	
Hindu	26
Muslim	4
Sikh	4
Castes	
Hindu General (Brahmins, Kshatriyas, Vaishyas	30
Hindu Scheduled castes, tribes and Other Backward Castes	0
Muslim Ashraf (higher castes)	4
Specialty, *n*	
Anesthesiology	2
Dermatology	1
Endocrinology	1
Gastroenterology	1
Internal medicine	9
Neonatology	2
Nephrology	1
Neurology	1
Oncology	3
Pathology	2
Pediatrics	2
Psychiatry	1
Radiology	2
Surgical specialties	6
Fellowships, n (%)	
Yes	25(74%)
Current professional status, *n* (%)	
Academic practice	16 (+1*)
Private practice	17 (+1*)
VA	1

Current Residence (as defined by participant)	
Urban	34 (100%)

**(+1 in each category denotes one respondent who was in the academics in the US for many years and has since shifted to practice*

Table 2:
States of permanent residence and number of respondents

State	**Number of respondents**
Arizona	2
Arkansas	1
California	2
Connecticut	1
Delaware	1
Florida	1
Georgia	1
Illinois	6
Kansas	1
Louisiana	1
Maryland	4
Massachusetts	5
Michigan	3
Minnesota	1
Missouri	5
New Jersey	2
New Mexico	2
New York	10
North Carolina	2
Ohio	1
Oklahoma	1
Pennsylvania	9
Rhode Island	1
Texas	1
Utah	1
Virginia	1
Wisconsin	1

Figure 1:
Map showing states of residence of respondents

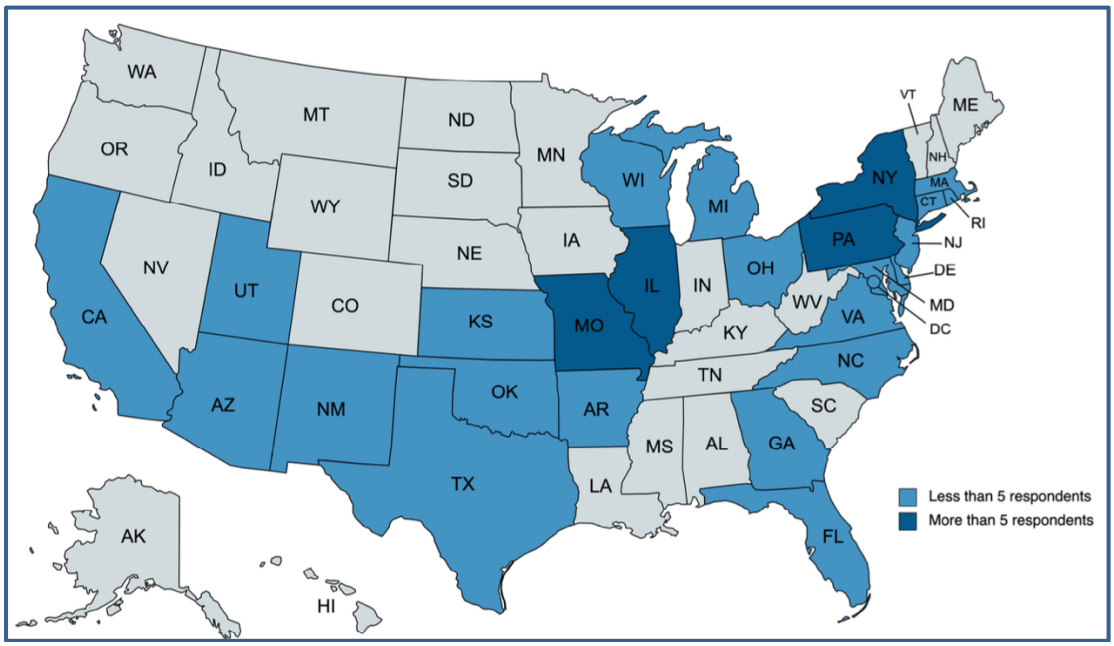

Table 3:
Medical Colleges in India represented

S. No	Name of medical college	No. of participants **	INDIA Today ranking #	NIRF Ranking ##
1	MAMC, New Delhi	13	4	17
2	UCMS, New Delhi	13	10	19
3	AIIMS, New Delhi	2	1	1
4	PGI, Chandigarh	**3**	15	2
5	JIPMER, Pondicherry	2	5	5
6	Aligarh Medical College	2	18	15
7	LHMC, New Delhi	1	9	Not ranked
8	Manipal Medical College, Manipal	1	13	9
9	SMS Medical College, Jaipur	1	16	Not ranked
10	KEM Medical College, Pune	1	21	Not ranked
11	Gandhi Medical College, Bhopal	1	Not ranked	Not ranked
12	Government Medical College, Nagpur	1	Not ranked	Not ranked
13	Government Medical College, Patiala	1	Not ranked	Not ranked
14	Patna Medical College, Patna	1	Not ranked	Not ranked

*** Number of medical colleges represented (n=40)is greater than the number of participants because many participants attended more than one medical college during their basic training(M.B,B.S) and residency*

 # INDIA Today ranking is a respected ranking of institutions since the early 2000s

National Institute Ranking Framework (NIRF) is a Government of India ranking available since 2019 and includes only 40 medical colleges

Table 4:
Results: Themes and subthemes identified

Theme	Sub themes
Indian medical education system strategies: useful in navigating their professional careers	Strong technical knowledge base and work ethics developed during training in medical school in India
	High comfort level with English language
	Direct entry to medical school after school allows them to complete their basic medical training and a residency earlier than their US trained counterparts. Start residency in US at the sage as their US peers
Personal strategies	Clear vision of what they wanted (advanced training or economic prosperity); Readiness to work hard, and harder if you are a female
	Singular focus on and perseverance on long-term goal of acquiring advanced training; Perception of the US as a meritocracy
	Mentally prepared to repeat residency at start of their preparation to immigrate to US
	Using emotional intelligence to handle microaggressions
	Strong family support and deep informal networks of college mates and friends
	Simultaneously maintaining strong ties to India and accepting American culture
Cultural strategies	Universality and sanctity of marriage
	Growing up with the subtle divisions in diverse Indian society

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Chapter 5: Conclusion

International Medical Graduates (IMGs) are identified as individuals who are born in and have obtained their basic medical training outside of the country in which they practice. They constitute a significant percentage of the physician workforce in HICs, (Michalski et al., 2017) including the US, where they form a quarter of the practicing physicians (Ranasinghe, 2015). They are set to continue to be an important resource in the foreseeable future. (Batalova, 2020).

IMGs face significant challenges in their adjustment and acculturation in the post-migration phase (Desbiens, 2010). They have to adapt to the complexities of the health care system, familiarize themselves with the cultural nuances, professional behaviors, and communication styles of their host country (Desbiens, 2010). In this process, they encounter biases and microaggressions and lack support groups and mentors (Sue, 2007; Ahmed et al., 2018). At the same time, IMGs often have to live away from family for extended periods of time and experience separation anxiety. As an accumulation of these factors, they report more stress and burnout than their US trained peers, and adversely affects their performance and hinders their professional and personal satisfaction (Fiscella, 1997; Chen et al., 2011, Triscott, 2016).

There's a growing body of evidence showcasing that well acculturated physicians have better patient-provider interactions which, in turn, leads to improved patient outcomes, reduced health disparities and a more resilient workforce (Ballard & Lawrence, 2004; Harrison & Shaffer, 2005). Hence, there has been a recent spurt in the quantum and scale of work done on facilitating IMGs' acculturation, although some efforts have been made over the past four decades. This spurt has been greater in the UK and Australia than in the US. Hence a review was conducted to synthesize evidence generated since the year 2000 regarding interventions

developed to support IMGs' transition to their host HICs, with the objective of informing further research in the US.

The systematic review in this dissertation includes three groups of studies. The first group consists of intervention studies focusing mainly on training of IMGs, including one intervention being a peer mentoring group. The second group of studies were majorly qualitative studies about the experiences of IMGs as they transitioned to life and health systems in their host countries. The third group included commentaries, viewpoints and perspectives of trainers of IMGs on their experiential learning of 'what works'. Fifty seven percent of the studies (26 of the 46 studies) included in this review were published since 2014, with the percentage being higher in the first and third group of studies. Although these studies are heterogeneous in terms of the survey recruitment and administration methods, measurement instruments, types of interventions, timing of outcome measurements, and analytical methods, their findings are complementary. Traditionally, acculturation has focused on induction training and this review amalgamates available evidence regarding the expansive scope of newer delivery channels, content, and strength of evidence of acculturation strategies for IMGs,

While all three groups of studies reaffirm that induction training is beneficial, recent intervention studies provide stronger evidence than was available earlier. Two of these are mixed methods, third-party evaluations of induction trainings which have become systemic in the UK. Other studies include evidence-based measures of evaluation such as objective tests of learning, and on-the-job performance scores, thereby giving higher quality of evidence.

In addition to reaffirming the usefulness of induction trainings, much of evidence examines these initiatives from new perspectives. Trainings can leverage social media and start even before the physicians have left their home countries, enabling them to be better prepared before

they arrive. Acculturation strategies' implementation should continue as the IMGs transition to their residencies and these trainings need to be in addition to the induction training all residents, including the US trained graduates, receive. These additional trainings must continue the focus on clinical knowledge, for the disease profile and management modalities in the host countries are different from what the IMGs have seen in their home countries. Evidence reaffirms that such training is best conducted by clinical teachers, but simultaneously asserts that the teachers themselves need prior training on the unique needs of IMGs and ways to fulfill them. It is advantageous to have clinical teachers who are IMGs themselves, for the cultural and social capital they bring enriches and facilitates the training. Recent evidence sheds light on the content needed over and above the clinical element. Induction trainings become more effective with the inclusion of information about host country cultures, customs, and health systems. Such content is best developed at the organizational level, for it includes local nuances of life and language, an essential factor in making IMGs comfortable. Recent evidence shows it is essential to include communication experts in the acculturation trainings to train IMGs on communication and language strategies including active listening and shared decision-making; and self-awareness skills, including feedback skills and clear setting of expectations.

This review collates evidence about pivoting to the internet to reach out to IMGs with trainings, peer mentoring, help websites and support groups. These are significant for the learning they provide from their experience of having pivoted from the in-person mode to the online mode due to the exigencies of the Covid-19 pandemic. The expanded reach of such modalities, coupled with the flexibility, cost and time advantages they offer, make a strong case for their continued utilization in the post-Covid-19 world.

Yet, this review documents much that has not changed. Action on recommendations that state, regional and national organizations should host IMG specific events and provide opportunities to extend support to their spouses and families continue to be limited one-off events. It is acknowledged that the use of conceptual frameworks based on theories or models to create curriculum helps focus on key variables and lead to conclusions that are more generalizable than interventions which lack the use of a conceptual framework (Bordage, 2009). Yet only two of the interventions in this review had curriculum based on conceptual frameworks with the rest of the curricula being based on experiential learning. Finally, researchers have made recommendations that acculturation interventions be tailored to meet the unique needs of this diverse group. Although IMGs internalize the language, mannerisms, communication styles and professional strategies of their host countries, they maintain their respective cultural and religious values and the links with their respective ethnic communities. Depending on the context, their feelings are fluid, ephemeral and changing, reiterating the need for different inputs needed to reach the same output with different groups of IMGs, based on the concept of equity with learner-oriented training. Yet, though IMGs come from 150+ countries, acculturation initiatives club them as a single group, with only some studies even recording the home countries of their trainees.

The qualitative phenomenological study in this dissertation is an initial step to identify the specific acculturation practices of IMGs from India. The choice of India as the country of focus was influenced by a number of factors. India is the most common country of origin for IMGs worldwide, including the US, where Indian-origin physicians make up nearly 1 in 20 of the physician and surgeon workforce (Ranasinghe, 2015). Further, this group of immigrants has acculturated well in the US, for “within the span of a single

generation, immigrants from this Low Middle-Income Country (India) have become the most educated and prosperous ethnic minority in the most advanced nation in the world" (Chakravorty, Singh & Kapur, 2016). Finally, the researcher herself is a physician from India, and although she never made the attempt to become board certified, it gave her access to physicians who were ready to share deeply personal life experiences which they might not have done with others. Hence, this study aimed to identify the acculturation strategies IMGs from India found useful in their transition to professional practice in the US.

The study used online Zoom interviews with 34 respondents who were born in, and earned their basic medical degree from India, and had been practicing as physicians in the US for at least 15 years. They identified the Indian education system, cultural and personal strategies that had been helpful to them. The education system strategies they listed were the strong technical knowledge base and work ethics developed during training in medical school in India, a high comfort level with English language before arriving in the US, and the structure of the educational system in India enabling them to earn their basic medical degree in a shorter time span, thereby ensuring they were the same age as their US counterparts when they joined their residencies in the US. All respondents in this group listed their spouse as a source of major support. The wide linguistic, caste, sartorial, cultural, religious diversity in the Indian society divides it and microaggressions are a way of life. Having grown up in India helped ingrain in the respondents the emotional intelligence needed to handle microaggressions and they were able to adapt to life in the US. The personal strategies they identified were having a clear vision of what they wanted (advanced training or economic prosperity) and maintaining a

singular focus on their goal of acquiring advanced training and persevering in attaining it. They were prepared to, and did, work harder than their US trained counterparts, but ultimately, they perceived the US as a meritocracy and were now content professionally. None of the IMGs in this study received any IMG specific training at any point in their **careers.** Going forward, this IDR could potentially serve as a pilot for further research to identify the unique needs of different groups of IMGs, with the ultimate objective of helping inform policymakers, researchers, technical experts and program implementers to formulate evidence-based acculturation strategies for them. The IDR also recommends making use of conceptual frameworks to create the curricula of acculturation interventions for doing so maintains focus on key variables and leads to conclusions that are more generalizable than interventions which lack the use of a conceptual framework (Lee, 2013). The IDR could also pave the way for the comparatively more expansive research available from other High-Income Countries, particularly the UK, informing research on this topic in the US, thereby making efficient use of resources, and possibly making IMG induction courses systemic in this country.

To summarize the evidence this IDR presents shows that context specific, evidence-based strategies need to be created for helping IMGs acculturate to the health systems in their host countries. This can be done by combining different interventions in varying combinations and utilizing various channels of communication. This would be an optimal fit with the organizational culture of healthcare facilities and the local community customs and demands. Identifying the unique needs and strengths of the IMGs would further facilitate the optimal tailoring of these strategies. Simultaneously health personnel in the organizations should be sensitized to the unique needs of the IMGs so that they receive a

welcoming atmosphere and an empathetic work culture. In the times to come, this would help the health system in the US meet the healthcare needs of the population because the country is projected to become increasingly diverse in its racial composition and IMGs are expected to continue being a significant percentage of the workforce.

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Appendix

A. **Recruitment Script: Phone**

Good evening Doctor,

I am Sangeeta Saxena and am currently a doctoral candidate in the public health program at Penn State University. We are conducting a qualitative research study with the objective of exploring the health system and personal strategies International Medical Graduates from India who have been practicing in the United States for 15 years or longer.

Participation would be in the form of a semi-structured interview, conducted in English, lasting for about one to two hours and would take place over Zoom, at a date and time convenient to you. Participation is completely voluntary, and your answers will remain anonymous and confidential.

Are you interested in participating?

(If NO) Thank you very much for your time and consideration. *(End call)*

(If YES) I have a few questions that will determine if you meet the criteria for participating on this study:

(Record responses)

1) Are you a physician?
2) Were you born in India?
3) Did you earn your MBBS (basic medical degree) in India?
4) Have you now been practicing in the US for 15 years or more?

(If NO to any of the above) Unfortunately you do not meet the criteria for participating in this study. We appreciate your time and consideration. Thank you very much. *(End call)*

(If YES to all 4 above) May I give you more details about what your participation would involve?

(If NO) Thank you for your consideration. *(End call)*

*(If YES, read **Summary Explanation of Research**.)*

Hearing these details, would you like to participate in this study?

(If NO) Thank you very much or your consideration. *(End call)*

(If YES) Thank you so much for your affirmative response. We are very grateful for your support.

Thank you very much.

What time would you like to schedule your study interview?

(Wait for and record response)

Thank you again. I look forward to interviewing you for this study on *[Restate date and time].*

If you have any questions, please do not hesitate to contact me (sgs216@psu.edu) or Dr. Kristin Sznajder (ksznajder@ppennstatehealth.psu.edu).

Thank you for your time.

Sangeeta Saxena, MD, DrPHc

B. Recruitment Script: Email/message

Good evening Doctor,

I am Sangeeta Saxena and am currently a doctoral candidate in the public health program at Penn State University. We are conducting a qualitative research study with the objective of exploring the health system and personal strategies International Medical Graduates from India who have been practicing in the

Participation would be in the form of a semi-structured interview, conducted in English, lasting for about an hour and would take place over Zoom, at a date and time convenient to you. Participation is completely voluntary, and your answers will remain anonymous and confidential.

Are you interested in participating? *(If NO)* Thank you very much for your time and consideration. *Please proceed no further.*

(If YES) I have a few questions that will determine if you meet the criteria for participating on this study:

1. Are you a physician?
2. Were you born in India?
3. Did you earn your MBBS (basic medical degree) in India?
4. Have you now been practicing in the US for 15 years or more?

(If NO to any of the above) Unfortunately you do not meet the criteria for participating in this study. We appreciate your time and consideration. Thank you very much. *Please proceed no further.*

(If YES to all 4 above) May I give you more details about what your participation would involve?

(If NO) Thank you for your consideration. *Please proceed no further.*

*(If YES, read **Summary Explanation of Research**.)*

Hearing these details, would you like to participate in this study?

(If NO) Thank you very much or your consideration. *Please proceed no further.*

(If YES) Thank you so much for your affirmative response. We are very grateful for your support.

May I please have your email address so that I may mail you a Summary Explanation of Research describing your involvement in this study, so that you can have all the details? Please type your email id on the dotted line below and send this form back when completed.

Thank you very much. I will email you a copy of the Summary Explanation of Research.

What time would you like to schedule your study interview? Please indicate three dates and times convenient to you, in order of preference, on the dotted lines below. I will be in touch with you as soon as possible when I receive your reply.

1. _____

2. _____

3. _____

Thank you again. I look forward to interviewing you for this study.

If you have any questions, please do not hesitate to contact me (sgs216@psu.edu) or Dr. Kristin Sznajder (ksznajder@ppennstatehealth.psu.edu).

Thank you for your time.

Sangeeta Saxena, MD, DrPHc

C. COREQ Checklist

COREQ checklist		
Domain 1: Research team and reflexivity		
Personal Characteristics		

1	Interviewer/facilitator	Which author/s conducted the interviews or focus group?	SGS
2	Credentials	What were the researcher's credentials? E.g. PhD, MD	MD(SGS, TG); PhD(KS, EF); Ed.D.(ET), D.Ed(BA)
3	Occupation	What was their occupation at the time of the study?	GRA(SGS);Assistant Professor & Deputy Director, Global Programs(KS); Distinguished Professor (ET) Instructor(NA)
4	Gender	Was the researcher male or female?	SGS, KS,EF, BA, OP & ET are women. TG is male.
5	Experience and training	What experience or training did the researcher have?	ABD candidate(SGS); faculty teaching and research - qualitative research(KS,ET,TG, BA,EF & NA)
Relationship with participants			
6	Relationship established	Was a relationship established prior to study commencement?	Former batch mates & other IMGs through Whatsapp groups & Association of American doctors of Indian origin of IMGs from India (SGS)
7	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Some participants knew interviewer (SGS) had left her former job with the Government of India and come to the US to enroll in a doctoral program in public health. They knew this study is being conducted as part of the researchers' activities in this program.

8	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Assumptions: Immigration to a new country brings opportunities & challenges. Interests: interviewer is a physician from India and would like to contribute to facilitating the transition of career paths of IMGs.
Domain 2: study design			
Theoretical framework			
9	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Phenomenology
Participant selection			
10	Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Purposive, snowball
11	Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Telephone & WhatsApp
12	Sample size	How many participants were in the study?	n=34
13	Non-participation	How many people refused to participate or dropped out? Reasons?	n= none n= 1 prospective participant was found to be facing health concerns and was not followed up
Setting			

14	Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Home
15	Presence of non-participants	Was anyone else present besides the participants and researchers?	no
16	Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Physicians born in and having earned their basic medical education in India, and then having emigrated to the US, and working as IMGs for > 15 years in US.
Data collection			
17	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Interview guide used
18	Repeat interviews	Were repeat interviews carried out? If yes, how many?	No repeat interviews were done
19	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Audiovisual recording on Zoom
20	Field notes	Were field notes made during and/or after the interview or focus group?	Yes
21	Duration	What was the duration of the interviews or focus group?	87 minutes
22	Data saturation	Was data saturation discussed?	Yes

23	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	Yes
Domain 3: analysis and findings			
Data analysis			
24	Number of data coders	How many data coders coded the data?	Two
25	Description of the coding tree	Did authors provide a description of the coding tree?	Yes
26	Derivation of themes	Were themes identified in advance or derived from the data?	Derived from the data
27	Software	What software, if applicable, was used to manage the data?	Not used due to the public health measures in place during the Covid-19 pandemic
28	Participant checking	Did participants provide feedback on the findings?	Yes
Reporting			
29	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. participant number	Yes
30	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes
31	Clarity of major themes	Were major themes clearly presented in the findings?	Yes
32	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes

Checklist is from Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349–57.			

D. Interview Guide

Interview Guide and Illustrative proes

1. Tell me about your experiences working in the United States working as an IMG physician.
Potential probes:

What is good, and/or challenging about being an IMG physician?

How has being an IMG physician influenced your professional life?

Have you ever felt that career choices were expanded/or limited, because you were an IMG physician?

Have been any times when you felt you were disadvantaged during your professional career?

Where did this disadvantage come from – the health system &/or other health personnel/colleagues/physicians &/or patients and their relatives? Or a combination?
Were there any health system strategies in place that helped you?
What have been the strategies in your personal life that helped you attend to this disadvantage?
What have been the difficulties you faced/continue to face in your daily life that add to the challenges of living/practicing here? Any food habits? Any holiday challenges?

2. Could you talk a little bit about the sources of support throughout your training and your career? Potential probes:

Were there many other IMG physicians where you trained and where you work now and how does that affect your experience?
Can you talk about your experience with formal and informal support networks?
Were there any parts of your curriculum in your training that were helpful and unhelpful?
Can you talk about sources of support that you believe should exist for other IMGs from India? Other IMGs in general?

3. How are your professional relationships (with patients, with other physicians, support staff) affected by your status as an IMG physician? Potential probes:

Have your workplace relationships differed in the various places where you have worked? If so, how?

4. Please share your thoughts on the phenomenon of physician migration, whether at a personal or population level. Potential probes:

Current relationship with India, feelings about migration
Individual versus collective identity as an IMG physician

VITA

Sangeeta Saxena, MD DrPH candidate

EDUCATION

Penn State University College of Medicine Hershey, PA
Doctor of Public Health (DrPH), August 2018-Expected August 2022

Penn State University College of Medicine Hershey, PA
Global Health Certificate, August 2018-December 2021

Delhi University New Delhi, India
Doctor of Medicine (MD, Public Health)

Delhi University New Delhi, India
Bachelor of Medicine, Bachelor of Surgery (MBBS)

WORK EXPERIENCE

Pennsylvania State University College of Medicine **Hershey, PA**
Graduate Research Assistant, August 2018 -May2022

Ministry Of Health, Government Of India **New Delhi, India**
Various positions leading to Deputy Commissioner

SELECTED PUBLICATIONS

2022. "Advancing Digital Technologies in Healthcare" Chapter 6 in Digital Innovation for Healthcare in COVID-19 Pandemic (978-0-12-821318-6), Elsevier

2021 Catalyzing needed change for health systems in the USA. *The Lancet*, *397*(10286), 1705-1706. https://doi.org/10.1016/s0140-6736(21)00800-x

2020 *Prevalence of and awareness about, diabetes in rural India.* American Public Health Association Annual Meeting.

2019 "E-Cigarette Use, Bone Density and Circulating Vitamin D Metabolites: A Pilot Study". *American Public Health Association Annual Meeting*

2018 "*Health care in India – The Way Forward"* Annual Indian Public Health Association (IPHA) Conference, Plenary Session.

2015 Paul Harris Fellowship, Rotary Foundation

2005 Point person, "Delhi Declaration"- International convening, Prime Minister's leadership

2001 State award, Delhi for Intensified Pulse Polio program