

ETHICS CASE

Medical “Brain Drain” and Health Care Worker Shortages: How Should International Training Programs Respond?

Commentary by Abraar Karan, MD, Daniel DeUgarte, MD, and Michele Barry, MD

Abstract

The movement of health care workers from countries with resource scarcity and immense need (“source” countries) to areas of resource abundance and greater personal opportunity (“destination” countries) presents a complex set of decisions and relationships that affect the development of international health care systems. We explore the extent to which ethical quandaries arising from this movement are the responsibility of the said actors and the implications of these ethical quandaries for patients, governments, and physicians through the case of Dr. R, a surgeon from Nigeria who is considering working in the United States, where he is being trained to help develop surgical capacity in his country. We suggest how Dr. R, the United States, and Nigeria all contribute to “brain drain” in different but complementary ways.

Case

As part of an international medical partnership, you are assigned to help train Dr. R, a Nigerian physician who is visiting the United States to learn surgical techniques that he can then take back to his country to help bolster the surgical capacity there. About halfway through his two-month stay, Dr. R tells you in confidence that he does not believe the health care system in his country will improve; there is too much government corruption and an incapacitating lack of infrastructure. Instead of returning home, Dr. R hopes to obtain a better job through the United Nations or in Ghana so that he can earn more and provide for his family, including his two young children.

Stories like Dr. R’s cause us to ask whether global health training programs attempting to counter “brain drain”—the phenomenon of resource-poor areas losing their best practitioners—might actually be facilitating it. How should physicians confront brain drain at a systems level? Is it fair to expect that, upon completing training in the United States or another wealthy nation, physicians like Dr. R from resource-poor areas will pursue their careers and practice mainly in the areas of the nation or world from which they came? If a resource-poor country subsidizes the medical education of a physician who leaves to train—and possibly practice—in a wealthier country, which considerations are most relevant from ethics and justice perspectives?

Commentary

The ethical dilemma in this case has much to do with the rights of an individual physician (or health care worker) with respect to his or her own life, personal needs, and goals compared to that person's obligations to his or her community and country. Moreover, it brings to light the possibility that current frameworks in the United States for health systems strengthening might have unintended consequences.

Movement of health care practitioners from areas of resource scarcity (referred to as the "source" areas), where they are assumed to have great impact on public health, to resource-abundant areas assumed to offer more financial and personal benefit (referred to as the "destination" areas) is a complex trend affecting health systems globally. This movement is colloquially referred to in the public health community as "[brain drain](#)" and has been occurring for several decades. Recruitment of physicians from less-industrialized countries began in the 1960s, coincident with the advent of universal health care coverage in a number of industrialized nations, which created a relative physician shortage [1]. This trend has continued through today, accounting for the migration of several hundred thousand clinicians from poorer to wealthier nations [1]. Currently, in the US alone, 25 percent of the physician workforce consists of graduates (including US citizens) of international medical schools [2].

An ethical challenge with "brain drain" is that the transfer of human capital from the source to the destination area occurs at great cost to the former, but with minimal cost—and appreciable benefit—to the latter. The relationships that dictate this phenomenon are highly complex; while the source and destination countries both contribute to workforce migration, individuals' decisions are also significant and introduce their own moral uncertainty. The contributions of various actors to brain drain and what these actors might do to ensure social justice will be explored in this article.

An Ethical Dilemma Training Programs Create for International Physicians

To contextualize the importance of the problem, the World Health Organization (WHO) estimates that 23 health care workers per 10,000 people is the minimum ratio needed to maintain a health system—and as of 2013, 80 countries worldwide fell short of this threshold level of care [3]. The disparity is most pronounced in sub-Saharan Africa, which is home to 14 percent of the world's population but only 3 percent of its health care professionals [3]. A study of the world's medical schools found that the majority of countries with the greatest need for physicians (almost all of which were in sub-Saharan Africa) had only one medical school [4]. Perhaps the most concerning aspect of medical brain drain is its self-reinforcing impact on health care systems that are already weak: as a health care system weakens, bright physicians and health care workers tend to leave; the more who leave, the more the health care system is weakened.

A number of studies have quantified factors that propel physician migration from source countries: access to better training opportunities, higher salaries, need to escape political instability and corruption, poor quality of facilities and equipment, and plans for raising children [5-8]. Conversely, factors that influence physician retention in the destination countries include strong and robust health systems and political stability, which tend to facilitate improved lifestyles and opportunities for physicians and their families.

Presumably, Dr. R's US-based training program invests in him to improve his surgical skills not only for his individual benefit but also for the benefit of his home community and his country. As part of his participation in the program, there might be an expectation, if not an obligation, that he will transfer his medical skill acquisition to other surgeons and surgeon assistants in Nigeria. Sub-Saharan Africa is currently afflicted by a significant dearth of surgeons, which is exacerbated by surgeons' emigration and the limited training capacity for surgeons who stay in the region [5]. An analysis by Tankwanchi et al. using the 2011 American Medical Association Physician Masterfile of residency and graduation data from all US trainees found an increase in physician emigration to the United States from every sub-Saharan African country except South Africa [9]. Figure 1 shows the number of physicians per 100,000 people worldwide, based on data from the WHO's 2006 report [10]. Given this evidence of disparities in access to physicians, one might argue that the investment of Dr. R's home country in his training suggests an obligation, both contractual and ethical, on the part of Dr. R. not to exacerbate that disparity.

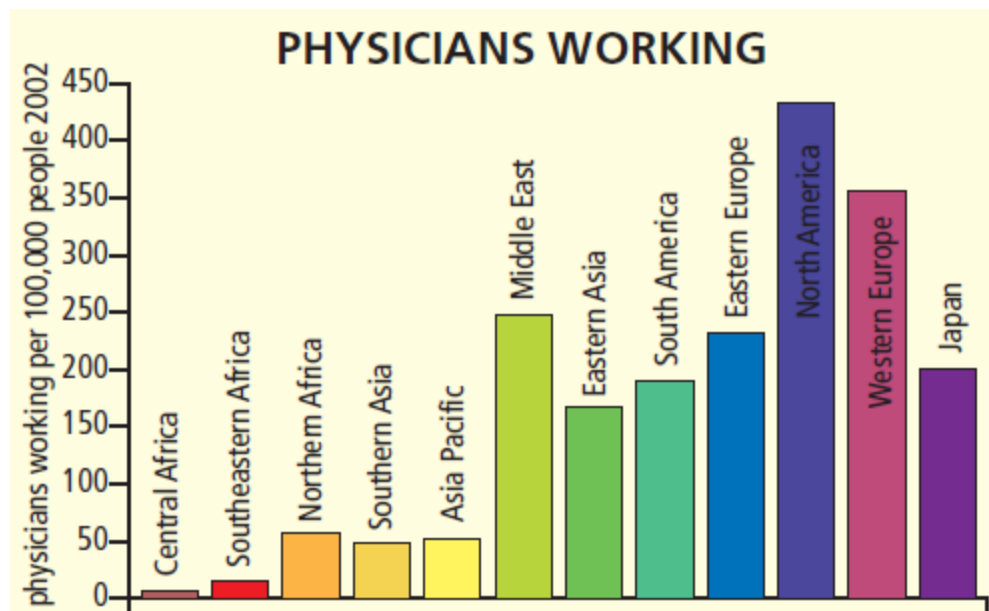


Figure 1. Physicians working. Territory size shows the proportion of all physicians (doctors) that work in that territory. Reprinted from Worldmapper, © Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan) [11].

Note. Data from the World Health Organization's 2006 report [10].

However, Dr. R's case is not quite as straightforward as that of an individual obliged to a particular program or community. Although Dr. R might have applied to participate in the program with an intention to return and practice in Nigeria, we cannot ignore the impact that his experience in the United States could have on his perceptions of his professional potential. After being exposed to a health system with many opportunities, advanced technologies, high salaries, and fair patient burden, Dr. R's vision for his own career might reasonably shift. If the training experience contributes to his possibly changing personal and professional goals, might we consider those goal changes to be ethically fraught? This is another important question in the case.

Medical Brain Drain as Exploitation of Wealth Disparities

Particularly problematic is that public investment in health care professionals in resource-poor countries tends to be greater than in wealthier ones, probably due to the relative cost of educating each individual physician. A study in Kenya estimated that the total cost of educating a physician from primary school until earning a medical degree was nearly \$66,000 USD and the loss of return on investments if the physician did not return to the source area to practice was over \$517,000 USD [12]. Estimates suggest that, annually, emigration of health care workers from sub-Saharan Africa costs the region \$2.17 billion USD [13]. While it is important to account for the remittances that are sent back to the source country by emigrants, it is difficult to quantify how much of this money is recirculated in the home economy [13]. By contrast, the areas to which these doctors move are spared the cost of their medical education, benefiting instead by the influx of an educated health care workforce. These consequences suggest that medical brain drain is an important kind of exploitation of wealth disparity and a source of ethical and justice-based concerns [14].

Analyzing Potential Sources of Responsibility for Medical Brain Drain

Given that power dynamics inherent in medical brain drain, intentionally or not, amount to exploitation, an important ethical question is this: Do destination areas (the largest of which are the countries in the Organisation for Economic Co-operation and Development) have an ethical obligation to alter systemic practices and conditions that contribute to medical brain drain? Moreover, do duties fall on the destination areas alone, or do source areas bear some responsibility for helping reduce workforce migration? One could also ask whether ethical responsibility falls principally on either of these actors or on individual clinicians. Regardless of whether the actors—programs and clinicians—are behaving ethically, a critical outcome of migration is harm to those source areas struggling to maintain their health care workforces. Table 1 summarizes some of the ethical challenges facing actors involved in medical brain drain.

Table 1. Examining Ethical Challenges among Actors Involved in Medical Brain Drain

Level	Ethical Challenge
Destination Country	<p data-bbox="716 296 1455 405">How should destination areas provide much needed training to international physicians without contributing to brain drain?</p> <p data-bbox="716 474 1390 543">Is active recruitment of physicians unethical? Is passive recruitment unethical?</p> <p data-bbox="716 594 1341 703">Does the fact that source areas lose an educational investment play into the ethical obligation of the relationship?</p> <p data-bbox="716 772 1446 882">Is there a duty to address primary care shortages and other factors in one's own area to reduce demand from destination area health systems?</p>
Source Country	<p data-bbox="716 894 1446 1083">Are source countries responsible for improving the context in which the health system operates, especially as it relates to corruption, political instability, working conditions, and career opportunities, to attract homegrown physician talent?</p> <p data-bbox="716 1152 1446 1262">Should source areas reduce the burden on their health systems through strategies such as task shifting and locally relevant training?</p>
Individual Physician	<p data-bbox="716 1276 1455 1423">Do the rights of the individual physician to freedom of movement outweigh the moral and contractual obligations he or she faces in his or her place of origin after participating in an international training program?</p>

Individual physician. A solid argument can be made that a moral responsibility for medical brain drain falls principally on individual physicians. Committing to being a clinician, particularly in a resource-limited setting, carries with it some responsibility to the community that invested in the training. This is particularly true in health professions because medical care can be considered a “special” good, one that civil society values, sometimes more than a material good or commodity, because it is essential to a person’s ability to pursue society’s other goods. Moreover, [locally trained physicians](#) not only have local understandings of suffering in their communities, but also can be best equipped to alleviate that suffering, given their cultural and linguistic familiarity with those communities; this relationship adds some weight to the moral obligation of the

individual physician from that area. Physicians who are trained in their place of origin thus might have a responsibility to their country not only because of their country's investment in them but also because they are best suited to treat patients in that setting. Nonetheless, as previously mentioned, the question stands: Is it fair for physicians to be held to their commitments prior to international training in a destination country when they cannot predict the impact that such an experience might have on their long-term decision making?

Destination areas. From a macroscopic perspective, an ethical argument has been made here that not to oppose brain drain actively is the moral equivalent of supporting it and, hence, supporting a violation of a human right—namely, access to an adequate level of health care for all people as stated in Article 25 of the [Universal Declaration of Human Rights](#) [14, 15]. Support for, or complicity in, medical brain drain suggests a responsibility on the part of the destination area. Although Dr. R's training program does not intend to worsen brain drain by hosting Dr. R, we in the United States and other resource-abundant areas must be cognizant of the moral relevance of this possible consequence.

So is recruitment of clinicians or trainees from resource-poor areas ever justifiable? If so, under which conditions? Qualitative studies from Canada of international health care recruiters attribute continuing [recruitment of physicians](#) internationally to an unmet labor need in destination countries [16]. Recruiters distinguished between passive and active recruitment, saying that only the latter was unethical. We suggest that an important difference between the two is that, in passive recruitment, international physicians indicated their interest to move first, while in active recruitment, physicians were approached by recruiters who offered them opportunities in resource-abundant areas. Nevertheless, we argue next that actions should be taken to reduce both.

One general line of thought has been that, because destination areas tend to invest less in the preliminary education and training of professionals from source countries, they should procure physicians and other health care workers from within their own areas. In the United States, for example, we could work to alleviate our notable [primary care shortage](#) by providing educational loan forgiveness or other incentives to clinicians working in underserved areas. The suggestion has also been made that destination areas pay a commensurate fee for the predicted or actual economic losses to a resource-poor area if they choose to actively recruit physicians from these areas [14].

Source areas. Source areas are responsible for migration largely because the inherent poor conditions and intense health system strain could reasonably dissuade talented physicians from practicing within the system. While one might argue that this increases physician responsibility and obligation to remain, the fact that there is a high level of political corruption and relatively meager investment in public health systems in many

(though not all) source countries could lessen an individual physician's sense that acting on such an obligation would actually benefit people in need.

In 2001, the Abuja Declaration called upon countries in sub-Saharan Africa to commit 15 percent of their annual budget towards the health care sector and source countries to allocate 0.7 percent of their gross national income (GNI) toward official development assistance (ODA) [17]. As of 2011, only two countries (South Africa and Rwanda) had met the 15 percent benchmark, and overall dollar value of ODA has actually decreased since 2001 in part due to the global financial crisis [17]. This suggests a failure of some source countries to commit and maintain agreements, which could factor into some physicians' emigration decisions.

For their part, if source areas address the drivers of migration we've considered above—namely, educational and practice opportunities, standard of living, and political instability—then incentives to emigrate might offer less appeal [18, 19]. Source areas might ease their internal workforce shortages through task-shifting and using less skilled workers to complete health care tasks that optimize their scope of practice in an attempt to make some clinicians' work more expansive and, perhaps, rewarding. However, addressing issues of corruption within health and political leadership is a much more difficult task without an apparent or immediate solution.

Funding and Policy Solutions to Medical Brain Drain

To support much needed global health systems strengthening, Mackey and Liang have proposed the creation of a combined WHO-World Bank special agency that would provide, through a global North-South partnership, funds earmarked for health systems strengthening in low- and middle-income countries with health care worker shortages [18]. The fund would weight a given country's or entity's fee based on recognition of the type and number of workers recruited, the proportionate impact of brain drain on the country, and existing health care infrastructure capacity and disease burden [18]. Initiatives such as the US-funded \$130-million Medical Education Partnership Initiative (MEPI) are already helping build training capacity and are bound to have long-term effects on reducing migration [20]. Unfortunately, the five-year MEPI funding has ended, and renewal for educational health systems strengthening is threatened despite in-country success indicators of the program [21].

In 2010 the WHO adopted a global framework, known as the Global Code of Practice on the International Recruitment of Health Personnel, to address the ethical dilemma of workforce movement from the global South to the North, particularly in sub-Saharan Africa [22]. Studies have shown, however, that this policy implementation has had no effect on slowing down migration to the United States—in contrast, the rate of migration from sub-Saharan Africa has actually increased, especially among physicians under the age of 35 [23]. The code is voluntary and only applies to WHO member states;

destination countries have not yet implemented any domestic policies in accordance with the recommendations in the code [18].

Locally relevant training has been proposed by Eyal and Hurst [24] as a potential retention practice that policy makers in source countries should consider. This would entail customizing medical curricula to be more locally relevant, which, the authors suggest, could increase the prestige of staying local, reduce burnout, make skills acquired through the medical curricula more appealing to local employers and less so to international ones, and increase opportunities for career advancement [24]. Given that most medical education funding in source areas is governmental and intended to train physicians to address the health of the public, it is likely reasonable to direct medical trainees to respond to local health system demands.

Conclusion

Dr. R's decision to attempt a professional career move after his training in the United States is a symptom of the significant conundrum posed by medical brain drain, namely, that his medical skills are being transferred from where they are most to least needed due to a multitude of factors involving his individual decision making and conditions propagated by both his home country and the United States that encourage his emigration. Many factors contribute to workforce migration globally, including failed global health policies, destination country incentives, and the limited ability of source countries to retain physician talent. The ethical responsibility falls on all actors—the individual physician and the source and destination countries. If Dr. R reneged on a contract he made, he would violate his contractual obligation; if he had no contract but left Nigeria with the understanding that he would return, he would violate what we might consider a communal obligation. But to ignore the systemic root causes for his decision—the roles that we in the United States play and that his own health care system has played—would be to miss an important opportunity to combat medical brain drain.

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