

Brain Drain in Healthcare: A Critical Global Issue

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ABSTRACT

Migration is a significant phenomenon that shapes the social, economic, and political structures of societies. In recent years, one of the most striking trends in international migration has been brain drain, the movement of highly educated individuals to countries offering better living and working conditions. This trend is particularly prevalent among health care professionals, leading to a workforce shortage in developing countries. As a result, the workload of remaining health care workers increases, exacerbating inequalities in access to health care services. To mitigate brain drain, it is essential to implement policies that improve working conditions and promote reverse migration. Offering competitive salaries, career opportunities, and better working environments can help retain skilled professionals, ensuring the sustainability of health care systems.

Keywords: Professionals, Brain Drain, Health Care.

ABBREVIATIONS

IOM: International Organization for Migration; USA: United States; TMA: Turkish Medical Association; EU: European Union.

INTRODUCTION

The Concept of Brain Drain

The concept of brain drain draws attention due to its unique aspect of migration. Even observed in ancient societies, brain drain became particularly notable with the rise of industrial capitalism in the 19th century and emerged as an inseparable element of migration movements in the 20th century. Brain drain can generally be described as a significant demographic flow resulting from highly educated individuals leaving their homelands to settle in different countries in search of better

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work and living conditions. This phenomenon often involves the international mobility of individuals specialized in science and technology, leading to a substantial loss of economic and social progress for developing countries [1-4].

According to the International Organization for Migration (IOM), brain drain is defined as “the migration of educated and skilled individuals from their country of origin to another country, resulting in a reduction in the skill resources of the origin country” [5]. It is predominantly seen as a trend from less developed countries to developed countries offering higher living standards and better job opportunities. In underdeveloped or developing countries, the number of qualified and well-educated individuals may be high due to unplanned and affordable education systems. However, limited job opportunities in the market can create an imbalance between the supply and demand for skilled labor. Since the training of qualified personnel requires educational investment and time, developed countries often address their skilled labor shortages by importing talent from less developed countries. Skilled labor is a crucial element contributing significantly to the economies of developed countries [6].

Brain drain is not only a phenomenon occurring from less developed countries to advanced nations but also a global phenomenon. It can also occur among developed countries. For example, while the United Kingdom attracts many skilled workers, it may also send trained professionals such as scientists and doctors to countries like the United States (USA) and Canada. However, the losses and gains of developed countries that both receive and send migrants

may not have as significant an impact as in underdeveloped or developing countries. Migration movements among developed countries are characterized as the “international circulation of human capital” [7]. It can be considered as a loss of original country, but a gain for the target country.

Causes of Brain Drain

Migration is a significant phenomenon in human history and can be driven by various reasons depending on the time and circumstances. Understanding the phenomenon of migration provides an important window into grasping the complexity and variability of human behavior. The causes of migration are often rooted in economic, social, political, and environmental factors. These factors can influence the quality of life for individuals and communities and shape migration decisions [8].

In the context of migration, apart from personal reasons, the push factors in the migrant’s country of origin, the pull factors of the destination country, and the obstacles affecting this process play a significant role. Each component must be defined individually, and unique positive, negative, and neutral characteristics should be identified for each migrant. While a particular push or pull factor may be positive for some migrants, it may be negative or neutral for others. Additionally, both personal and non-personal factors shape an individual’s decision and the migration process itself. During the migration phase and in the newly settled region, some events may be predictable, while others may be unexpected and potentially hazardous, hindering the completion of the migration process [9].

Table 1. Migration Reasons [10]

Economic Reasons	Individual Reasons	Family-Related Reasons	Security Reasons
<ul style="list-style-type: none"> • Job seeking • Insufficient income • Lack of job opportunities • Saving money • Desire for a higher quality of life 	<ul style="list-style-type: none"> • Personal motives such as marriage • Education, job position changes or assignments, and retirement 	<ul style="list-style-type: none"> • Moving to be with a parent or spouse • Job changes or relocations, job search processes • Family-related migration 	<ul style="list-style-type: none"> • Safety concerns • Evacuation of living areas • Pressures from terrorism • Natural disasters • Health-related reasons

The psychological dimension of migration is highly significant. If individuals believe they have poor living standards in their home country and foresee no improvement in the future, they may seek a better life in another country. This desire is further reinforced by pull factors such as

job and educational opportunities, freedom, and security. Additionally, opportunities to achieve a significant position or acquire property in the destination country can strengthen this aspiration [11].

Migration of Medical Doctors

The medical profession has held a respected and deeply rooted place throughout human history. Today, a medical doctor works intensively during their education and continues to work long hours throughout their professional life. Although there are differences between countries, the medical profession generally requires intense, continuous, and long working hours. Therefore, it is quite natural for doctors to have high expectations. Demands for better living standards and greater recognition of rights are naturally sought by many physicians [12].

The brain drain of high-educated people such as doctors and engineers has emerged as a notable issue in recent years. In Turkiye, especially in the recent years, thousands of medical doctors migrate to different countries for work. According to statistics from the Turkish Medical Association (TMA), there has been a significant increase in the number of physicians considering migrating abroad, particularly over the past three years. This reflects the growing trend of doctors seeking to work internationally. While only 59 physicians applied to migrate abroad in 2012, this number exceeded 1,200 in the first eleven months of 2021 [13].

Table 2. Factors for choosing to work abroad [14,15]

Category	Description
Working Conditions	The belief that working as a doctor in Turkiye has become increasingly difficult
Better Job Opportunities	Seeking more favorable working conditions and better-equipped healthcare systems abroad
Economic Reasons	Fluctuations in exchange rates, inadequate salaries, and economic uncertainty driving doctors to move abroad
Professional Development	Viewing working abroad as an opportunity to gain experience in different cultures and advance their careers
Violence and Pressure	Increasing violence and pressure against healthcare workers in Turkiye influencing doctors' decisions to migrate

One of the most significant reasons for doctors in developing countries wanting to move abroad is the increasing incidents of violence against healthcare workers. Doctors face physical and psychological violence while practicing their profession, which reduces their job satisfaction and accelerates their decision to leave their home countries. Especially doctors working in stressful environments such as emergency departments encounter threats, assaults, and even murder by patients or their relatives [16].

This process can be a challenging decision for doctors. Starting from scratch in a new country, proving oneself, and working in a different language require significant effort. However, this migration movement can have important personal and professional consequences.

Doctor migration from Germany to other countries is an intriguing topic. In 2022, a total of 2,290 doctors working in Germany packed their bags and realized their dream of finding work in another country. The most popular destinations include Switzerland, Austria, and Greece. Within Europe, a total of 911 doctors migrated to other EU countries. However, German doctors also sought opportunities outside Europe, choosing the USA, Asia, South Africa, and Africa as

their targets [17].

The reasons for migration are not recorded in the statistics. However, different reasons can be considered for different regions. Higher salaries in countries like Switzerland and the USA, where wages are significantly higher than in Germany, are attractive [18,19]. Working in vacation destinations such as Spain or Italy may also be an important factor for some. Another reason is humanitarian motives, which lead doctors to migrate to regions like Syria or Libya [20]. Another reason is the desire to return to their home countries. After completing their medical education and specialization training in Germany, many doctors choose to return to their home countries. Nearly half of the migrating doctors are not German citizens [21].

Student Migration

Increasing human capital and creating opportunities for intercultural understanding and cooperation are among the important goals of countries. In line with this objective, promoting student exchange and establishing global connections are of great importance. These initiatives aim to improve access to education and career opportunities, develop intercultural skills and competencies, and foster

global understanding and collaboration. However, since these initiatives can have both positive and negative outcomes, it is crucial to consider their potential impacts.

Student mobility is an activity aimed at enhancing the competencies of higher education students and providing professional development opportunities abroad. To maximize the benefits and minimize the risks of these initiatives, careful examination and effective planning are essential [22]. These mobility programs offer students positive and enriching experiences, contribute to the development of human resources, and advance intercultural knowledge. When students gain work experience abroad, they can become more productive and earn higher incomes upon returning to their home countries. These experiences contribute to their personal and professional development and provide them with a global perspective [22].

Likewise, one-third of medical students stated that they want to work abroad after graduation in Turkiye. Most of these students cited poor working conditions, incidents of violence in healthcare, and dissatisfaction with health policies as their primary reasons. Even more concerning is that 90% of doctors in Turkiye have experienced violence at least once during their careers, and 60% have faced such incidents in the past year. These challenging conditions push young doctors toward countries that offer safer and more stable working environments [16].

Because of all these reasons, meticulously examining the goals of student exchange programs and providing the necessary support is of great importance not only for students, but also for society as a whole. In this way, the capacity for individual and international cooperation and empathy increases.

Completing education abroad may increase the likelihood of individuals permanently residing overseas, which can be risky in terms of losing skilled labor. It has been observed that when individuals pursue advanced academic studies and practical work in another country, the likelihood of them returning to their home country decreases [23].

While brain drain can lead to some negative consequences for countries losing skilled labor to other nations, it can also have some positive effects. For example, student exchange programs enable individuals to study beyond their borders, alleviating the burden on countries struggling to meet higher

education demands. This situation can enhance international cooperation in education and support knowledge transfer. Additionally, countries that accept students from different nations can benefit from the knowledge, skills, and perspectives these students bring. These conditions can support technological and intellectual exchange between nations, contributing to global cooperation and mutual understanding. Overall, while brain drain may lead to some adverse outcomes for countries losing skilled labor, it can also create beneficial results, such as offering educational opportunities, supporting the spread of technology, and fostering global cooperation and harmony [24,25].

Reverse Brain Drain

Reverse brain drain has become an increasingly significant phenomenon in recent years, capturing the attention of many countries. This concept refers to the migration of skilled individuals from their home countries to other nations. It involves individuals who have studied and gained experience abroad bringing their acquired knowledge and skills back to their home countries. Reverse brain drain offers not only individuals but also nations an opportunity for transformation and development. This process supports the transfer of knowledge and technology between countries while simultaneously strengthening the local economies of source countries. However, reverse brain drain also has its drawbacks; for instance, source countries may lose talented labor and their competitive advantage. Therefore, managing and balancing reverse brain drain is crucial [26-28].

Migration-Increasing Policies

Countries that attract talent develop various policies to draw in skilled brainpower. For instance, they aim to increase brain drain by incentivizing foreign scientists, creating hubs of attraction, or launching special visa programs. Turkiye's Turkuaz Card, introduced in 2017, is an example of such a policy [28,29].

These types of policies are typically implemented by developed countries, which continue to attract skilled individuals through brain drain. When developing countries fail to take adequate measures to prevent the loss of this skilled workforce, the impact of developed countries' migration-increasing policies becomes even more pronounced. At the core of these policies are factors such as

an attractive lifestyle, competitive salaries, and research and work opportunities for skilled labor [28,30].

Implementing these policies requires careful balance. They must respect the rights of migrants while also protecting the local workforce. Additionally, it is crucial for developing countries to strengthen their own push factors and encourage skilled labor to remain in their home countries [31].

In recent times, the efforts of developing countries to send their skilled workforce to developed nations serve as an example of these policies. Today, several Asian states, including India, Pakistan, the Philippines, and Sri Lanka, intend to develop strategies to increase migration rates. These countries, on one hand, initiate various efforts to attract skilled labor from abroad, while on the other hand, they support the migration of individuals from sectors with a surplus of skilled labor within their own borders [32].

In Europe, the lack of a young population and the gradual aging and decline of the population are widening the skilled labor gap in these societies. The challenges created by this gap in strategically important sectors such as information technology, telecommunications, and healthcare have led European Union (EU) countries to revise significantly their high-skilled labor migration policies.

Germany has implemented a plan to issue visas to migrants, including those in the information technology sector, to address its skilled labor shortage. In 1993, France created a special status for scientists and skilled individuals, making it easier for these groups to enter the country. In the UK,

opportunities for migration are offered to experienced professionals in information technology and technical fields, as well as investors with business education and capital. International students graduating from UK universities who are not EU citizens are granted residency rights if they find employment. Denmark offers residency permits to foreign experts with a tax reduction advantage for the first three years. Ireland provides residency permits to specialists who wish to work for any Irish company, provided they meet the liberal criteria of the Irish consulate. In the Netherlands, highly skilled foreign workers receive a 30% tax deduction on their income for ten years, while in Sweden, the first 25% of earnings for highly skilled foreign workers are tax-exempt [33-36].

Migration-Reducing Policies

Countries that lose skilled labor develop policies to protect their qualified human resources. To prevent or discourage skilled workers from moving abroad, countries typically implement two types of policies: restrictive and incentivizing measures. While restrictive policies are enforced, various measures are introduced to prevent the outflow of skilled labor needed by the country. These measures include mandatory service periods for new graduates, limiting foreign currency allocations for education abroad or ensuring that students and scientists sent abroad return to the country after a certain period. Additionally, restricting opportunities to study abroad by denying scholarships or visas is also a common practice [28,37].

Table 3. Prevention Strategies [38]

Strategy	Description
Education Scholarships & Research Funds	Providing financial support for highly qualified youth to pursue scientific studies
Career Development Programs	Offering professional development and career planning programs to help young professionals achieve their career goals
Entrepreneurship Support	Encouraging entrepreneurship through financial aid and mentorship programs for innovative ideas and initiatives
Enhancing Quality of Life	Improving healthcare, education, transportation, and social services to reduce the appeal of moving abroad
International Collaborations	Establishing partnerships with universities and research centers abroad to facilitate knowledge and experience exchange
Conditional Support for Studying Abroad	Linking financial aid for students studying abroad to a requirement of returning and working in Türkiye for a certain period.
Political & Economic Stability	Strengthening stability to encourage skilled individuals to stay in the country and reduce migration tendencies

In addition to these incentives, it is crucial to develop broader policies to strengthen Türkiye's political and economic stability, thereby encouraging skilled individuals to remain in the country and reducing the tendency to migrate abroad.

Focusing on the healthcare sector, it is important to compare healthcare workers' salaries with those in other countries and set competitive wages. Long and demanding working hours, stress, and burnout can also increase doctors' desire to work abroad. Improving working conditions and setting clear working hours can address this issue. Security concerns and inadequate social guarantees can exacerbate brain drain. Awareness campaigns should be organized to address violence against healthcare workers. Additionally, educational programs should be prepared to raise public awareness, and patients should receive training on anger and control issues. Special laws and regulations should be established to address violence against healthcare workers, with strict penalties enforced. Legal processes should be expedited, and media campaigns should emphasize that violence against healthcare workers is unacceptable in society. These strategies can enhance the safety of doctors and other healthcare workers, thereby supporting the quality and efficiency of healthcare services.

Countries successful in reducing brain drain typically implement comprehensive strategies and offer high living standards. Canada is known for its high quality of life, comprehensive immigration policies, and educational opportunities. Germany attracts and retains skilled migrants with its strong economy and high education standards. Singapore stands out with competitive salaries, high living standards, and robust research infrastructure. Australia is effective in reducing brain drain through its extensive immigration programs and quality of life [28,39].

These countries have succeeded in reducing the tendency of skilled individuals to migrate by investing in education and research incentives, job and career opportunities, and healthcare and social services. Additionally, their integration into international collaborations and global networks plays a significant role in reducing brain drain.

CONCLUSION

Brain drain in the healthcare sector is a critical issue for the quality and accessibility of healthcare services on a global

scale. In countries that lose skilled healthcare workers, push factors such as low wages, inadequate working conditions, uncertain career opportunities, and political instability drive healthcare professionals to seek better living and working conditions in other countries. On the other hand, countries that attract skilled healthcare workers offer high living standards, favorable working environments, and career opportunities.

This situation leads to a loss of skilled human resources and disruptions in healthcare services in countries that experience brain drain, while it enhances service quality in countries that attract skilled professionals. To combat brain drain, fundamental changes must be made in healthcare policies and education systems, and healthcare workers must be provided with better working and living conditions. Additionally, international collaborations should aim to reduce inequalities in healthcare services and establish a fairer system. These steps can offer sustainable solutions for both countries losing and gaining skilled professionals.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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