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Physician Brain Drain: Can Nothing Be Done?

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Access to medicines, vaccination and care in resource-poor settings is threatened by the emigration of physicians and other health workers. In entire regions of the developing world, low physician density exacerbates child and maternal mortality and hinders treatment of HIV/AIDS. This article invites philosophers to help identify ethical and effective responses to medical brain drain. It reviews existing proposals and their limitations. It makes a case that, in resource-poor countries, 'locally relevant medical training'—teaching primarily locally endemic diseases and practice in scarcity conditions, training in rural communities and admitting rural students preferentially—could help improve retention. Locally relevant training would arguably diminish medical brain drain in five ways. It would (i) make graduates less attractive for Western employers, (ii) align graduates' expectations with actual practice, diminishing 'burn-out', (iii) enhance the professional prestige of local practice, (iv) hold rotations in, and recruit applicants from, rural areas, which is known to improve retention there, and (v) create local career development options that attract practitioners to stay. Such educational reform may raise worries about poor-quality care, breach of the freedom of education and occupation, breach of the freedom of movement, unequal distribution of opportunities among students, hypocrisy and resistance from influential actors. We address these worries.

Background

I have been working in a hospital in southwest Ethiopia as a general surgeon for almost three years now . . . Beside the poor salary, how long can a person go on working 16 hours a day with no holidays throughout the year? I can understand it if doctors look for a place with better pay and reasonable working hours. But I feel very sad for the poor people who are left behind without quality health care (Zebayel Baye, Ethiopia).

Between 2000 and 2003, I was the only orthopedic surgeon in the entire northern and central region of Malawi, with a population of over six million. Many district hospitals were without a single qualified doctor . . . The former President of Malawi is quoted as saying that there are more Malawian doctors in the City of Manchester than in the entire country of Malawi! . . . And why did I leave Malawi? . . . for the same reason many Malawian health workers leave . . . (Steve Mannion, UK) (BBC, 2005).

Access to medicines and care is impossible without appropriate care providers. Currently, medical delivery to the world's poorest and sickest populations confronts a rapidly growing challenge: acute shortage of physi-

cians and other health workers. Often trained in public medical schools, physicians from sub-Saharan Africa and other resource-poor regions emigrate in great numbers to richer countries, as well as to domestic urban centers and to the private sector—a trend likely to increase radically in coming decades (Dovlo, 2005a; WHO, 2006; Connell *et al.*, 2007).

Medical brain drain has multiple causal sources. Physician salaries in the public sector of source countries are far lower than salaries in the private sector and in the West. Conditions in rural clinics can be hard or even unsafe. Heavy work loads, and the dearth of medicines and technology seen as vital, often lead to 'burn-out'. Career development opportunities and access to state-of-the-art research facilities are scarce. Prospects for physicians' families in rural areas are limited. Work in the private sector—and abroad—is considered more prestigious. Occasionally nepotistic hiring practices cause frustration. Some local positions are not filled because international lending bodies imposed rules against recruitment for the public sector. Western recruiting agencies employ dubious practices to lure physicians away (Ahmad, 2005; Astor *et al.*, 2005; Editor, 2008).

Medical migration usually breaks no laws. Migrant physicians are exercising their freedom of movement. This migration is of concern because its impact is bad. By decreasing the density of physicians in source regions, brain drain exacerbates maternal, infant and under-five mortality (Anand and Bärnighausen, 2004). Access to medicines is curtailed by the emigration of prescribers; physician emigration thus hinders the delivery of antiretrovirals (Miles *et al.*, 2007), creating a bottleneck to fighting HIV/AIDS (Katabira and Oelrichs, 2007). Physician migration is a major obstacle to meeting the United Nations Millennium Development Goals, which define particularly basic benchmarks for health improvements in the developing world (Chen *et al.*, 2004; Connell *et al.*, 2007). It also translates into loss of potential employers, teachers and role models (Aluwihare, 2005). When unplanned, it can wreak havoc in medical delivery systems (Martineau *et al.* 2004). Many of these adverse effects accrue to vulnerable and badly off populations, which makes them particularly harmful and inequitable.

The benefits from medical emigration for poor rural populations are likely far smaller than this loss. Remittances, money sent home by migrants (Clemens, 2007), are only of limited help to the world's sickest and poorest populations when the migrants are physicians, whose families are typically middle class and urban; usually such families do not need or feel comfortable asking relatives for money (Nayak, 2007). Nor do transfers to urban families greatly assist the rural needy.¹ Lucrative migration options for physicians probably do *not* create incentives to study medicine that are strong enough to restore the supply of physicians (Kangasniemi *et al.* 2007). Another potential benefit, skill sharing upon a physician's return to her country (Ana, 2005), is largely a pipedream: the vast majority of migrants never return (Mullan, 2005). The migration of physicians thus represents a clear net loss for poor rural populations. Benefits to Western patients only entrench a perverse global order in which 'Countries with the lowest relative need have the highest numbers of health workers' (WHO, 2006).

Whether or not recruiting a poor man's last physician through the free market constitutes stealing (Johnson, 2005), exploitation (Heath, 2007), a wrongful form of causing harm, or some different offense, the overall consequences of this practice are harmful. The degree of harm involved makes it urgent to diminish medical brain drain or otherwise to mitigate its bad consequences—simply in order to reduce bad harm and injustice.

Moral and political philosophers already investigate the obligation to make necessary medicines affordable in poor countries. But medicines provide little remedy with-

out medical staff who can prescribe them. When political philosophers look at migration, they usually focus on migrants' rights in destination countries. But impoverished patients also have rights, including the right to access the medicines and the care that they need. Identifying proper strategies to diminish the emigration of their physicians requires specific philosophical attention. Some strategies raise distinctive ethical questions, since they might be too coercive and unfair toward potential migrants or, alternatively, too disrespectful of the national sovereignty of source or recipient countries.

This article invites moral and political philosophers to address this complex challenge, and it defends one strategy to diminish medical brain drain. The second section briefly surveys several existing proposals to address this challenge. The third section describes what we call 'locally relevant medical training'. The next section lays out five ways in which locally relevant training could help to diminish physician brain drain. The last section defends this strategy from potential objections.

Existing Responses to the Brain Drain

Instead of simply condemning recruiting agencies and Western nations for 'poaching' the developing world's expensively trained physicians, the pressing practical question is how to diminish the brain drain or otherwise to release the bottleneck that it creates. At least on the face of it, the main proposals on the table are insufficient to address the problem. Their limitations leave wide scope for complementary measures to diminish the brain drain. As indicated in the endnotes, however, specific qualifications may also potentially bolster existing proposals.

Some authors demand that recipient countries reform medical training and recruitment so as to absorb fewer physicians. For example, they call on recipient countries to train more citizens to be physicians (Benatar, 2007) or to offer only visas with quotas, time limitations and home return requirements to physicians from countries with acute shortages. Also conceivable are reforms to the medical systems of recipient countries to make them less labor intensive. A slightly different approach demands ethical codes in recipient countries that discourage specific practices of recruitment agencies or encourage employer quotas, with the expectation that appropriate reforms will follow (Department of Health, 2004). Such demands strike us as ethically sound. However, in the frank words of a Ghanaian/Australian contributor to the discussion board quoted above, 'western governments, as greedy as ever, are reaping the benefits and want things to continue as they are' (BBC, 2005). It is probably no coincidence that the British code of ethical health worker

recruitment is nonbinding and shot with loopholes; and that the USA, that has no such code, has accepted special exceptions in immigration restrictions to *facilitate* health worker recruitment (Dugger, 2006). Leaving it to recipient nations to ‘shoot their own foot’ and stop free-riding on a flow of physicians trained at other nations’ expense is naive. The fate of the world’s most vulnerable populations should not turn on the good will of nations with a poor track record in prioritizing the distant needy over the privilege of their own citizens.²

There are also proposals for bilateral, multilateral or global agreements and codes that restrict individual recruiters, recruiting agencies or recipient countries. However, the same powerful recipient countries that benefit from physician migration are likely to keep such international codes aspirational and nonbinding.³ In addition, none of the strategies considered so far addresses internal brain drain—from the public sector and rural areas to the private sector and cities.

Many contributors argue, correctly in our view, that rich recipient countries should return the subsidies that poor source countries had invested in migrants’ medical training (Ihekweazu *et al.*, 2005). Furthermore, compensation could and arguably should cover earlier investment in doctors’ education prior to medical school (Nayak, 2007), loss of income from taxation, and perhaps consequent deaths, morbidities and lost workdays. By definition, such monetary compensation would address a portion of the economic loss, but it would not return the physicians home.⁴ Particularly hefty ‘compensation’, perhaps more accurately seen as a fine or a deterrent, may in principle discourage recruiters sufficiently. Nevertheless, powerful recipient country governments will oppose paying large sums. Still, the ethical question what is an appropriate size for a binding financial transfer remains interesting and underresearched.

A better approach takes decision making farther away from recipient country governments and shifts it to actors in source countries, with typically stronger incentives to reduce migration. What strategies are available in those countries?

To coerce poor country medical graduates to stay and work in local needy sectors is illiberal. Were this exclusively a matter of staking the interests of graduates against those of far needier poor patients, such illiberal solution might be justified.⁵ However, such measures also run a serious risk of counterproductivity. Openly coercing physicians to stay when they have offers to work abroad would antagonize them and vitiate their morale, augmenting a further obstacle to effective medical delivery: poor motivation among the physician workforce

(Stilwell *et al.*, 2003; Dovlo, 2005b). It may also prove to be an impossible uphill battle that only drives migration underground.⁶

What about using carrots rather than sticks, and improving source country salaries and workplace conditions so that physicians *want* to stay (Chen *et al.*, 2004)? While a living salary, adequate workplace safety and so forth are necessary for retaining physicians, such measures are far from sufficient. Increased salaries will have to compete, unrealistically, with Western salaries, which can be more than 20 times higher. This may explain the failure of even doubling salaries in some countries to improve retention (Vujicic *et al.*, 2004). It will also have to compete with other perceived attractions of life in the West that motivate migration, such as research facilities (Astor *et al.*, 2005; WHO, 2006) and quality education for one’s children (Pang *et al.*, 2002). Unfortunately, offering competing attractions will remain utopian in many currently poor settings for many decades.

Some hope that telemedicine services—caring for a remote patient on the phone, or through satellite or internet connection—could allow physicians based in the West or in local cities to attend to rural patients (Rafiq and Merrell, 2005). That may be the case, but so long as Western patients, domestic elites and their insurers pay much more than poor rural patients and the public service, physicians will usually prefer to invest their time in helping the former not the latter, whatever the medium used.⁷

Some source countries hope to resolve the problem by ‘reversing the brain drain’: returning migrants back in great numbers and using their foreign expertise to boost local medicine (Kangasniemi *et al.*, 2007). As already noted, this is largely a pipedream. The same factors that motivate physicians to seek greener pastures will keep the majority there. At most, we can expect doctors to return to relatively well-off regions of source countries, like India’s Bangalore area (Knox, 2007). It is more realistic to expect migrants to share competence with source countries whilst abroad (Seguin *et al.*, 2006), or during brief home visits (Connell *et al.*, 2007). That would be helpful, but no solution for chronic patients either. They need care providers (not only dedicated researchers), and they need them all year-round (and not only during holidays). A particularly unrealistic (though perhaps very fair) solution would be to bring in Western physicians to fill in source country positions (Heath, 2007). Except for very short stints, Western physicians’ lifestyle and salary expectations could not be met in resource-poor settings. Nor do poor countries have the political power to force foreign citizens to come and stay.

An interesting idea is to train more physicians in source countries: many will migrate, but some will stay.⁸

Moreover, assume that international public pressure forces recipient countries to pay fully for each migrant's training, and to earmark that money to training a physician in her stead. Should the latter migrate, recipients will pay to train a third physician, and so forth. Someone will eventually stay, and source countries could potentially maintain an ample number of physicians!⁹ This idea is worth exploring further. Initial worries are that this process might take too long, potentially fail at too many points and siphon off too many well-educated citizens.

Finally, the World Health Organization recommends training a cadre of physician 'substitutes': nurses, physician assistants and a host of other health care providers with relatively short and cheap initial training to fill in for physicians lost to migration (WHO, 2006). An elaborate network of physician substitutes of diverse backgrounds, expertise and titles already exists south of the Sahara, in Pakistan and elsewhere. Many of them provide excellent care, with, for instance, recorded high success in performing Caesarian surgeries (Chilopora *et al.*, 2007). Unfortunately, 'Though these workers can help countries cope with the lack of physicians, they are not a panacea. Increasingly, they, too, are being lured away from public health by higher paying jobs in the private sector' (Dugger, 2004). In the future, Western hospitals might come around to recruiting these substitutes as well. Theoretically, source country training could have deliberately prevented physician substitutes from becoming very good at what they do, keeping them just good enough to be of help in understaffed rural clinics, thereby putting off private and Western employers with higher standards. But that would involve intentionally putting down excellent students—an impossibly perverse and ethically taxing demand on their educators. Furthermore, physicians' scientific training and broad understanding of the field remain indispensable for certain tasks, such as coordinating health service systems and developing guidelines, even in systems where most staff are physician substitutes.

This brief outline does not aim to be comprehensive, and we welcome careful creative thoughts on how to make the strategies we questioned more workable. What follows sets out a complementary strategy to reduce physician brain drain.

Locally Relevant Medical Training

Imagine that you are the dean of a medical school in a sub-Saharan country that loses a majority of new physicians to emigration. You can accommodate only one publicly funded curriculum. Now compare two general orienta-

tions to medical training in the developing world between which your school can choose.

The most common orientation, usually called 'international', seeks to prepare physicians to use the most powerful tools known to medicine: the safest and the most effective drugs, and the latest equipment, procedures and operations. These tools are the 'standard of care' in rich countries, and medical textbooks and high-impact journals everywhere focus on them. That such costly technological tools for diagnosis and therapy are largely unaffordable to the remote clinics and the district hospitals that serve the world's poorest and sickest populations is at present usually seen as largely irrelevant to curricula design: a diversion from the proper practice of medicine, which should not dominate the content of proper training.

Some resource-poor country medical schools focus differently. The training they offer is far more *locally relevant*, as we shall put it. Their students focus on locally endemic killer diseases like malaria, HIV/AIDS, tuberculosis and childhood diarrhea far more than on pathologies that keep physicians busy elsewhere. They learn how to treat these diseases in ways that work efficiently in poor settings.

To different extents, the following schools embody components of locally relevant medical training. Cuba's large-scale Latin American School of Medical Sciences trains doctors from Latin America, the Caribbean, Africa and the USA with an epidemiological, community-based, preventive and low-tech emphasis. Its admissions' policy prioritizes students from underserved communities (Lawrence, 2005). Programs in the Gambia and Venezuela use similar models (Gorry, 2005; Pan American Health Organization (Castro *et al.*, 2006)). Several African medical schools, including Yaoundé (Cameroon), Ile-Ife (Nigeria), Jimma (Ethiopia) and Transkei (South Africa) 'have been praised as producing professionals with locally-relevant skills and a community service orientation' (Dovlo, 2004; Ndumbe, 2004; Del Rio, 2005).

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. For some precautions are only necessary when several patients occupy a single bed. Some diagnostic or treatment strategies are needed only when, in the absence of better diagnostic tools, it is wise to develop and use decision algorithms based on local epidemiology that, in sophisticated ways, consider the local prevalence of diseases and disease strains (Perneger *et al.*, 2006). Some approaches are needed only when doctors work at district hospitals where no other staff member is a doctor. Finally, 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.

The basic idea behind locally relevant training is that good medicine addresses patients' needs in ways that can work in practice, not in ways that would have worked in an idealized medical environment. In nonideal conditions, it is rational to employ second-best strategies. To continue to either practice or teach first-best strategies is to live under an illusion. It is also to ignore the very nature of medicine. Everywhere, medicine is only sometimes able to restore optimal health. That patients are particularly sick and poor and resources particularly limited does not make medical practice 'improper'. It only defines the task at hand. As we see it, 'international'—or westernized—medical training in a resource-poor country disregards the relevant task.

Locally relevant medicine should be seen as a medical specialty, which therefore requires special training. Indeed, Canadians now speak about 'rural specialty', and almost everywhere family practice is considered its own specialty. The practice of medicine in resource-poor settings compounds caring for rural families with multiple additional challenges. In the words of a South African health researcher, 'The education and training of generalist practitioners for rural practice needs specific attention. First, the unique nature of rural practice makes it necessary for doctors to undergo relevant and focused instruction. Rural family practice requires that doctors have the knowledge and skills to practice in settings where high technology and specialist resources are not available, while at the same time requiring that they be able to perform a wide range of advanced functions and procedures' (De Villiers and De Villiers, 2006). More often than we realize, what is good medical practice for one environment would be bad practice for another. A Swiss physician and a colleague volunteering in Africa once advised a desert villager to ice a sprained ankle. In his mind,

he was offering an affordable intervention. There is no running water, no electricity and no ice in remote desert villages.¹⁰ Currently, many rural practitioners improvise and experiment, using personal resourcefulness to overcome challenges. It seems sensible to dedicate much of physicians' training to preparing them for these challenges by teaching tested and evidence-based solutions.

The question of which medical education model would provide the best-trained physicians for the world's poorest and sickest populations is a complicated and partly an empirical one. Nevertheless, training physicians in resource-poor settings for resource-rich settings seems odd enough to require strong empirical support (Kavalier, 1998). As far as we can tell, no evidence to rebut the presumption against westernized training is currently available.

Why Locally Relevant Medical Training Could Improve Retention

If a resource-poor country medical school dean still wants a tiebreaker to decide between westernized training and locally relevant training, the brain drain offers her one. As we shall now argue, given basic requirements like workplace safety and a regular salary, locally relevant training could contribute to improved retention in five ways.

First, locally relevant training would make graduates' skills more relevant for work in underresourced areas, but less relevant for work in the private sector and the West. Even passing the tests for western licensure would become less realistic for many graduates. Unlike policy responses to medical brain drain that wage an uphill battle against alluring offers to leave home country public service, locally relevant training demotivates such offers. Prevention is easier than treatment. Graduates' skills become less 'marketable' abroad and in the private sector. If we are right, these skills are not worse—they are probably better—for local resource-poor settings. Educators certainly do not have to put down excelling students, as some other solutions may require. The upfront aim of education is to equip graduates to be maximally helpful to poor local patients, and that remains the measure of excellence.

As partial analogy, some categories of African substitute physicians, including Malawi's 'clinical officers', are roughly as successful as physicians in performing even surgical interventions in rural areas. Nevertheless, their retention rates are far better—one assumes, partly because they lack skills and licensure that are necessary specifically to Western health practice:

The clinical officers are valued for their competence—but also for the fact that they generally stay in Malawi. “If you leave Malawi as a clinical officer, what can you do?” asked Michael O’Carroll, senior technical adviser at the Ministry of Health. “If you leave Malawi as a nurse, you can go anywhere in the world.” (Dugger, 2004)

As further partial analogy, language barriers suffice to keep many French-speaking countries from losing physicians to English-speaking countries and vice versa. They also partly explain migration patterns to Portugal, Scandinavia and the Persian Gulf (Connell *et al.*, 2007). Just as English is not worse than French, only different, so skills relevant to resource-poor settings are no worse, only different and usually more helpful locally, than ones suitable for western settings. Schools can use language barriers to improve graduates’ retention rates. When Thai medical schools began to train in Thai not English, they saw a significant improvement in retention (Dovlo, 2004). Schools that move to locally relevant training erect an analogous virtual barrier to graduates’ licensure and recruitment in the West, with no net loss of proficiency to assist needy local populations.

A second way in which locally relevant medical training could diminish medical emigration is by diminishing burnout. Practitioners’ frustration stems partly from discrepancy between the expectations that westernized education nurtures and the reality met on the ground. For example, among experts surveyed in Colombia, Nigeria, India, Pakistan and the Philippines (major migration sources), 74 per cent agree that ‘desire for increased access to enhanced technology, equipment and health facilities’ is a major driver of migration. This desire may hinge in part on westernized training: 56 per cent agree that medical students are taught ‘highly specialized skills that they can utilize to a greater extent in other countries. (Astor *et al.*, 2005). By focusing studies on local conditions, locally relevant orientation could somewhat decrease that frustration.

Third, locally relevant medical training could boost the prestige of local practice. A further driver of medical emigration is the waning prestige of poor countries’ rural and public health sector jobs, as compared with jobs abroad and in the private sector. Recent writing on migration seeks ways to raise the prestige of rural and public sector jobs (Connell *et al.*, 2007), something that locally relevant education could somewhat accomplish. Locally oriented medical schools must hire outstanding rural practitioners to lecture, to mentor and to work closely with students during rural rotations. Throughout the long and intense process of medical training, outstanding rural practitioners are role models for excellence and

emulation, with ample scope for shaping students’ values and aspirations; ambitious students must impress them. Such medical education naturally tends to build esteem for a determinate ideal of the good physician: the resourceful and altruistic practitioner who brilliantly makes the most of limited resources and remains truly dedicated to poor patients over her career.¹¹ Additionally, locally relevant schools will often enjoy regionally exclusive connections with leading western academics and institutions. Western collaborators are likely to find it more fruitful to maintain links with poor-region schools whose orientation is local than with ones that promote bland westernized programs. This dimension of international recognition and support could help underwrite the prestige of these schools and the rural practice they teach.

Fourth, locally oriented schools focus recruitment in rural areas, where they also hold many rotations. Students recruited from or training in rural areas are comparably likely to take up work in these areas. This was observed in several countries, including the USA (Rabinowitz *et al.*, 2005; Graham Center, 2007), Australia (Australian Medical Workforce Advisory Committee, 2005) and Canada (Mathews *et al.*, 2006). In Mosvold district, South Africa, ‘trainees [recruited] from rural areas were three to eight times as likely as those from urban areas to practice in rural regions after graduation’ (Kumar, 2007). Pakistan’s ‘lady health workers’, paramedics who improved basic health measures (Douthwaite and Ward, 2005), may provide a further example.¹² In the USA, some medical schools already recruit rural students and hold rural rotations precisely in order to draw more citizens to become rural practitioners (Stearns *et al.*, 2000; Rabinowitz and Paynter, 2002). Schools in poorer countries can do the same.

Fifth, locally relevant training would offer rural practitioners new career options. In a survey run by the World Health Organization, over half of the practitioners in several source countries cited ‘lack of promotion’ and ‘no future’ as prime motivations for migrating (WHO, 2006). Locally relevant education would provide a future in education for many rural practitioners. It could also create new career options indirectly. By requiring locally oriented guidelines, textbooks and the research necessary to their development, it could open up career development options for many rural practitioners, natural contributors to the production of these resources. With international support, special regional centers to conduct related research could come into existence, allowing experienced rural practitioners to develop skills in laboratory technology, epidemiology, decision analysis and social science. These practitioners could also

write articles in an emerging field, medical delivery in resource-poor settings.

In these five ways, locally relevant education could help to diminish medical brain drain. Fully rigorous empirical assessment of whether it does diminish it would be complicated at this point. Comparing retention between relatively locally relevant schools and westernized schools would have to rely on notoriously sketchy migration data. Regional and school variability on other contributors to migration would require the study of many medical schools. Even the schools mentioned above are locally oriented to very different extents. Finally, locally relevant schools are expected to become radically more successful only once relevant textbooks, guidelines and international collaborations evolve and they exist long enough to affect prestige.

The arguments and the indirect empirical support that we provided indicate, however, the initial promise of locally oriented education and research to assess its success. Schools that introduce locally relevant curricula and training, local governments that sponsor and support these schools and their students preferentially and international colleagues and aid organizations that sponsor and collaborate especially with these schools would act wisely. They are likely to foster both quality care and physician retention in resource-poor settings.

Response to Objections

We now address concerns about locally relevant medical education and its promotion in response to medical brain drain. The worries we discuss concern (i) poor-quality care, (ii) breaching the freedoms of education and occupation, (iii) breaching the freedom of movement, (iv) unequal opportunities among students, (v) hypocrisy and (vi) lack of ample support for the reform.

Poor-Quality Care

Training for anything different than Western decision algorithms and techniques may seem incorrect, or even insulting: a form of second-rate education that breeds second-rate care. We believe, however, that it would increase the quality of care in two ways. First, there is a crucial difference between scaling down medical training in order to produce more 'physicians' faster, and scaling up local focus to equip physicians better for their foremost tasks. Locally relevant education could improve medical care for much the same reason that, in any field of medicine, specialists tend to be better than general practitioners are: they have more training within that field. In addition, increasing physician reten-

tion tends to increase the quality of care available to poor patients.

A frequent worry about the quality of care is that locally relevant training in public medical schools might push the best and brightest to private schools that train graduates for the West and for the private sector, or to other professions. However, this choice could be less common than many imagine it would be and, surprisingly, its prevalence would not necessarily undermine the quality of care. First, the uncertain prospect of a high salary many years down the road may appeal to young people less than being subsidized now to start learning to heal the truly needy alongside equally committed people. Most African medical school applicants cite motivations based on altruism, self-realization and vocation, if asked anonymously and having already been accepted to medical school (Sousa *et al.*, 2007). Government and international donors' exclusive subsidies to locally relevant schools (why support education for export?) could strengthen the desire to study there. Once training begins, educators could help shape expectations, prestige patterns and career paths. Medical education is a long and an intense process that does leave opportunities for such impact. Second, those so intent on migrating that they would change their training plans are likely to migrate anyway. Such students currently occupy scarce medical school spots that others with different motivation could have occupied. Admittedly, some graduates of locally relevant schools will undergo further training to adapt their skills to rich country needs, or migrate to work as nurses. However, that would take time and effort and be somewhat less lucrative. Just as surmountable language barriers go some way toward curbing migration, so would skills adapted to local needs. It is also worth noting that the bulk of *these* graduates would have migrated anyhow.

There are also worries about the quality of care for specific populations. First, local elites would benefit less from graduates specialized for scarcity medicine than from graduates with westernized training, which they can afford. However, incentive structures are such that there will always be some physicians for the elites (who often fly abroad for complex treatment anyhow). More fundamentally, the first moral priority is to provide the world's poorest and sickest populations with basic care. This order of priorities is not discriminatory. Should a member of the elite become poor, her new needs for particularly basic care will command high priority. A second worry is that, in countries where physicians trained only for scarcity medicine, future patients, who encompass both today's rich and today's poor, could not reap the medical benefits of a transition to development.¹³ However,

development is a long process that leaves ample opportunity to revert to westernized training. The first priority is to provide minimal care, not to enhance a potential future capacity to move beyond basic care. A third worry concerns locally relevant schools' preferential admission of underserved community members, who then often return to their home regions. A physician practicing in her home region may have both special ability to understand local patients and, on the downside, potential partiality to specific subgroups like their very own village or clan; if that materializes, other patients could receive poor-quality or insufficient care.¹⁴ This is a complicated issue, but supervision, including by peers, could in principle investigate and amend partiality; lack of cultural rapport with patients seems harder to amend. A fourth worry is that locally relevant training could not help the very poorest regions keep their physicians, who might move to the next poorest regions, where their skills remain highly relevant, resulting in low-quality and deficient care in the poorest regions.¹⁵ However, aid organizations and ideologically committed physicians, drawn to the heroism and prestige of helping the very poorest regions, could focus efforts there. Whatever the case may be, promoting even regions that are only relatively poor is preferable to subsidizing Western health systems.

Breaching the Freedoms of Education and Occupation

Subsidizing only locally relevant medical training closes off a certain study option deliberately. It disallows many students to study westernized medicine. It does so partly in order to prod these students to train in a different orientation, so that later they would work in a certain type of workplace. Doesn't that violate basic rights to educational and occupational freedom?

Whether, despite scarcities that thwart the fulfillment of basic welfare rights, Malawian citizens, for instance, still have some sort of right to university-level education is a complicated question. What seems much clearer is that no such right could in Malawi include an actual binding claim to free higher education in just any particular field of a student's choice: astrophysics, Chinese history, or, for that matter, rich country medicine. A richer country like Nigeria may perhaps have ample resources to subsidize a wider spectrum of studies. But if subsidizing westernized medical studies means training physicians to leave the country, then surely even there, no actual binding claim exists against the state to free higher education in the field of westernized medicine.

Consider the very similar case of shifting study and research grants between academic fields in order to

encourage this or that sort of learning. This practice is commonplace across the world. It may somewhat interfere with the freedom of education and occupation, since it intentionally places pressure on students and researchers to make certain choices. If it is at all a transgression of rights, it is not a severe one; nor is it an instance of (momentous) unfairness. Specifically, shifting grants to correct the 90/10 gap and prod students and researchers to develop medicines for the world's sickest populations is clearly legitimate. Similar transgression (if it is a transgression) of the freedom of education and occupation to ensure that there is someone there to prescribe these medicines seems equally legitimate.

It may seem as though the analogy of grant shifting for Western academics is unfair: in poor countries, many students who do not receive subsidies have no acceptable alternative except to abide by the government's dictate and pursue the funded course of study. The generally legitimate practice of manipulating what students and researchers learn by allocating funding accordingly may thus seem exceedingly compulsive in developing countries. Many students, it might be thought, will have no real choice except to study locally relevant medicine. Our response, which we intend to expound elsewhere, is that schools would not thereby deny educational options to which students have a prior claim. Moreover, most prospective applicants would have acceptable alternatives to applying to a locally focused school, such as taking out loans for a private school or studying a different profession, something that might not be a grand personal sacrifice for students who are loathe to practice the most acutely needed medicine. This concern thus seems smaller than concerns about the health impact of the brain drain.

Furthermore, locally relevant training would also open up important options for students and applicants. For one thing, so long as the proposed reform has not overtaken entire regions of the developing world (and *that* will take some time . . .), the result of a school's moving to locally relevant training would only be greater diversity and added options for all prospective applicants. If and when locally relevant schooling becomes the only option for some school applicants, the net result could be a boost to their option set. Nowadays, the option to stay at one's home region and dedicate oneself to rural public sector patients is often foreclosed by unsuitable training, which makes frustration with local practice nearly unavoidable in the long term, and enhances the likelihood of severe burnout. For many of the applicants whose first commitment is to study medicine (not just any exportable skill), the existing foreclosure of that option is significant. Enabling prospective

applicants who are committed to studying medicine, not other lucrative professions, to train to care for the poor admittedly closes off lucrative careers in medicine. But it opens up morally superior options that many members of this group happen to prefer. These latter options, we would argue, compensate them amply for the foreclosure of others.

Breaching the Freedom of Movement

Article 13 of the Universal Declaration of Human Rights (United Nations, 1948) states, 'Everyone has the right to freedom of movement . . . Everyone has the right to leave any country, including his own . . .'. Article 12 of the International Covenant on Civil and Political Rights (United Nations, 1966) expresses a similar idea. Freedom of movement is particularly a basic human right. Transgressing it, by intervening to prevent an individual from heading where she chooses or might choose to go, is usually considered wrong even as a means to rescuing several people who are needier than she is. Indeed, coercing an innocent to stay in bed for life to save another's life intuitively seems wrong. Coercing an innocent to spend life in jail—or to stay in a country despite threats of violence against her—as a means to saving several others from severe violence, seems wrong as well. The worry may arise that, locally relevant medical training deliberately forecloses medical students' exit options from the country or its rural areas for many years; its aim and its outcomes resemble those of formal exit restrictions. Although students are not technically forbidden to move, such training may still appear to violate their freedom of movement by other means. While such training may impinge on that freedom for the sake of needier others, that defense might seem insufficient.

Nevertheless, as we shall put it, locally relevant medical training does not breach the basic components of the right to free movement, only marginal components. The core of a plausible basic right to migrate abroad or to the city does not include a right that a particularly lucrative exit option be facilitated or even enabled. Bluntly put, no one is denying medical students passports; no one is locking them up in the physical space of a rural clinic. They are denied only an option that most fellow citizens lack: to move to lucrative positions in the cities or abroad.

Now, it is true that, rarely, owing to the migration policies of recipient countries, virtually the only exit option from a poor country is through work in the medical professions. In that sense, locally focused medical training sometimes turns out to compel some medical graduates to stay in the country. However, such training does not

cause, only fails to correct, this violation of the right to free movement. Usually it takes relatively little to justify failure to correct others' violations—less than it would take to justify perpetrating these violations. The pressing needs of the world's sickest and poorest populations arguably justify such failure.

Unequal Opportunities among Students

The proposed reform would shut off westernized medical studies to those interested but poor medical students who could not secure or afford to take loans, but not to richer medical students, who alone could afford to study at costly private schools. The exclusive options of richer students would include specifically the opportunity to migrate as a physician, a very lucrative option indeed. This inequality of opportunity may seem unfair.

Casting locally relevant medicine in terms of fairness to students is however narrow. The overall fairness of the situation would arguably improve. The alternative would be to abandon the rural poor, and that would hardly be fair or right. Achieving fairness in the distribution of privilege among typically much better-off medical students commands lower urgency than unplugging the access of worse-off populations to acutely needed care. Put more technically, locally relevant medicine would greatly improve the lots of citizens who are both badly off and far more badly off than typical medical students. Plausible prioritarian, egalitarian and sufficientarian conceptions of justice support locally relevant medicine.

Hypocrisy

Even if locally relevant medical education would improve care and retention in source countries' underserved regions, *that Western academics make this suggestion* to source country colleagues may seem hypocritical; should Western countries not reform their own harmful recruitment practices and their lobbying for a disastrous global economic order, instead of speculating on how poorer countries should reform?

We agree that Western nations' and Western institutions' practices are harmful and richly culpable for the brain drain. Indeed, current pressure within the profession to identify good medicine with westernized medicine could be part of this harmful influence. This does mean that Western nations and institutions should change their policies to address medical brain drain. In addition, however, it shows that source country actors must take radical independent measures to address the brain drain. We have suggested one possible measure. The decision whether or not to implement this suggestion is

the privilege of source country actors: medical schools, governments and electorates. Even if it were hypocritical for two Western country citizens to write in support of locally relevant training in source countries, such training would remain a promising response to medical brain drain. It would remain fully rational for source country actors to promote such training. Or so we wish to (hypocritically?) argue.

Lack of Support for the Reform

A final, and rather more pragmatic worry is that local medical associations, regulatory councils or medical schools in resource-poor countries would oppose locally relevant medical training and thwart its implementation. They certainly initially resisted substitute health workers, out of concern about professional prestige or about what they saw as second-rate care. In a related vein, medical school professors might conceivably thwart any radical reform of curricula, worried for their positions; and political elites might thwart reforms that would diminish their own future access to the westernized care that they can afford (Dovlo, 2004; Cash, 2005).

We have argued against conflating westernized medicine with good medicine. As the prestige and the success of locally relevant medicine increase and it gains the endorsement of the international medical community, worries about second-rate care and about the clout of locally focused schools will hopefully subside. Measurable improvements in physician retention and in the quality of poor-setting care may further subdue such concerns. In Africa, vehement initial hostility toward substitute health workers is slowly decreasing.

Physicians and medical school professors stand to gain a lot from a shift to locally relevant training even in self-regarding terms. For physicians with private urban clinics that offer westernized medical services for the rich, decreased competition from young colleagues will increase the fees that they can collect. For professors, a unique and increasingly prestigious avenue for publication would open up in regional magnet centers that conduct advanced research on locally relevant practice. If these moral considerations and material incentives do not quell professors' opposition to the reform, international donors should consider dedicating special funds to initiatives and retirement packages that would lure school faculty to support the reform. The stakes are high enough to warrant significant investment.

Would international partners themselves have an incentive to support this shift? Although recipient country governments may sometimes lack such incentives, recipient country medical schools and medical associations

should be strong allies. The salaries that their own graduates collect would be higher absent migrant competition (Winyard, 2007). These actors could therefore play a key role in supporting source country schools that initiate the proposed reform. International NGOs are also likely allies. If successful, this shift could clear a major bottleneck to medical delivery, boost self-reliance, foster research that could reduce the 90/10 gap, and, by increasing physician density, even increase health system responsiveness to global epidemics (Chen and Boufford, 2005), goals aligned with the mission of many international organizations.

In sum, coupled with basic improvements in work conditions, locally relevant medical training would likely improve care for the neediest populations. It is not an excessive breach of rights to education and occupational choice or to free movement. It generates more fairness than unfairness. Promoting it is not hypocritical. Despite foreseeable obstacles, a transition to locally relevant medical training is probably feasible and incentives can be strengthened to ease its path.

Conclusion

It is urgent to address medical brain drain. Philosophers could contribute to identifying the right response. Unfortunately, several existing proposals for a response suffer from severe limitations. We have argued that locally relevant medical training could complement such responses. Alongside basic improvements in work conditions, such training could significantly diminish medical emigration from source countries and especially from the underserved rural and public sectors of these countries. Several worries about locally relevant training are largely unfounded.

Notes

1. In that respect, physician migration imposes a clearer net loss on rural populations than does nurse migration. Relatively speaking, more nurses come from humble backgrounds. The present article focuses on physician migration alone.
2. However, because recipient country physicians compete against migrant physicians (Winyard, 2007), recipient country medical associations and medical school faculty could prove friendly to reforms to curb physician immigration. Rigorous restriction on licensing and on hiring physicians from countries with acute shortages may therefore be more realistic than

- rigorous restriction on visa granting. The former are also far smaller transgressions of the freedom of movement. Indeed, as this goes to press (spring 2008), there are finally signs of significant change in UK hiring practices.
3. Individual recipient countries may conceivably accept such limitations as components of a comprehensive agreement to govern global health that, overall, somewhat serves their interests and has truly momentous moral value. For a proposal of such an agreement, see (Gostin, 2008).
 4. It may be possible to channel monetary compensation in ways that help satisfy unmet needs for physician attention. For example, transfers could be earmarked for training alternate physicians or for rural medicine in general.
 5. Compare (Mesquita and Gordon, 2005; Cole, forthcoming). Any such solution would have to make exceptions for political refugees and, to curb workplace 'tyranny', leave practitioners some possibility to change clinics.
 6. Some measures to diminish emigration involve coercion openly, but may nevertheless be both tolerable to liberals and effective. Specifically, consider the expectation of only few years of work with underserved populations, especially as an upfront condition for licensure or for loan repayment, already in place in several countries. During those years, physicians would treat many patients. Some would forge familial and professional ties; coupled with necessary workplace improvement, such ties could lead to a voluntary choice to stay longer.
 7. However, telemedicine could enable fairly altruistic doctors who previously simply could not afford to attend to the neediest patients to divide their time between attending to them and jobs that pay more.
 8. Jaypee Sevilla noted this option in a conversation.
 9. Dan Wikler noted this option in a conversation
 10. As a more serious example: traditional 'rich country diseases' like high blood pressure, cancer, diabetes and heart disease increasingly affect poor countries. But even the diagnosis and treatment for these shared diseases often remains very different in resource-poor settings. (Gaziano *et al.*, 2007)
 11. A process along these lines may take place in Cuban medical schools, judging from the reputation of 'Cuban doctors' in many developing countries as those willing to work where local physicians will not go. See, for example (Gorry, 2005; Mullan, 2007) and the film *!Salud!* (Field, 2006). See also (Mullan, 2004) and the responses. In summer 2007, the USA introduced a legal exception that lifts immigration restrictions for,

specifically, Cuban doctors, in an apparent attempt to lure Cuban doctors working in poor settings outside Cuba to defect (de Albornoz, 2006).

12. In a conversation, Aaka Pande their suggested that their high retention rates may stem in part from their small business and family ties to their rural communities.
13. Lynn Matthews noted this option in a conversation.
14. German Freire gave us this suggestion, based on his experiences as a medical anthropologist in Venezuela.
15. Daniel Schwartz noted this option in a conversation.

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