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The Impact of Medical Policies and Politics on Brain Drain in Developing Countries

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Abstract

Background: Brain drain devastates developing countries as healthcare professionals seek better lives abroad. Medical policies and politics significantly influence their migration decisions. Factors like inadequate funding, limited growth opportunities, political instability, and corruption drive brain drain. This article examines the relationship between medical policies and politics on brain drain in developing countries, aiming to identify key factors driving emigration and inform policy solutions to reduce brain drain and strengthen healthcare systems.

Method: This study used secondary data to investigate the impact of medical policies and politics on brain drain in Nigeria, Ghana, India, and Haiti. It examines relationships between healthcare workforce emigration and policy/political factors, using data from the World Health Organisation (WHO), Organisation for Economic Cooperation and Development (OECD), national health data, and Google Scholar articles.

Results: Brain drain has a profound impact on healthcare delivery and socioeconomic development in affected nations. Sub-Saharan Africa loses over \$2 billion annually due to physician emigration. Low- and middle-income countries face a projected shortage of 18 million skilled health professionals by 2030, exacerbating service delivery gaps and hindering economic growth.

Conclusion: Brain drain in developing countries, such as Nigeria, Ghana, India, and Haiti, is driven by underfunding, low pay, and political instability, causing a loss of skilled healthcare professionals and worsening development challenges. Addressing this issue requires policy reforms, improved healthcare infrastructure, and international collaboration to retain talent and reduce reliance on aid.

Keywords: brain drain, developing countries, healthcare professionals, medical policies, politics, Nigeria.



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Introduction

Brain drain is a devastating phenomenon that has plagued developing countries for decades. Brain drain, also referred to as human capital flight, is the phenomenon where highly skilled and competent individuals emigrate from less developed countries to developed nations, seeking better opportunities and recognition for their skills and expertise, where they believe their human capital will be valued and rewarded.¹ Brain drain also refers to the global phenomenon where healthcare professionals migrate to other regions in pursuit of improved living standards, higher quality of life, enhanced career opportunities, and more stable political environments, seeking better conditions and prospects for themselves.² While trained healthcare professionals are essential globally, they are attracted to developed countries because of their superior living standards, higher salaries, innovative technology, and political stability. This exodus is a mounting global concern due to its debilitating impact on the healthcare systems of developing countries.^{3,4} The departure of talented individuals can compromise a country's ability to sustain a high level of intellectual excellence, as many of its brightest minds and most educated citizens depart. These individuals often receive their education in their home country but opt for career opportunities abroad.⁵ In essence, they seek to leverage their education to secure a better life elsewhere, leading to a brain drain that can have far-reaching consequences for their country of origin.

Africa faces a significant brain drain, with an estimated 16 million individuals leaving the continent.⁶ Research suggests that over 70% of African healthcare professionals have left the continent to work abroad, where they now account for approximately 20% of the medical workforce in developed nations.⁷ The healthcare workforce shortage is most acute in sub-Saharan Africa (SSA), where a significant gap in the number of skilled healthcare professionals poses a major challenge to the region's health systems. Approximately 86% of African international medical graduates practicing in the United States come from Nigeria, South Africa, and Ghana.^{8,9} WHO (2012) also reports that SSA has only approximately 145,000 doctors to serve a population of 821 million.¹⁰ This has resulted in a severe shortage of healthcare professionals, with 17 SSA countries falling below the WHO's minimum standard of doctor-to-patient ratio of 1:600 and 100 nurses per 100,000 population. For instance, in Nigeria, doctors to patients ratio is 4:10,000 while Tanzania has 85.2, Malawi

28.6, Botswana 241, and South Africa 140.2 nurses per 100,000 population.^{6,11}

A staggering exodus of Nigerian medical doctors to the UK has been recorded between 2015 and 2022, with over 5,000 physicians making the move. Data from the Development Research and Project Centre (dRPC) reveals a steady increase in migration numbers. In 2015, 233 doctors migrated to the UK, followed by 279 in 2016, marking a 21% increase. The numbers continued to rise, with 475 doctors migrating in 2017, a 70% increase from the previous year. In 2018, the figure rose to 852, a 79% increase, and then jumped to 1,347 in 2019, a 58% increase. Although there was a 38% decrease in 2020, with 833 doctors migrating, the numbers picked up again in 2021, with 932 doctors making the move, a 12% increase.¹²

Research conducted in Ghana has highlighted a significant trend of health professionals seeking opportunities outside the country. A study discovered that more than half of doctors (54.6%) and nearly a quarter of nurses (23.4%) expressed a desire to migrate abroad.¹³ Furthermore, an investigation into doctor emigration between 2006 and 2015 revealed that 334 doctors left Ghana, with the majority (70%) choosing the United Kingdom as their destination.¹⁴ Additionally, the Ghana Health Service reported that over 1,000 nurses departed Ghana between 2017 and 2019 to pursue employment opportunities abroad.¹⁵

Asia, home to over 4.5 billion people, is also facing significant challenges that threatens to undermine its economic growth and development due to brain drain. In the United States, the Philippines is the source of 17,873 physicians, Pakistan 9,667, China 6,687, South Korea 4,401 and Lebanon (a country of only 4 million people) 2556 physicians.⁹

India stands as the leading source of international physicians, contributing a significant 40,838 doctors to the United States, making up 4.9% of the country's physician workforce. India is also the primary source of physicians for the United Kingdom, providing 15,093 doctors, which accounts for a substantial 10.9% of the UK's physician workforce.⁹

In South America, Guyana is experiencing an unprecedented brain drain, with a staggering 86 percent of its citizens holding tertiary qualifications having emigrated to the United States, making it the most affected country in the region by far.¹⁶ Also, in Haiti,



according to a recent nationwide survey conducted by the Citizen Observatory for Institutionalization of Democracy, a staggering 82% of Haiti's population of almost 12 million citizens expressed a desire to leave the country if given the opportunity, highlighting a widespread aspiration for migration.¹⁷

Policies such as inadequate funding for healthcare and education, restrictive labor laws, and lack of opportunities for professional growth contribute to brain drain in developing countries.^{3,18} Additionally, political instability, corruption, as well as insecurity, war or conflict can also drive skilled professionals to seek better opportunities abroad, exacerbating the brain drain phenomenon.^{19,20} Therefore, the aim of this article is to explore the relationship between medical policies, politics, and brain drain in developing countries, and to identify the key factors driving healthcare professionals to emigrate, in order to inform evidence-based policy solutions that can help reduce brain drain and strengthen healthcare systems in these countries.

Method

This study employs a quantitative secondary data analysis approach to explore the impact of medical policies and political dynamics on brain drain in developing countries, specifically focusing on Nigeria, Ghana, India, and Haiti. These countries were selected based on their high rates of healthcare workforce emigration, combined with diverse political and economic contexts, which allow for a comparative analysis of the underlying factors driving brain drain. Figure 1 includes a STROBE diagram detailing the systematic steps undertaken in the literature search and data acquisition process.

Research Design

The study adopts a quantitative review, emphasizing numerical data analysis to identify trends, patterns, and correlations. This approach is particularly well-suited for examining phenomena like brain drain, where measurable indicators—such as emigration rates, healthcare expenditures, and corruption indices—can provide actionable insights. The reliance on secondary data analysis eliminates the logistical challenges and resource demands of primary data collection while leveraging existing, validated datasets for a robust investigation.

Data Sources

Data was sourced from reputable, internationally recognized databases to ensure credibility and comparability. These include:

World Health Organization (WHO) Database: Provides data on healthcare workforce densities, healthcare funding (as a percentage of GDP), and global health system rankings. For instance, WHO reports show that Nigeria and Haiti have healthcare worker densities of 1.9 and 1.3 per 1,000 people, respectively, far below the WHO-recommended threshold of 4.45 per 1,000 people.

Organization for Economic Co-operation and Development (OECD) Database: Offers insights into global migration trends and the distribution of healthcare professionals in destination countries. Data reveal that over 60% of emigrant doctors from Ghana and Nigeria work in the UK, the USA, and Canada.

National Health Data: Provides country-specific information on healthcare worker training and workforce retention policies.

International Migration Data: Tracks the emigration of skilled workers, with specific focus on the healthcare sector. According to recent statistics, India has the largest diaspora of healthcare professionals globally, with over 56,000 doctors practicing in the UK and the USA.

Google Scholar: Relevant peer-reviewed articles were used to contextualize the data and examine qualitative aspects of medical policies and political factors.

Variables Examined

Dependent Variable:

Healthcare Workforce Emigration (Brain Drain): Measured through emigration rates, the number of healthcare professionals in destination countries, and workforce density in source countries.

Independent Variables:

Medical Policies: Includes healthcare funding, workforce regulations, and retention policies.

Political Factors: Political stability, corruption levels (e.g., Transparency International's Corruption Perception Index), and governance quality.

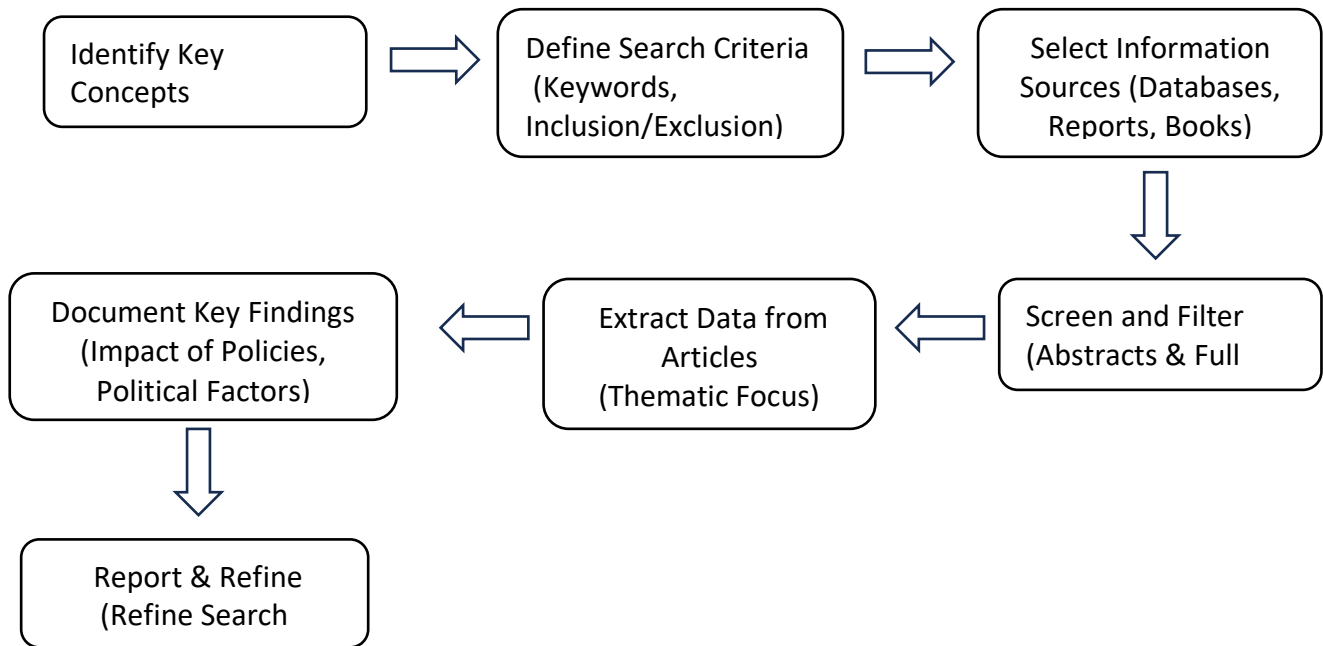


Figure 1. Strobe Diagram showing steps in Literature search



Impact of Brain Drain in Nigeria and Ghana

Nigeria's healthcare system is chronically underfunded and inadequately supported, leading to significant brain drain among healthcare professionals. The lack of facilities, infrastructure, and funding are major push factors driving doctors out of the country.²¹ Frequent strikes by medical professionals highlight the systemic issues, including the government's consistent breach of contracts with healthcare workers.²²

Poor remuneration compared to global standards further exacerbates the situation, causing many healthcare practitioners to seek opportunities abroad where they are better compensated and can work in better-equipped facilities.^{22,23} The inadequate infrastructure and gross underfunding—well below the WHO's recommended 15% of the total budget—cripple the healthcare system.²¹

Despite the evident brain drain, some government officials, like the Minister of Labor and Employment, Dr. Chris Ngige, deny the existence of the problem, claiming there are enough doctors in the country. This contrasts sharply with the Nigerian Medical Association's data, which shows only about 40,000 doctors serving over 200 million citizens.²⁴

Ghana's healthcare system has seen improvements over the last three decades due to an increase in medical graduates and better medical equipment. Annually, around 600 new doctors and nurses join the workforce, and the government provides essential logistics to health centers, leading to a significant drop in common diseases.

Despite these improvements, the physician-patient ratio remains high, improving from 1:9,301 in 2016 to 1:6,355 in 2020, still below WHO standards. The continuous emigration of healthcare professionals to developed countries poses a serious threat to further improvements.

Factors driving this brain drain include low remuneration, limited opportunities for professional development, poor equipment replacement policies, political interference, high living costs, and inadequate housing. Personal reasons like career advancement and family influence also contribute. As a result, Ghana loses many of its skilled health workers annually to developed nations, undermining the country's healthcare progress.²⁶

Impact of Brain Drain in India

India is currently the world's largest source of immigrants, with growing dissatisfaction among students regarding the education system. The country faces significant issues such as unemployment and a lack of available seats in colleges and jobs. These issues are further exacerbated by gender and caste-based discrimination and corruption, worsening the situation.²⁷ India has the highest number of domestically trained doctors working abroad within the OECD, a group of mostly developed countries.^{28,29} This is despite India's relatively low doctor-to-population ratio compared to international standards.³⁰ However, even if all Indian doctors working abroad returned home, it would not significantly strengthen the country's medical workforce.²⁸

Recent data analysis shows that nearly 75,000 Indian-trained doctors were practicing in the OECD.³¹ Approximately two-thirds of them settled in the U.S., while around 19,000 chose the UK.²⁸ In contrast, despite having a similar population size, China has far fewer trained doctors in the OECD, with only about 8,000 working mainly in the U.S. and Australia.³²

Unemployment remains a critical factor, with a report estimating that 19 million Indians were unemployed, and a large percentage worked in low-quality jobs. Despite a substantial number of graduates each year, only a small proportion secure high-paying jobs, leading many to seek better opportunities abroad to sustain a good quality of life and maintain high living standards.³³

The wage gap between India and developed countries is another significant factor driving brain drain. Wages in developed countries are substantially higher—three times more in the management sector, double in the IT sector, and six times more in academia. In India, the gender pay gap has decreased over time, but it's still high compared to other countries. In 1993–94, Indian women earned 48% less than men, but by 2018–19, the gap had decreased to 28%. However, the pandemic increased the gap by 7% between 2018–19 and 2020–21.³⁴ Many Indians work for low wages due to survival needs, making migration an attractive option for better compensation.^{35,36}

High taxation in India also contributes to the brain drain. The tax rates range from 5% for incomes between Rs 2.5-5 lakhs to 30% for incomes above 15 lakhs. This heavy tax burden makes it challenging for individuals to sustain a good quality of life, prompting them to seek



opportunities in countries with more favorable tax policies.²⁷

Despite the brain drain crisis, it has also facilitated the diffusion of knowledge back to India through return migration and brain circulation. Many skilled professionals who worked abroad have returned, bringing with them advanced skills and knowledge. This phenomenon was especially notable after the dot-com bust, when many professionals returned home, contributing to India's growth and development.²⁷

Impact of Brain Drain in Haiti

Haiti has one of the weakest economies in the world, marked by a history of mismanagement and corruption that has fueled repeated protests and uprisings. This cycle of temporary and corrupt governments has led to chronic social unrest, notably destabilizing the economy in the mid-1980s. The country is plagued by widespread poverty, illiteracy, and disease, exacerbated by frequent natural disasters over the past 20 years. These conditions have driven many young Haitians to flee to any country that would accept them.³⁷

The impact of brain drain in Haiti is evident across various aspects of social life, including the healthcare system, socio-economic policies, and political stability.^{17,38}

Despite numerous reform attempts, Haiti's healthcare system still faces significant organizational and institutional challenges.³⁹ A lack of universal access to primary healthcare forces many Haitians, especially those in border towns, to seek care in the neighboring Dominican Republic.⁴⁰ The emigration of healthcare professionals, particularly after the 2010 earthquake, has further strained the system.⁴¹ The lack of support, politicization, and inadequate maintenance of health institutions, combined with frequent natural disasters, has left the healthcare system unable to meet the population's needs. Key push factors for medical professionals include limited participation in clinical decisions, restricted access to continuing education, and few professional development opportunities.

Skilled workers, scientists, and technicians are essential for socioeconomic growth. However, social, economic, and political conditions in Haiti often drive these professionals to more attractive societies.⁴² Despite having a school of agronomy, Haiti's agriculture remains rudimentary, with widespread deforestation and limited education for farmers. This results in low agricultural

productivity and a dependency on international aid, which stifles local development.⁴³

Haiti's long history of political instability and corruption has paralyzed the government, preventing it from meeting basic needs and protecting civil freedoms.⁴⁴ Frequent natural disasters, street violence, and mismanagement by the police exacerbate these issues. Many Haitians, particularly the youth, seek refuge in countries like the Dominican Republic and the United States, searching for better living conditions. While developed economies benefit from this influx of intellectual resources, Haiti suffers from the loss of human capital.⁴⁵

Implications of the Finding of the Review

The findings of this review have profound implications for healthcare systems in developing countries. The emigration of skilled healthcare professionals has created a workforce crisis, undermined the delivery of essential health services and increased the burden of preventable diseases. Sub-Saharan Africa's deficit of 18 million skilled healthcare professionals by 2030 exemplifies the gravity of this issue. This finding highlights the urgent need to address systemic inadequacies in healthcare funding and workforce policies to mitigate the impact of brain drain.

Economically, brain drain significantly affects developing countries by draining public investments in education and training while disproportionately benefiting high-income nations. For example, sub-Saharan Africa loses over \$2 billion annually due to physician emigration, while GDP growth in affected nations lags by an estimated 2-3%. This financial loss aggravates economic dependency and hinders sustainable development, further deepening the challenges faced by low-resource countries. The review also sheds light on global health inequities, as brain drain redistributes healthcare professionals from low-resource settings to high-resource ones. Countries like India, which supplies over 56,000 physicians to the US and UK, experience domestic healthcare shortages despite their significant contributions to global healthcare systems. These findings call for international policies that compensate source countries and promote equitable distribution of healthcare resources.

The review emphasizes the need for evidence-based reforms to address the root causes of brain drain. Improvements in healthcare funding, governance, and workforce retention are critical. Targeted policies,



including competitive remuneration, professional development opportunities, and better working conditions, can help retain skilled professionals. Moreover, international collaboration is essential to address systemic issues and ensure mutual benefits from workforce migration.

Strengths and Limitations of the Review

This review is strengthened by its use of comprehensive secondary data from credible international sources, including WHO, OECD, and peer-reviewed literature, ensuring robust and reliable findings. Its comparative analysis across Nigeria, Ghana, India, and Haiti provides diverse insights into how regional differences in policies and politics drive brain drain, making its conclusions broadly applicable. By focusing on medical and political factors, the review offers a holistic understanding of the problem and actionable recommendations to mitigate its effects.

However, certain limitations must be acknowledged. The reliance on pre-existing secondary data constrains the scope of the analysis to the quality and completeness of available information. Underreporting in national health databases could lead to an underestimation of the scale of brain drain. Furthermore, excluding qualitative perspectives, such as individual motivations for migration and cultural factors, limits the depth of understanding. The findings may also lack full generalizability to other developing nations, as the review focuses solely on four countries. Lastly, while the review proposes policy solutions, it does not explore the feasibility, cost-effectiveness, or political will required for implementation in resource-constrained settings.

Future research should incorporate primary data collection through surveys or interviews to address these limitations and integrate qualitative analyses to provide richer insights. Despite these limitations, the review offers a comprehensive and data-driven analysis that underscores the urgent need for systemic reforms to address the critical issue of brain drain in developing countries.

Conclusion

Brain drain in developing countries is a severe issue, driven by flawed medical policies and political challenges. In Nigeria, chronic underfunding and government denial have led to a mass exodus of healthcare professionals. Ghana faces similar challenges, with low pay and limited opportunities threatening its

healthcare progress. In India, unemployment, wage disparities, and dissatisfaction with the education system fuel emigration, though returning professionals offer some hope for development. Haiti's brain drain is worsened by political instability, economic mismanagement, and natural disasters, leaving the country dependent on international aid. Addressing this crisis requires policy reforms, healthcare investments, and global collaboration to retain skilled professionals and support sustainable development in affected nations.

Declarations

Ethical Consideration: Ethical approval of this study was obtained from the University of Port Harcourt teaching Hospital ethical committee.

Authors' Contribution:

Conceptualization

Nwafor CE conceived the idea for this research, recognizing the need to investigate the impact of medical policies and politics on brain drain in developing countries. Clement C provided valuable input in refining the research question and objectives.

Development

Nwafor CE led the development of the theoretical framework, literature review, and methodology. Clement C contributed to the analysis of the political and policy aspects influencing brain drain in developing countries.

Conduct

Nwafor CE collected and analyzed the primary data, while Clement C assisted with the collection and analysis of secondary data.

Reporting

Nwafor CE took the lead in writing and editing the manuscript, with Clement C providing significant contributions to the writing of specific sections, such as the discussion and conclusion.

Authors' Approval

Nwafor CE and Clement C have read, approved, and contributed significantly to the final version of the manuscript. Nwafor CE, as the main author, takes primary responsibility for the content and integrity of the work.

Conflict of interest: Authors declared they have no conflicts of interest.



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