

Stemming the Medical Brain Drain: A Personal Perspective on a Global Problem

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The term “medical brain drain” refers to the international migration of physicians from the developing world to developed countries. This loss of health professionals contributes significantly to global health inequities. The issue has been framed in terms of ethical, financial, and infrastructural issues, and many attempts have been made to pose solutions that address the respective arms of this multifaceted phenomenon. This article seeks to

explore the medical brain drain from a migrant physician’s personal perspective, contextualized with data and analysis from relevant literature. I conclude that adopting the mindset of “brain circulation” rather than “brain drain” will be a component in paving the way for multidisciplinary solutions to the problems that promote the migration of physicians from resource-limited settings.

The world is set to face a shortage of 4.3 million health professionals required for delivering essential health services (WHO, 2006). Most of these shortfalls occur in the developing world, which, curiously, supplies roughly a quarter of the physicians currently practicing in the United States (Taylor et al., 2011). The term “medical brain drain” refers to this international transfer of resources in the form of human capital, particularly the migration of highly educated individuals from developing to developed countries (Beine et al., 2008). The factors fueling the emigration of physicians and other health workers include elements intrinsic to the exporting country, such as low remuneration and poor working conditions, as well as external influences, such as recruitment by the recipient countries. In combination, these forces significantly drive global health inequities. Taking the example of Pakistan, a country with sizable healthcare disparities, nearly two-thirds of medical students expressed a wish to emigrate, citing factors such as political instability, harassment of doctors in Pakistan, and improved quality of life and training abroad (Sheikh et al., 2012). Although such concrete issues are often blamed when examining the issue of brain drain, conceptualizing the problem on an individual level is an important step in addressing it. For example, Hannah Bradby notes that

nurses and doctors embody the importance of health as a social good such that their emigration from a place with health problems is highly charged.... Attempts to reduce migration out of countries with significant unmet need for healthcare betray a view of healthcare workers as a mobile and transferable resource whose flow is open to regulation. This view potentially ignores workers’ own assessment of their interests, not to mention violations of individual freedom of movement (Bradby, 2014).

The medical brain drain is now firmly on the public health agenda, prompting the debate on how to combat it. Bradby asserts that the view of healthcare workers as commodities is shortsighted, overlooking the agency of migrant physi-

cians as individuals. Perhaps we must re-examine this crisis, and instead leverage the very migration of these individuals to uplift the health systems of their native countries.

My own parents, raised and educated in Bangladesh, left their native country in their late twenties. Both trained physicians, they practiced in government hospitals that served many low-income patients. When I asked my mother where she had eventually seen herself while still a medical student in Bangladesh, she replied that she had imagined teaching in an academic institution in the capital, Dhaka. “I wanted to teach medical students at my alma mater, actually. But there were no career opportunities that weren’t managed by the government; at that time, there were no private hospitals. If you graduated with a medical degree, you had to work at the posting to which you were assigned.”

My mother’s posting was in a rural health center, 60 kilometers (37 miles) outside of Dhaka. Bangladesh’s healthcare system has a tiered structure: Primary care is provided at the *upazila* (sub-district) level, secondary care at the district level, and specialized care at the divisional (city) level. At the upazila level, health complexes are the first-line referral center for primary care, and bring essential health services to the doorsteps of the rural poor (Rahman et al., 2005). Though many countries rely on a similar system to staff rural areas in need of healthcare, the internal maldistribution of healthcare workers is often problematic. In Ghana, for example, although 60% of medical students surveyed responded that they would consider practicing rurally, historically, many doctors have failed to report to rural sites, or left the site soon after reporting (Kotha et al., 2012; Dovlo & Neonator, 1999). In Bangladesh, my mother’s posting was in primary care at an upazila facility, though she had originally planned to specialize. She requested a transfer to a post in Dhaka, which was granted, but before she could begin her posting, my parents married and moved to Hiroshima, Japan, to pursue graduate degrees.

“When you left for Japan, did you plan on returning to

Dhaka?" I asked. My mother explained that if she and my father moved back to Bangladesh, they would not have jobs; the political system at the time discouraged returning to the country upon leaving it. When my mother left, she effectively resigned her post permanently, because she would not be offered another position in a government-run hospital. Notably, the government-subsidized hospitals in Bangladesh are the only institutions that treat primarily low-income patients. Unfortunately, there are only 660 public, government-run hospitals in the country to serve the more than 50 million Bangladeshis living below the poverty line. And though Bangladesh boasts the third-highest rate of underweight children in the world, and is among the top 50 nations with the highest maternal mortality, only 96 maternal and child welfare centers exist in the whole of the densely populated country (Rahman et al., 2005; CIA, 2012).

Although private health facilities have now been established in Bangladesh, privatized care is accessible only to those who can afford it. Many doctors from public hospitals "moonlight" at private centers, part-time. Patients at these facilities often believe that they receive a superior standard of care compared to public hospitals—a disputable assumption, as private hospitals are often attended by the same physicians that serve in public ones. In addition, private clinics are often unaccountable to government standards of service rates and health risks. Though there is little formal data on the differences in private versus public care, one example occurs in rural Bangladesh, where traditional faith healers, homeopaths, untrained pharmacists and allopaths fill the gap in need-based healthcare delivery systems for the rural poor (Rahman et al., 2011). Similarly, among the urban poor, unregulated selling of over-the-counter pharmaceuticals and care-seeking from informal and low-quality unlicensed private clinics exacerbate the already poor health of slum-dwellers (Afsana & Wahid, 2013). Although the recent increase in the establishment of private hospitals in Bangladesh has dissuaded many wealthy patients from seeking care abroad, it has done nothing to deliver essential health services to the poor (Rahman et al., 2005). A similar phenomenon has been observed in India, as well. A survey of Indian doctors in the United Kingdom found that, although a significant number of them intended to return to India, most planned to work in the private sector upon their return—thus leaving the impoverished rural areas without service (Kangasniemi et al., 2007).

Today, my parents are practicing physicians in New York, where 40% of the healthcare workforce is constituted by foreign medical graduates (AMA, 2010). From the moment they left Bangladesh, my parents knew that they would not return to live there. During my mother's five years in Japan, she simultaneously worked toward her PhD and prepared for the U.S. Medical Licensing Examination. She had planned to move to either the U.S. or the U.K. to acquire better training, and says she would have made the same decisions even if she had understood the obstacles foreign medical graduates must overcome to enter the medical profession in the U.S. "The education here is better," she said. "In Bangladesh, there was no opportunity to pursue

a PhD, and training wasn't comparable to [the U.S.]. But at some point in my life, I want to return to Bangladesh to train people."

This was the first I'd heard of my mom wanting to work in Dhaka someday. She had some interesting insights when I probed her on the issue. For one thing, she has never questioned the ethics of developed countries recruiting physicians from less wealthy nations, although this has been an ongoing target of policy change in addressing the medical brain drain (WHO, 2010). Even though the majority of emigrants build new lives where they take up residence, a small percentage of them return to their countries of origin. That small percentage is often responsible for innovations—advancing the adoption of existing technology and expanding the knowledge base—that would not otherwise have happened had they not been exposed to training environments abroad. In addition, Kangasniemi et al. posit that "returning migrants can transform the brain drain into a highly beneficial 'brain circulation' ...and while the returnees are not likely to work in the most impoverished rural areas, ...it is possible that their return 'pushes' other doctors out into the rural areas" (2007).

Unfortunately, since the government of Bangladesh will not employ physicians who emigrate from the country, there is no guarantee that Bangladeshi doctors trained overseas, no matter how well intentioned, can deliver care to the impoverished. Though government facilities exist to provide care to these marginalized citizens, the existing system has a number of drawbacks, the most pronounced of which is inefficiency:

There are simply too few doctors available to see the patients [who] wait exorbitant amounts of time before being [seen]. Additionally, funds are often insufficient or misappropriated, which results in half-constructed operation theaters or unmanned examination rooms in hospitals and clinics. As a result ... only 30 percent of Bangladesh's population utilizes the government's health services (Chaudhury, 2003).

In spite of the medical system's current state, my mother still believes that Bangladesh will be able to meet its healthcare gap. "How?" I asked her. "Activism," she replied. "We, the 'ex-pats,' have to negotiate at the government level. And we need to have access to teaching. We're not asking for money—we're volunteering." She insists that this will happen in my lifetime. Since Bangladesh established its independence in 1971, until 1990, physicians were not allowed to emigrate, meaning my mother's generation essentially trained and became established in developed nations. Because of this, many are willing to return to Bangladesh at some point in their lives to advance the existing medical knowledge and technology. Of course, this effort requires internal support, as well. Many of my mother's medical school classmates are involved in recruiting Bangladeshi physicians back home from overseas. Because they are established within the country, they may have power to circumvent policies that bar ex-patriate physicians

from making changes to Bangladesh's healthcare system. As Bradby noted, the emotive descriptors attached to the brain drain have often maligned the recruitment of trained health professionals by developed countries. But listening to my mother's story, it became clear that there are individual impulses to address brain drain as well; people sincerely want to give back to their native health systems. A study of South African health workers who had immigrated to the U.K., for example, found that those who had left to pursue academic opportunities were more likely to return to South Africa. Indeed, some had emigrated for the express purpose of gaining skills and expertise to apply in the South African health system (Bidwell et al., 2014).

"Is there a policy solution?" I asked her. After all, the prevailing mindset has been that strengthening domestic healthcare is necessary to retain domestic health professionals: improved conditions, fair remuneration, and education in resource-poor countries would allow health workers to function effectively and would also provide them with lasting social benefits (Mackey & Lang, 2013). Several different policy improvements have been suggested, including diversifying the skills mix to maximize the potential of non-physician health workers, and encouraging migrant workers to return to their home countries (Cometto et al., 2013). But my mother says that policy solutions would be ineffective for Bangladesh; the government de-incentivizes emigration by barring return (Rahman & Khan, 2006). In addition, the inefficacy of the existing government-run healthcare system seems to indicate that policy is the opposite of the solution. Although there has been a major shift in the government health policy during the last decade, one critic for the Global Health Watch notes that

such policy has not been based on the assessment of health needs of the population. For instance, health services, previously offered at the household level, [are now delivered] at the community clinics.... Introduction of user fees [at government facilities] has marginalized access for the poorer sections. Health services have been integrated at the community level without considering institutional constraints. Although this has been an attractive proposition, deep-rooted differences between different cadres of personnel have posed serious constraints to adequately provide services. These changes have considerable negative effects on health particularly among the ultra-poor (Hadi, 2004).

Indeed, many countries have attempted to de-incentivize emigration by imposing restrictions, and Bangladesh is merely one example. In addition, receiving countries have also attempted to implement ethical recruitment policies, for example, by sending compensatory payments to countries that have trained a significant portion of the destination country's healthcare staff (Bradby, 2014). But these policy changes have largely been ineffective. In the U.K., for instance, despite the adoption of the Code of Practice for National Health Service employers, which is designed to limit the recruitment of overseas health professionals to

the United Kingdom, active international recruitment by employers continued (Blacklock et al., 2012). In the United States, foreign medical graduates fill a vital gap in the health system: 58% of them are in primary care, a grossly underserved field, compared with only 27% of U.S. medical graduates (AMA, 2010). Indeed, foreign medical graduates are thought to perform a safety-net function by caring for the uninsured and indigent populations in inner-city and rural areas, in contrast to U.S. graduates (Mick et al., 2000).

But even with all the discussion of policy and politics, a more fundamental point was emerging from our discussion—in order for developing countries to advance, they need to import ideas from the outside, because "alongside the amplification of migration is the mobility of capital, ideas and technology" (Bradby, 2014). And my mother firmly believes that volunteer efforts, born out of a sense of loyalty to the country of one's birth, will provide the vehicle for healthcare in Bangladesh to move forward, little by little. "We're only going to add to the effort," my mother said. "The majority of it comes from inside. At the same time, though, Bangladesh can't just become the U.S. overnight. The primary factor is the lack of infrastructure."

Relying on the patriotism of ex-pats seems a little wishful, I remarked. After all, three quarters of the international medical graduates who train in the U.S. ultimately establish their practices here (AMA, 2010). In addition, there has been little formal exploration into the theory of "beneficial" brain drain; one of the few existing studies suggests that it is unlikely to be relevant in providing educational incentives to those seeking training in order to migrate (Kangasniemi et al., 2007). But my mom has faith: "People are emigrating all the time, from every generation. Some will establish their lives [in the U.S. or other developed countries], some will return to [their native country]. And if at some point, Bangladesh's infrastructure improves, such that it's comparable or even better to live there than [elsewhere]—then people will choose that." And in fact, it's already happening in some parts of the world. Indian-Americans from many sectors are moving back to India, where economic opportunities for returnees are on the rise, and quality of life is, in many respects, superior to the U.S. (Roy, 2009). Similarly, nearly a quarter of Lebanese medical students who intended to train abroad wished to return to their native country immediately after completing their training—perhaps more relevant to my mother's point, as Lebanon is considered a middle-to-high-income country with adequate infrastructure, existing health systems and economic stability to offer its healthcare work force (Akl et al., 2008).

Though brain circulation is a component in addressing brain drain, it is improbable that it will be a stand-alone solution. The factors that forced emigration of individuals to begin with, such as longstanding political instability and lack of infrastructure, are unlikely to be offset by a single-pronged approach. In order to truly address the brain drain, we must focus on at least three areas: brain circulation, encouraging return migration; "brain retention," incentivizing the retention of native health workers; and "brain banking," fiscal

commitment to the transfer and discovery of knowledge via funding, remittances and capital.

Although the return of native workers to address a nation's health crises is a lofty ideal, in reality, return migrants would be more likely to reside in affluent areas in which health needs are largely already met. An analogous problem, the "internal" brain drain of rural physicians to urban areas and from public to private sectors of developing countries, also remains to be addressed. In Malaysia and India, for example, many health workers have returned to work in the private sector, an often lucrative area due to medical tourism, but there is no evidence of these physicians working in the public sector. Again, the return migration of physicians to their home countries in these instances seems to fuel internal brain drain rather than brain circulation (Connell, 2011). Solely focusing on fostering return migration is actually likely to drive further public/private and urban/rural disparities rather than deliver care to the most needy. In response to these phenomena, Eyal and Hurst advocate the development of "locally relevant" medical curricula in underserved regional medical schools:

Students in a locally relevant medical school learn, for example, how to prescribe drugs that are more affordable for poor patients than the western standard of care (often generic equivalents) and that are safer to prescribe when supply or refrigeration are erratic. They gain true mastery in gleaning information using inexpensive tools like the physical exam. For example, they develop advanced expertise in stethoscope diagnosis, to a degree that Western physicians with access to expensive lab tests, X-ray and magnetic resonance imaging (MRI) usually do not require. These students become fluent at strategies and decision algorithms that might be irrelevant or grossly suboptimal in well-equipped Western settings, but remain highly recommended for scarcity conditions... Many rotations, or even the bulk of training, take place in rural and underserved communities, rather than city hospitals, and schools encourage admissions from members of these communities. The explicit aim of medical education is to prepare physicians primarily for work in underserved areas (Eyal and Hurst, 2008).

Locally relevant training, they argue, could make graduates' skills less marketable abroad. Similarly, such a system could boost the prestige of local practice, as well as focus recruitment in rural areas, thereby mitigating the internal brain drain by offering rural practitioners new career options in education and capacity building.

In addition to educational programs fostering brain retention, host countries must also invest in research and development, and in broader opportunities for science and education. For example, remittances from Bangladeshis living overseas amount to \$2 billion annually, the country's second largest source of foreign revenue. Brain banking funds such as these should be used to expand educational

opportunities for those residing within the country, which may promote retention of those who would otherwise seek better training and education abroad. In an alternate sense,

brain banking also includes expatriate scientists and healthcare professionals [who] can contribute their knowledge, clinical and research skills to their native countries by developing collaborative training programmes, research projects and teaching their own countrymen. This requires the commitment of foreign scientists and receptiveness at the other end (Dodani & Laporte, 2005).

Lastly, promoting brain circulation is likely the most complex of these problems. In many ways, the draw of improved infrastructure and job security in their native countries is the least of emigrants' concerns when considering return migration. In Africa, for instance, many emigrants want to return, and would be more likely to do so if official programs or organizations existed to help them with the process and logistics of re-establishing themselves. A number of prohibitive barriers exist for returning health workers. Working in the public sector is difficult, especially as one is often working below one's qualifications and pay or skill grade. Lack of recognition of qualifications also needs to be addressed with policy changes, and accounts abound from both Africa and Bangladesh, as have been summarized above (VSO, 2010).

Despite all of these barriers, however, there are physicians who return—permanently or periodically—to Bangladesh. Although little data is available on the rates of return migration to emigrant physicians' countries of origin, Bangladesh's unique historical context paves the way for brain circulation to occur. My mother's generation grew up and practiced largely outside the country, creating a small diaspora of expatriate physicians. This diaspora, as Omar Rahman points out, has the potential and the power to foster the transfer of social capital that can enhance economic growth and development of the homeland (Rahman, 2006). Rahman notes that the ability of diaspora members to do this hinges on several factors, including one that my mother had pointed out: the receptivity of the legal, political and bureaucratic structures in Bangladesh to such exchanges, either via the return of migrants or trans-nationals—the latter referring to those who move fluidly between homeland and destination country. Another necessity, Rahman writes, is the development of institutional frameworks and groups within the diaspora community that can specifically identify targeted areas in which coherent, long-term, sustainable transfer programs can be created.

To this latter point, there are a few organizations of Bangladeshi ex-patriate physicians in the U.S. One of these, the Bangladesh Medical Association of North America (BMANA), has sponsored journals for medical colleges in Bangladesh, as well as telemedicine projects that harness technology to deliver consultations, obviating the need to travel back to Bangladesh. Many, however, have also done exactly this—physicians from many specialties have traveled back to Bangladesh to give various lectures, and some have

even performed advanced cardiac procedures and established facilities that can house the resources to provide these services, which previously would have been impossible. In addition to providing education to Bangladeshi doctors-in-training, many diaspora physicians have provided *pro bono* services directly to patients, including in rural underserved areas (Rahman, 2006).

My mother, too, is a member of her medical school's alumni association, which annually sponsors the White Coat Ceremony for the entering class at Sallimullah Medical College. Her classmates periodically return to Dhaka to teach courses and to mentor students, and she hopes to have time to join this effort, too. And Sallimullah is not the only medical school with a generous and well-connected alumni base. One of my mother's colleagues in New York, a graduate of Dhaka Medical College, also travels back every few months to teach pathology courses and seminars there. To Rahman's point, organization is key—solidifying institutions that represent groups of ex-patriate physicians lends them credibility, negotiating power, and the resources to advocate at higher political and bureaucratic tiers.

Anecdotally, these combined efforts seem significant, but there is still much work to be done. In truth, the Bangladeshi Diaspora in the U.S. is not sizeable enough to eradicate health infrastructure disparities. BMANA, for instance, has only 300 active members. Remarkably, Rahman points out that “the eventual Bangladeshi Diaspora should include second and possibly third generation Bangladeshis... these individuals may have special ties to the birthplace of their parents even if they were not born there” (2006). Here, I realize, he's referring to me. In fact, as soon as I entered medical school I knew I wanted to experience the health-care system in Bangladesh for myself. I spent a summer at the Dhaka Medical College Hospital after my first year of medical school, and it was an experience that cemented my interest in global health, as well as my commitment to working in the health sector, particularly capacity-building, in Bangladesh. So perhaps my mother's hope is well-placed; the Bangladeshi Diaspora can grow if we can continue to nurture these cultural links.

But despite these current efforts, and although I agree with my mother that return migration could be a pivotal factor in combating the brain drain, the other issues of retention and economics must be targeted in unison. The exchange of ideas has to occur not only via physical migration of individuals, but by internal investment in the country's future. Barriers to this still exist—it is difficult for ex-patriate physicians and health workers to have a voice within Bangladesh's national health system, as no formal channels are in place, and as mentioned above, there are only a handful of formalized diaspora physician groups. In addition, the emotive nature of the debate may hold us back from seeing the true barriers—accusations directed at developed countries that actively recruit talent from the developing world do not advance the mission of change. Instead, incentives to return home and exchange programs to train physicians, would better foster the exchange and circulation of knowledge.

To reconcile my mother's point with my conclusions, it is not enough simply to exchange ideas—but it is an important component.

“Even if not in my lifetime, definitely in yours,” my mother says. “You'll see Bangladesh move forward. Lots of ideas will be exchanged.”

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