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EDITORIAL



Beyond borders: the impact of international fellowships on professional and personal development

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Intensive Care Medicine (ICM) is a specialized field that has evolved significantly from its origins, where critically ill patients were managed by general hospital physicians [1]. Over time, ICM has developed into a distinct discipline requiring intensivists to possess a deep understanding of human pathophysiology, critical illness, and the management of life-threatening conditions, while also leading interprofessional teams [2, 3]. The coronavirus disease 2019 (COVID-19) pandemic highlighted the importance of skilled intensivists, and the increasing demand for intensive care unit (ICU) beds globally indicates a growing need for these specialists [4].

Despite variability in programs worldwide, ICM training is rigorous, with most countries requiring completion of base specialty training followed by a clinical fellowship in ICM [3, 5]. ICM training is generally conducted in academic centers, combining clinical activities with research and education to produce well-rounded intensivists. Despite this, many seek further training through an international fellowship at globally renowned centers to enhance their development. Such fellowships are often prerequisites for academic careers and benefit clinical advancement. But what are their actual benefits and likely challenges?

Professional development

Tertiary centers handle a high volume of patients with medically complex cases, providing international fellows

with invaluable experience in managing a wide range of critical conditions. These centers offer exposure to state-of-the-art care and advanced training in specialized procedures often unavailable in community hospitals. Working with diverse-patient populations, international fellows gain insights into health issues across different healthcare systems, enriching their clinical and cultural competencies. Following local protocols tailored to specific populations broadens their perspectives on patient care and enhances their adaptability to various clinical settings. In addition, reputable fellowship programs offer high-level academic teaching from world leaders and access to research opportunities.

However, working in high-acuity, high-volume centers with rigorous standards and heavy workloads can be challenging at times, especially during early acclimatization. The learning curve for specialized procedures, unfamiliar healthcare systems, software, treatment protocols, and even social norms can be steep and mentally taxing [6]. The emotional toll of these adjustments can be underestimated, requiring perseverance and resilience. Demonstrating adaptability and speed of acclimatization to new environments early in the fellowship is essential for navigating challenges and maximizing opportunities.

Personal development

Relocating to another country exposes international fellows to new cultures and diverse colleagues, fostering valuable friendships and a global network of peers, mentors, and future leaders (see electronic supplementary material, Fig. 1). Developing cultural competency is crucial for integrating into a globalized healthcare environment. In addition, supervising local

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trainees helps international fellows gain leadership experience, preparing them for future roles.

However, moving abroad involves navigating visa requirements, finding housing, and adapting to a new culture. This process may also require the re-sitting of medical licensing exams and language proficiency tests, which can be daunting. Even when proficient in the local language, international fellows may still face communication barriers, such as unfamiliarity with local slang, acronyms, and drug names [6]. As suggested by Gadama et al., these obstacles can lead to *misunderstandings and even microaggressions*, potentially affecting patient care and professional interactions [7]. Such challenges can affect performance and sometimes lead to self-doubt [8]. Traveling alone can lead to feelings of isolation and homesickness, while moving with family presents its own set of challenges. Busy work schedules can reduce time spent together, leading to stress and a sense of disconnection. Families may also face language barriers, employment challenges, and difficulties adjusting to a new environment, requiring careful planning and determination. The high cost of living in large cities can strain limited fellowship stipends [9], particularly for fellows from low- and middle-income countries (LMIC), challenging financial management. In addition, research funding opportunities for international fellows are often limited, adding to the difficulties faced by these trainees [10].

Career development

One of the key attractions of an international fellowship is the opportunity to collaborate with renowned experts, leading to valuable mentoring relationships and research collaborations that can enhance academic credentials and provide objective career guidance. With high quality and pre-emptive planning, valuable academic output can be achieved during this period. However, the demanding clinical workload and the advanced research skills required for innovation can hinder scholarly activity. In addition, busy schedules of these experts may limit their availability, thereby reducing opportunities for mentorship and collaboration. Despite these challenges, the interactions that do occur can profoundly influence international fellows' career trajectory, offering insights and guidance that shape future opportunities. A summary of the strengths, weaknesses, opportunities, and threats (SWOT) related to international fellowships is provided in Table 1.

Special considerations

When undertaking an international fellowship, there are several additional factors that may influence the experience. These include issues related to equity,

cultural and religious diversity, working in or traveling from LMIC, and variations in end-of-life care. These considerations deserve special attention due to their potential impact on both professional and personal growth.

- *Equity.* Gender roles, religious practices, and inclusivity vary widely across countries. International fellows may encounter situations of exclusion or marginalization based on these factors, which can affect their professional interactions and overall experience. However, such challenges may also present opportunities to work in environments where inclusivity is actively encouraged, fostering broader cultural and professional perspectives [11].
- *Traveling to LMIC.* Fellowships in LMIC offer unique advantages. Fellows develop great clinical autonomy, encounter diverse epidemiologic profiles, and learn to manage critically ill patients with limited resources, while also having the opportunity to participate in local research projects [12, 13]. This fosters creativity, adaptability, and problem-solving skills. In addition, fellows contribute locally through training, knowledge-sharing, and sustainable projects, broadening their cultural competence and expanding their global networks.
- *Traveling from LMIC.* Fellows from LMIC may experience a stark contrast in high-income countries (HIC), where advanced technologies and lower patient-to-nurse ratios are standard. This offers valuable learning opportunities, though it may also raise questions about resource allocation when compared to their home countries. Financial challenges are common for LMIC-originating fellows, as they may face limited support from their home institution or external funding sources.
- *End-of-life care.* End-of-life care practices differ considerably between healthcare systems, shaped by local laws, religious beliefs, and cultural attitudes toward death [14]. Fellows must adapt to these variations to deliver compassionate care, making it important to consider these differences in advance.

Institutional development

From an institutional perspective, sending international fellows abroad reflects their exceptional clinical or research capabilities. Upon returning, they bring back advanced knowledge, new competencies, and an expanded international network of research collaborators, enriching the institution's expertise. However, re-integration may not always be smooth, potentially leading to feelings of isolation and marginalization. During the international fellow's time abroad, their home

Table 1 SWOT analysis of international fellowships in intensive care medicine**Strengths**

Exposure to advanced clinical and research environments: Fellows gain experience in tertiary centers with high-acuity patients and advanced technologies, enhancing both clinical and research skills

Networking and mentorship: Opportunities to collaborate with renowned experts, build professional networks, and access to mentorship that shapes long-term career trajectories

Cultural and professional growth: Fellows develop cultural competency, adaptability, and leadership skills, making them more versatile and globally minded clinicians

Increased academic and career prospects: International fellowships are often seen as prerequisites for academic careers, leading to better career opportunities and advancements

Weaknesses

Financial challenges: The cost of living in HIC can be a significant burden, particularly for fellows from LMIC, with limited stipends and few research funding opportunities

Emotional and social barriers: Moving abroad can lead to feelings of isolation, homesickness, and stress from managing family relocation, which can negatively impact personal well-being

Logistical and language barriers: Visa issues, medical licensing exams, language difficulties, and unfamiliarity with local lingo can create stress and communication barriers, impacting patient care and professional interactions

Demanding workload: The steep learning curve, high patient volumes, and the balance between clinical duties and research can hinder academic productivity and personal time

Opportunities

Developing leadership and global networks: Fellows can take leadership roles and foster international collaborations that benefit both their home and host institutions

Unique clinical and research settings: Fellowships in LMIC can provide greater clinical autonomy, exposure to resource-limited environments, and the opportunity to tackle unique epidemiologic challenges, fostering creativity, and problem-solving skills

Institutional growth: Upon returning home, fellows bring back enhanced skills, new technologies, and international research connections, contributing to the growth of their home institutions

Long-term career advantages: Exposure to a global network and gaining leadership and collaboration skills can lead to roles as key opinion leaders

Threats

Family and personal strain: Busy schedules and the challenges of relocating family members may contribute to stress, which can affect overall fellowship satisfaction and personal well-being

Reintegration challenges: Returning to the home institution may be difficult, with potential feelings of isolation and marginalization

Lack of institutional support: Fellows may not receive sufficient institutional backing for reintegration or career advancement, leading to disillusionment or the need to seek new job opportunities

Cultural misfit: Differences in healthcare systems and practices between host and home countries may lead to difficulties in adapting newly acquired skills

SWOT Strengths-Weaknesses-Opportunities-Threats, HIC high-income countries, LMIC low- and middle-income countries

unit may evolve in ways that do not align with the new skills acquired, making the return more complex. Institutions may not always reciprocate personal loyalty [15], and international fellows may find that their original unit no longer fits with their expanded capabilities. Considering alternative job opportunities that offer better alignment with their new skills and environment might be necessary. Maintaining flexibility and an open mind is crucial for navigating these transitions successfully.

Take-home message

International fellowships offer more than just professional development; they serve as catalysts for profound personal and career growth. While the experience presents a set of challenges, these transformations shape international fellows' identity. Embracing unforeseen challenges and unexpected virtues can enrich their

journey, fostering tenacity, adaptability, and fulfillment. Physicians considering an international fellowship must take a long view of their career and understand that reintegration into their home institution may not always be smooth. Strategic solutions, such as mentorship programs and institutional support for reintegration, could perhaps help ease transitions and ensure continued growth after the international fellow's return to their home institution. Embarking on an international fellowship requires not only a willingness to adapt to new environments, cultures, and practices but also the resilience to embrace change and overcome unforeseen challenges. Exposure to different cultural, ethical, and clinical practices, including those related to gender, religion, and end-of-life care or limited resources as in LMIC, fosters deeper empathy and cultural competence, critical for navigating an increasingly globalized healthcare

landscape. This journey of growth and discovery not only enhances one's professional capabilities but also enriches one's personal life, producing a more well-rounded, empathetic, and effective physician.

Supplementary Information

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Author contributions

SvD conceived the manuscript. SvD, DR and BHC wrote the initial manuscript draft. All authors were involved in critical revision of the final manuscript.

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