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A review of research and policy documents  
on the international migration of physicians  
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## Abstract

The international migration of skilled medical professionals has been documented as a ‘manpower’ issue for health service planning since the 1960s. This paper charts the way that the international travel of medical professionals, primarily physicians and nurses, has been understood and how its construction as a problematic or a positive feature of global migration has varied. Sketching out this literature is a prelude to further analysis that will interrogate the terms of the documentation, its translation into and consequences for public discourse concerning global equality and ethics.

## Author

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## Introduction

This paper considers research on the international migration of skilled healthcare workers over the last fifty years, during which time their movements have come to be understood as a global crisis in human resources. Various responses to this crisis have been formulated at national and international levels and have then been subjected to further research. In examining evidence across a range of disciplines, including health economics, epidemiology, nursing, management and geography this review attends to the ways that migration of skilled healthcare workers has been problematized. The claim that the presence of skilled healthcare workers in sufficient numbers is straightforwardly related to improved population has been linked to the problematization of migration.

## Terms and terminology

This paper concerns skilled healthcare workers and their international movements to take up jobs in countries other than their place of birth and education. This category could cover pharmacists, laboratory technicians, phlebotomists, prosthetists, orthotists, dieticians and physiotherapists among others, all of whom play a role in modern healthcare, and may well migrate for employment. But in this review, as in much research in this field, discussions are restricted to physicians, nurses and midwives. Doctors and nurses are nationally registered by a professional body that holds the state monopoly to issue licenses for those permitted to practise. Professions allied with medicine are also regulated, but not so strongly. Strict regulation of the medical and nursing professions is both a symptom of their successful professionalising strategies hitherto and a reason why data exists that can trace their international movements.

Migration is created by a historical state monopoly on the freedom of movement: without borders, citizenship and their regulation, migration is simply people moving about. The effect of national borders and their regulation appears in the medical migration debate in a number of guises. Neoliberal solutions to the problem of 'brain drain' promote unfettered mobility (Clemens 2007; Esmail 2006) and bear some resemblance to the political 'No Borders' campaign (Anderson, Sharma, and Wright 2009). Communitarian, welfarist models which posit the restriction of cross-national movements (Smith and Favell 2006: 21) have been central in the design and

planning of national health care systems and reinforce the idea of the nation state and the citizen's rights therein. The question of who counts as belonging to a health-care system and hence the universe of those who are sharing a resource, underpins the problematization of medical migration: proposed solutions depend on a definition of who is included in the population eligible for equitable treatment. Thus a consideration of global policy regarding equity and healthcare can interrogate ideas around health and human rights.

Migration of registered and licensed professionals tends to be conceptualised as occurring between countries, since it is across the borders of the nation state where access to citizenship, healthcare and medical/nursing registration are regulated. Thus work in this area reasserts nationally bounded spaces, even as their boundaries are being crossed. Discussion of the effects of emigration of medical professionals from sub-Saharan African countries to Western Anglophone countries (see below) constructs a dichotomy which effectively fixes the spatial and temporal registers in play, positioning 'them and us' (c.f. Raghuram 2009a). Despite caveats regarding on the variation between and within sub-Saharan African countries (Clemens and Pettersson 2008) there is a tendency for case studies from particular settings to come to stand for something more. Demonstration of the ill effects of medical migration has often rested on worst-case studies, using arresting but fragmentary and unreliable data. This tendency supports the construction of sub-Saharan African countries as only problematically impoverished, ignores good practice where it occurs and, in the absence of a critique of discourses of development, limits the possibilities for thinking about alternatives to current systems of healthcare provision.

This paper does not explore the methodological problems of defining who counts as a nurse or a doctor in cross-national settings, nor does it discuss whether nurses and doctors count as skilled or highly skilled migrants (Iredale 2001). A range of terms is used to refer to migrants with healthcare qualifications include healthcare professional, skilled medical migrant, medical worker (Raghuram 2009a), human resources for health or HRH, Skilled Health Worker or SHW (Connell 2010), International Medical Graduate or IMG, medical manpower (Mejia 1978a) and 'health work force' (Garbayo, Campbell, and Nakari 2012). Research from the mid twentieth century refers primarily to physicians, with the migration of nurses and midwives becoming more frequent and widespread as the century proceeds, as part of a wider trend towards feminized migration. By the twenty-first century, as debates about what the appropriate level of training for various healthcare settings across the globe develops, so general terms such as 'health work force' come to the fore.

This paper also notes, but does not explore, the technical discussion of how national datasets can be cross-referenced with professional registers in order to enumerate migration flows (Clemens 2007). Since migrants are likely to maintain registrations in more than one country, particularly if involved in a multiple-step migration, double counting reduces the accuracy of registration data as an absolute count of individuals, although it clearly reveals trends (Martineau, Decker, and Bundred 2004). Good quality statistical data to track the movement of physicians, midwives and nurses is lacking and this complaint has been a consistent feature of the research for the last forty years (Ahmad 2005; The Committee on the International Migration of Talent 1970; van Hoek 1970; OECD 2010).

Since the discussion of migrating medical staff is a matter for national as well as an international healthcare policy, the terms of discussion vary. General terms such as ‘healthcare workforce’ cover professionals with a number of years of training, as well as workers with a far shorter period of education and experience, and both types of worker are currently being recruited from overseas to work in Western countries’ hospitals and care homes. By contrast in the mid twentieth century the emigration of physicians from Western countries was the prime concern. Debates about task-shifting and appropriate staff in under-resourced settings, covered at the end of this paper, are altering assumptions and regulations regarding the distribution of healthcare work between categories of staff.

## Changes in medical migration over time

Doctors, in their capacity as scientists and as humanitarians, have always travelled. The international movement of trained medical personnel is as long-standing as medicine’s claims to being a profession with universally applicable knowledge. The international movement of medical personnel was a feature of Western Empires, characterised by metropolitan centres sending trained doctors and nurses to colonial territories and associated with missionary work. Medical and nursing schools were established in colonial settings following models set by the metropolitan powers and, even after independence established separate nation states, British, French and Portuguese doctors continued to travel to former colonies to practice medicine (Gish 1971: 16). The scale of this migration was relatively confined, based as it was on specific colonial relationships and the movement was usually temporary, predicated on an eventual return to the metropolitan centre.

After the Second World War, the UK and the US began to employ migrant doctors, nurses and midwives as part of the re-focussing and development of health services. At this time Indian-trained doctors and Caribbean nurses and midwives migrated, to jobs in the UK and to the US, as British doctors were moving to North America, Australia and South Africa. The colonial relationship ensured that the training, qualifications and language of Caribbean and Indian-subcontinent health professionals fitted a British NHS setting. Smaller movements of doctors from Francophone African countries to France and of Indonesians to the Netherlands began, while Filipinos, Koreans, Thais and Taiwanese professionals were starting to migrate to the US. Up to and including the 1970s, probably the most significant movement of doctors was out of Ireland, with 71% of graduates from Ireland's medical schools between 1950 and 1966 emigrating (Gish 1971: 20).

Initially the major British concern regarding medical migration was the departure of doctors, along with other highly educated professionals, to the US, Australia and Canada. As people left the UK for overseas employment in significant numbers, it soon became apparent that they would not necessarily be returning. The failure of British academics and scientists to return from the US was termed 'brain drain' from 1958 (Vizi 1993: 102), and, it is claimed that the expression has become particularly associated with physician emigration (Connell 2010).

## 1960s

Throughout the 1960s, the interest in 'brain drain' was primarily focused on the loss from the UK of English and Scottish doctors emigrating to North America and Australia (Wright, Flis, and Gupta 2008). While the loss of British doctors from the UK attracted concern, there was a significant movement of skilled health professionals into the country, recruited to make up the labour short-fall, permitting the development of a universal statutorily-funded welfare system. Rather than reducing the demand on health services, by addressing existing public health problems, as hoped, universally accessible health services permitted the demand for health services to blossom. Physician shortages in the US, Canada and Australia as well as the UK, led to large-scale migration throughout the 1960s resulting in approximately 140,000 doctors having moved from the countries where they had trained. A large majority of these migrants were granted licenses to practise in the UK, US, New Zealand and Canada.

By the late 1960s about 400 doctors per year were leaving the UK, which amounted to one fifth of the total medical school output of 2,000. This exodus was part of the global movement of an estimated 40,000 doctors every year in transit from the place where they had been trained, with the US alone receiving 8-9,000 foreign medical graduates (Gish 1971: 12). Between 1966 and 1968, 40% of all vouchers issued for entry to work in the UK, went to doctors (V. Robinson and Carey 2000), as employers sought to balance the loss of medical professionals by recruiting immigrants. The 1960s also saw a stream of nurses and trainees from the Caribbean, who went on to play a key part of the NHS labour force. One outcome of these arrivals in the UK was that the government to resist local nurses' pay claims, thereby suppressing wages (Van Hoek 1970; The Committee on the International Migration of Talent 1970).

Concern about doctor shortages in the UK and US continued, despite the absorption of thousands of physicians trained overseas. Foreign medical migrants were not often mentioned in terms of the centrality of their contribution to building up welfare provision, although in the UK an awareness that the '...National Health Service simply could not function without the overseas doctors ...' was appreciated in some circles (Gish 1971: 52) and publically acknowledged in a House of Lords debate in 1961 (Kyriakides and Virdee 2003). More prominently noted was a sense that immigrants were fortunate to have access to sophisticated technology in developed clinical settings (Wright, Flis, and Gupta 2008). It was implied that emigration of physicians from developing countries was beneficial, not only to the individual migrants, but also to the societies that were losing their trained professionals. The benefit was presumed to occur through technology transfer, remittances and human capital development. Foreign doctors were sometimes a matter of concern in the health systems where they arrived to take up posts, as their fitness to practise in terms of medical knowledge and language skills were tested and found wanting. Thus foreign doctors were often only visible when their practice was deemed problematic.

## 1970s

The migration of doctors and nurses continued (Mejia 1978) and slowly a literature developed which considered the effects of the migration in both the source and the destination countries. Two studies raised the possibility of negative effects of brain drain on the development of low-income countries that were losing their medical professionals (Van Hoek 1970; The Committee on the International Migration of

Talent 1970). While the focus remained on the consequences of ‘brain drain’ for Westernised countries’ health services, evidence was being published that made it impossible to ignore that medical graduates were migrating from developing to developed countries where they were treated as a reserve army of labour, supplementing the preferred locally trained medical graduates (Gish 1971). Countries that were seeking to build up local health services were faced with significant loss of medical graduates: one third of all graduates from the Ibadan Medical School in Nigeria were abroad by the 1970s (Connell 2010: 46), while about 30% of graduates from one Iranian medical school were routinely travelling to work in the US, with most of them staying there (Ronaghy et al. 1975). Concerns that the smartest and most motivated of graduates tend to be the ones to leave their home country (Connell 2010: 120).

The migration of physicians probably peaked in the late 1960s, early 1970s, by which time between one fifth and one third of the licensed physicians in Australia, New Zealand, Canada, the United States and Britain had been trained abroad. In the UK, the immigration acts of the early 1970s restricted entry numbers, but made special exemptions for doctors and dentists (V. Robinson and Carey 2000). Countries receiving significant numbers of foreign medical graduates treated them as ‘dispensable commodities, a tapped supply to be turned on and off at will by the wealthier countries who can afford to employ them for their own needs’ (Wright, Flis, and Gupta 2008).

Oskar Gish’s treatment of ‘brain drain’ in medical contexts, published in 1971, laid the ground for work sponsored by the World Health Organization (WHO), conducted by Alfonso Mejia who was the Chief Medical Officer of Health Manpower Systems at WHO. He was centrally concerned with the policy implications of migration and responded to Gish’s suggestion that the responsibility for reacting to the international movement of physicians lay with the developed countries (Mejia 1978a). Mejia (1978) noted ‘a great deal of anxiety’ caused by the growth in migration flows of physicians and nurses and the lack of reliable data to track the unpredictable changes in these flows (Mejia 1978b). In seeking to prevent the ‘elite from less prosperous countries flooding into a few privileged countries of the world’ (Mejia 1978b), Mejia was clear that efforts to curb immigration to the US, Canada and the UK (by tightening admission licensure examinations) had been rather less successful than other countries’ efforts to promote immigration through active recruitment (to Saudi Arabia and the US) or by changing the immigration laws (Mejia 1978b).

Wright et al (2008) seek to account for the slow development of an ethical dimension to research into medical migration through the 1960s and early 70s, noting the

widespread assumption that physicians' migration would be temporary and that eventually a return 'home' would ensue, returning things to 'normal' (Gish 1971). Grasping the complexity and the scale of the migration was hampered by fragmented data sources in developing countries. One aspect of this complexity was that countries such as the UK and Canada were top donor **and** recipient countries for medical migrants. Meanwhile, Ireland, the Philippines and Cuba had policies of training excess number of graduates 'for export', apparently without depriving local national service provision. For instance, the loss of the majority of the medical graduates from Ireland (Gish 1971: 20), was not linked to detrimental effects on the country's health services. While it was acknowledged that 'poaching' medical graduates from developing countries may be inappropriate, the individual decisions of physicians and nurses to migrate were considered to be entirely defensible (Mejia 1978a). The potential harm caused by the emigration of skilled healthcare workers is described as an 'alleged effect' of 'the widening gap between the rich and the poor nations' (Mejia 1978b: 207).

The migration that Gish and Mejia were documenting in the 1970s was set to develop further both in scale, spread and complexity over the coming three decades, but not until after a hiatus in migration knocked the issue from the public policy agenda. The economic stagnation of the 1970s as well as an excess number of locally-trained physicians seeking employment in the US and Germany, brought about a dramatic decline in the recruitment of overseas trained professionals in most Western countries (Wright, Flis, and Gupta 2008). Energy crises and economic recession characterized by high unemployment and high inflation were followed by the election of right-wing leaders in the UK (Thatcher) and the US (Reagan, Bush) with a commitment to liberalizing global capital and opening up service provision to market forces. While the international movement of capital was being promoted, the international movement of people was limited, with increased regulation of migration to many Western countries. The stream of physicians from India to the UK slowed, not only because of tightening immigration control, but also due to the General Medical Council withdrawing recognition of Indian colleges' medical qualifications. Once in the UK, migrant doctors had added hurdles to clear before they could practise, with the introduction of the Professional and Linguistic Assessments Board or PLAB test in response to the idea that overseas medical graduates had inadequate communication skills (Jones and Snow 2010: 106).

## 1980s

With economic recovery and expansion, the migration of skilled healthcare workers was re-established and began to develop new features: in particular, governments and private recruiting agencies became involved with the increasing marketization of healthcare provision and women came to dominate the migration flows, both as physicians and as nurses (Connell 2010). However, public policy concerns about the implications of medical migration, which in the 1970s had prompted earlier work (Oscar Gish 1971; Oscar Gish and Godfrey 1979; Mejia 1978), subsided with the return of affluence in OECD countries and Mejia's policy recommendations were shelved (Bach 2004). Such concern remained largely dormant until the late 1990s.

The global debt crisis of the late 1970s, meant that through the 1980s, African countries were obliged by the World Bank and International Monetary Fund to 'de-prioritize' investment in their social sectors – including health and education – in favour of promoting export-led growth throughout the 1980s and 1990s. Exports were meant to bring in foreign currency to enable the countries to pay the interest on loans they owed to foreign banks. Countries cut back publicly funded health systems in order to reduce deficit spending.

## 1990s

The effects of the 'structural adjustment policies' (or 'brute neoliberalism' (Mahon and Robinson 2011)) of the 1980s became apparent through the 1990s. For instance, in Cameroon the recruitment of health workers was suspended, as were promotions, while mandatory retirement at 50-55 years old was introduced. The public health sector shrank and the private health sector grew, which would play a significant role in promoting emigration of health professionals from public service jobs and from the country, exacerbating health professional shortages. The under-investment meant that under the table payments became necessary in order to secure domestic treatment and a cohort of shadow providers emerged who collected public sector salaries but nonetheless practised privately during office hours (Daniels 2008).

By the late 1990s, the recruitment of foreign medical and nursing graduates was a significant and entrenched feature of staffing developed nations' healthcare services. While the post-colonial patterns of the migration were still discernible, the numbers of source and destination countries had increased dramatically compared

with the situation in the 1970s. The prospect of doctor shortages particularly in rural areas of Canada (Grant 2006) and Australia (Durey 2005), a recruitment drive in the UK's National Health Service (Lawrence 2008), and ageing populations' increasing care needs, drove the ongoing recruitment of physician and nursing staff by wealthy nations. The rise of cheap and frequent air travel, some relaxation of border controls and visa restrictions facilitated the growth in migration of healthcare professionals. For instance, the European Union's recognition of foreign qualifications permitted the 'internationalization of nursing' (Iredale 2001) such that nurses could find skilled or un-skilled temporary employment relatively easily. Where physicians were deemed necessary, local exclusionary professional regulations were circumvented for instance, systems of visa waivers in the US.

The patterns of migration continued to be influenced by historical colonial links between countries which imply common language, mutual recognition or partial recognition of qualifications as well as other parallel migration flows. Thus: Indian, Pakistani and Anglophone African professionals migrated to the UK, US, Canada, Australia and New Zealand; Francophone African professionals went to Quebec and France; Lusophones to Portugal, while Mauritian nurses migrate to both English and French-speaking settings. Language remained an important consideration in the migration of healthcare professionals, with few foreign doctors in Finland and Italy, given the limited spread of Finnish and Italian beyond their national borders (Connell 2010: 56). Not all migration streams have been configured by European languages with new streams developing, for instance from the Philippines to Japan (Onuki 2011: 60). Nevertheless, the rise of global English as the language of science and technology means that, for instance, a Ugandan doctor can practise in Malawi without speaking the local language. Proximity remains important, with migration flows between neighbouring regions tending to dominate, so Polish nurses are found in Norway, while Ugandans migrate to South Africa and Latin Americans to the USA.

Recognisable chains of migration have been established whereby, for instance, Canada recruits from South Africa which, in turn recruits from Cuba as well as supplying the US; Australia and New Zealand recruit from Pacific island states, which in turn recruit from the Philippines, Burma and China, some of which also supply the US (Connell 2010: 59). Varieties of cascade migration developed, such that Slovak doctors and nurses go to the Czech Republic, while Czechs go to Germany and Germans to the UK (Connell 2010: 60), as well as step migration whereby, for instance, Kenyan nurses travelling to work first in Botswana, Zimbabwe or South

Africa before moving on to UK and perhaps the US. Many countries were simultaneously receiving and sending health care professionals, including large states such as the UK, Canada, Australia and South Africa as well as smaller countries such as Barbados and Fiji (Connell 2010: 60).

Countries in the Gulf and in Europe have become dependent on overseas workers to keep their health services working and to facilitate workforce planning. In 1998 the Singaporean minister of health stated that some services were reliant on foreign nurses (Connell 2010: 48). For developed countries, agency recruitment from overseas represented a strategy to have a stable workforce, cheaper than relying on local agency nurses, contracted on a daily basis, at a daily rate. Recruitment agencies operate through active and passive recruitment strategies, but the effect is the same in terms of contributing to a global care chain, whereby hiring a woman from a poor country to undertake care work, removes her from caring in her own home, so potentially needing to hire help to look after her own children, parents or household. Since she is likely to hire a woman poorer than herself, the care deficit is passed down the line. This eventually has the effect of creating a care deficit in the poorest locations in the world (Mahon and Robinson 2011).

The gendered nature of medical migration emerged during the 1990s. As nurses became an increasingly important part of the migration flows, gendered relations in countries exporting nurses have been subject to change. A nursing qualification has come to represent a means to emigrate, either independently or with dependents. In Kerala and Bangladesh women qualified as nurses are able to migrate, while supporting their husbands, instead of always being the dependent of a male migrant (Connell 2010: 88; George 2000). Furthermore, in places where nursing had long been an overwhelmingly female profession, such as Ghana, the Philippines (Choo 2003) and Albania, an increasing number of applicants and qualified nurses are men (Connell 2010: 88). The spread of HIV, particularly in sub-Saharan African countries played a role in promoting nurse migration. Poor working conditions, exacerbated by staff, as well as patients, affected by HIV included a lack of training, equipment, and clean linen, as well as an absence of facilities for child care or even a place to get changed (Connell 2010: 109).

The dismantling of apartheid in South Africa through the early 1990s, culminating in democratic elections in 1994, was accompanied by the flight of many white professionals. At a time when the full effects of the spread HIV in sub-Saharan Africa were becoming apparent, South Africa was 'back-filling' medical positions from poorer neighbouring countries such as Uganda and Tanzania. Longitudinal research has

demonstrated the positive association between HIV prevalence rates and the departure of medical professionals from sub-Saharan African countries (Bhargava and Docquier 2002). South Africa played a totemic role in raising the ethical dimension of global medical migration with the ‘embarrassing optics of rich countries exploiting the health human resources of African countries devastated by the AIDS epidemic’ (Wright, Flis, and Gupta 2008).

Shortages of healthcare staff became apparent in a wide range of global settings and while nurses and doctors are more easily enumerated, migration affected other staff categories too. In the University Hospital of the West Indies there were shortages of nurses, radiographers, pharmacists, lab technicians, dieticians and social workers which led to ward closures (Brown 1997).

## 2000s

There were very few countries that were isolated from significant migration flows of healthcare professionals by the start of the 21st century (Connell 2010: 40). The increase in the scale, spread and speed of medical migration has established a complex, interconnected and labile network which has highly variable local effects. So, while India’s production of medical graduates has continued to grow with the institution of private medical schools, Pakistan has been exporting around half of its annual production of 5,000 trained doctors (Talati and Pappas 2006). Meanwhile, two thirds of newly graduated Bangladeshi and a quarter of Sri Lankan doctors were moving to work abroad (Adkoli 2006). The high proportion of doctors leaving Pakistan, Sri Lanka and Bangladesh are likely to have different consequences, given that they do not have the same ‘over-production’ of medical graduates compared to their domestic needs, that is seen in India with its significant private medical school provision.

This increasing complexity of the networks of medical migration is illustrated by China and Japan, countries which had, until the 21st century, been self-sufficient in terms of medical personnel. In 2008, Japan made arrangements with the Philippines and Indonesia for ‘trainees’ (denied the status of registered nurses) to work in rural areas or nursing homes (Onuki 2011: 60) as well as encouraging citizens to seek healthcare overseas since the mid 2000s (Connell 2010: 52). China has become a major supplier of nurses to the US (Brush, Sochalski, and Berger 2004), Singapore and Saudi Arabia (Fang 2007). China sends students to Australian run nursing

schools located in Singapore where the students pay lower fees than they would in Australia. Singapore benefits from the Australian-owned clinical facilities and gets the services of the trainees, who mostly speak the same language as the local patients. Singapore offers scholarships to nurses from China providing that they stay for six years after graduation (Connell 2010: 55).

Recruitment agencies have continued to play an important role, negotiating significant contracts with institutions at local and national level. Compared with the late 1990s the number of recruitment agencies in the US has increased tenfold to approximately 267, while source countries have far more, with 400 in Indonesia and 1,200 in the Philippines (Connell 2010). The New York hospital signed an agreement with the Ministry of Labour in Korea to recruit 10,000 Korean nurses in 2006 (Connell 2010: 118) as part of the declared intent of the United States of America to recruit one million additional healthcare workers over the next 15 years, without making additional training provision (Johnson 2005). One million happens to be the number of additional workers named by the World Health Organization as needed for sub-Saharan Africa to fulfil the Millennium Development Goals (MDGs) set by the United Nations in 2000.

Throughout the early 2000s, evidence accumulated that significant numbers of skilled health workers were leaving the countries where they were trained for employment elsewhere. In some cases this has been apparently unproblematic (e.g. Cuba and Ireland), whereas in resource-poor settings facing significant public health problems, the exodus of skilled health workers has been identified as part of the problem. The Philippines has consistently been one of the world's largest exporters of nurses and there is evidence of negative effects on local provision of healthcare services. Approximately 20% of doctors and 10% of nurses from Africa work overseas (Connell 2010: 52) and the effects of this emigration on the poorest African states have been the subject to much attention.

As the implications of the globalized migration of health personnel were being debated, competition for the world's health workforce was referred to as a global 'bidding contest' analogous to the competition for other commodities in limited supply (Labonté and Schrecker 2007). A picture began to develop of the 'departure of trained professionals from low income countries to find work in high income as a perverse subsidy' (Mackintosh, Raghuram, and Henry 2006) (K. Mensah, Mackintosh, and Henry 2005). While concern about the departure of medical graduates from resource-poor settings came into focus in the 2000s, it is worth remembering that much international migration of skilled workers is confined to the rich world; for

instance more than a quarter of foreign doctors in Belgium are from the Netherlands and Norwegians constitute about half of those in Denmark (Connell 2010: 57).

While the quality of the data on professionals' migration continued to be described as inadequate (OECD 2010), case studies made the detrimental effects of their departure hard to ignore. It became clear that some sub-Saharan African countries were losing a high proportion of their medical and nursing graduates such that the provision of basic services was being compromised. More than 100 nurses per year were leaving Malawi, a country producing only fifty graduates per year from its nursing schools (Record and Mohiddin 2006). As one of the poorest countries in the world the Malawian population has a low life expectancy, high infant mortality and a high prevalence of HIV/AIDS. In South Africa a regional referral centre for Spinal Injuries near Johannesburg had to close down when both of the resident anaesthetists were recruited on same day by a new Canadian spinal injuries unit (Martineau, Decker, and Bundred 2004). In the Philippines an entire cardiovascular unit in a provincial hospital had to close because of the wholesale recruitment of its nurses to overseas jobs (Alkire and Chen 2006).

With case studies getting headlines and the picture of between 23 and 34% of practising physicians in New Zealand, the UK, the US, Australia and Canada having been trained elsewhere remaining stable over time, it became hard to avoid the conclusion that brain drain was contributing to inequality in distribution of health workers world-wide (Daniels 2008). At a time when significant resources were being devoted to distributing antiretroviral treatment, especially in those sub-Saharan African countries with high incidence rates, chronically depleted health services in terms of infrastructure, personnel and equipment became a problematic and highly visible impediment to service-provision.

Sub-Saharan Africa's unmet need for health personnel while simultaneously losing skilled healthcare workers through migration elsewhere (Connell 2010: 11) became the headline feature of global medical migration in the 21<sup>st</sup> century. Awareness that countries such as South African, Zimbabwe and Ghana were losing a high proportion of their nursing and medical graduates, especially to Anglophone Western countries spread. Notwithstanding qualifications that for instance, Niger has a tiny physician diaspora, compared to Ghana's (Clemens and Pettersson 2008), the emigration of skilled health care workers came to be talked about as a sub-Saharan African problem. Given that this feature of medical migration had been noted in the 1970s, an ethical concern for the ongoing emigration of skilled personnel took some time to develop, a phenomenon that Wright et al (2008) explain as part of the

more general elaboration of Western bioethics from individualistic to global concerns (Wright, Flis, and Gupta 2008).

Two key reports cemented the idea that the migration of medical professionals was contributing to global inequalities, not only in quality of health services, but also in health *per se*. The ‘Joint Learning Initiative’ – a funded network of over 100 ‘global health leaders’ – drew attention to the dismal effects of HIV spread and labour emigration coinciding with chronic underinvestment in healthcare staff in African countries (Initiative 2004). In 2004, a High Level Forum on the Health Millennium Development Goals reported ‘... a human resources crisis in health, which must be urgently addressed’ and in 2006 the World Health Report enumerated a shortfall in the global health workforce, suggesting there were 4.3 million too few doctors, nurses, midwives, and other healthcare workers worldwide, calling the situation a ‘global health workforce crisis’ (WHO 2006).

These reports confirmed a connection between global migration flows of health professionals from poorer, particularly sub-Saharan African countries to industrialized, primarily Anglophone countries, with impoverished healthcare provision and deteriorating health outcomes in the migrants’ countries of origin. While the WHO (2006) and JLI (2004) reports offer discussions of who counts as a healthcare worker, these qualifications disappear in a graphic that summarises the key message.

## Relationship between healthcare worker density and population health

The WHO (2006) report carries a graphic illustrating an association between the density of healthcare workers per unit of population, against measures of maternal, child and infant mortality (see figure 3 below) which was derived from a graphic that appeared in the earlier Joint Learning Initiative Report (2004) (figure 2). These graphs bring to the fore some assumptions about the relationship between a population’s health, the healthcare provision available and healthcare professionals’ role in that provision.

In the JLI (2004) report the ‘collapse’ in life expectancy in, for instance, Zimbabwe and Zambia (see figure 1, above), is presented as evidence of the fatal effects of the combined burden of HIV, together with long-term under-investment in healthcare services. A measure of mortality is then graphed against a measure of the density

of healthcare professionals and entitled ‘More health workers – fewer deaths’ (see figure 2 below), which appropriately describes the association plotted.

The 2006 World Health Report confirmed the global crisis in health workforce as a central problem for public health and one that required both national and international governance. The graph that first appeared in JLI 2004 was reproduced in the 2006 Report, but now the title assumes a causative connection with ‘Health workers save lives!’ (see figure 3). This is a striking headline, because it goes against evidence pointing to the difficulty of demonstrating an independent effect of increased healthcare professional density on improved health outcomes. Studies of physicians who are absent from their employment because of a strike (Cunningham et al. 2008) or due to high rates of migration (Bhargava and Docquier 2002) show that mortality rates tend to get worse or remain stable with the reduced availability of physicians, suggesting that doctors do not, in any straightforward way, save lives. Similarly, where ward closures were induced from a shortage of a healthcare staff, hospital mortality rates did not deteriorate (Brown 1997). Where commentators seek to demonstrate a link between, for instance a lack of nursing staff and poor health outcomes, the measures cited are often confined to clinical settings, for example cross-infection rates and post-surgery adverse events, so are measuring an aspect of professional practice and not assessing patients’ wellbeing (Buchan and Aiken 2008).

Research on the association between the density of healthcare professionals and mortality rates has had mixed results. Back in 1978, Alfonso Mejia noted that the difficulty of measuring ‘the impact of migration on the health status in donor and recipient countries’ was such that any measures were rendered ‘almost useless’ (Mejia 1978b). Since then, further research evidence has been generated, but it is frequently contradictory. A high density of doctors has been shown to have a positive effect on maternal, infant, and under-five mortality (J. Robinson and Wharrad 2001) and the density of doctors, nurses and midwives was found to be positively associated with maternal mortality rate and to a lesser extent with infant mortality rate and under-five mortality (Anand and Bärnighausen 2004). But doctor density has also been found to have a negative effect on infant and perinatal mortality and no effect on maternal mortality (Cochrane, St Leger, and Moore 1978). Other studies found no significant association between doctor density and infant mortality (Kim and Moody 1992), and no association between doctor density and either infant or maternal mortality (Hertz, Hebert, and Landon 1994). Three studies found no association between nurse density and maternal mortality, infant or under-five mortality, and infant mortality (Kim and Moody 1992; J. Robinson and Wharrad 2000; J. Robinson



Figure 1 reproduced from JLI 2004.

and Wharrad 2001). No association could be found between the concentration of doctors and nurses and the utilization of 6 ‘essential’ health services in low and middle income countries, leading the authors to speculate that other health workers, not measured in their research, were actually doing some of the service provision (Kruk et al. 2009).

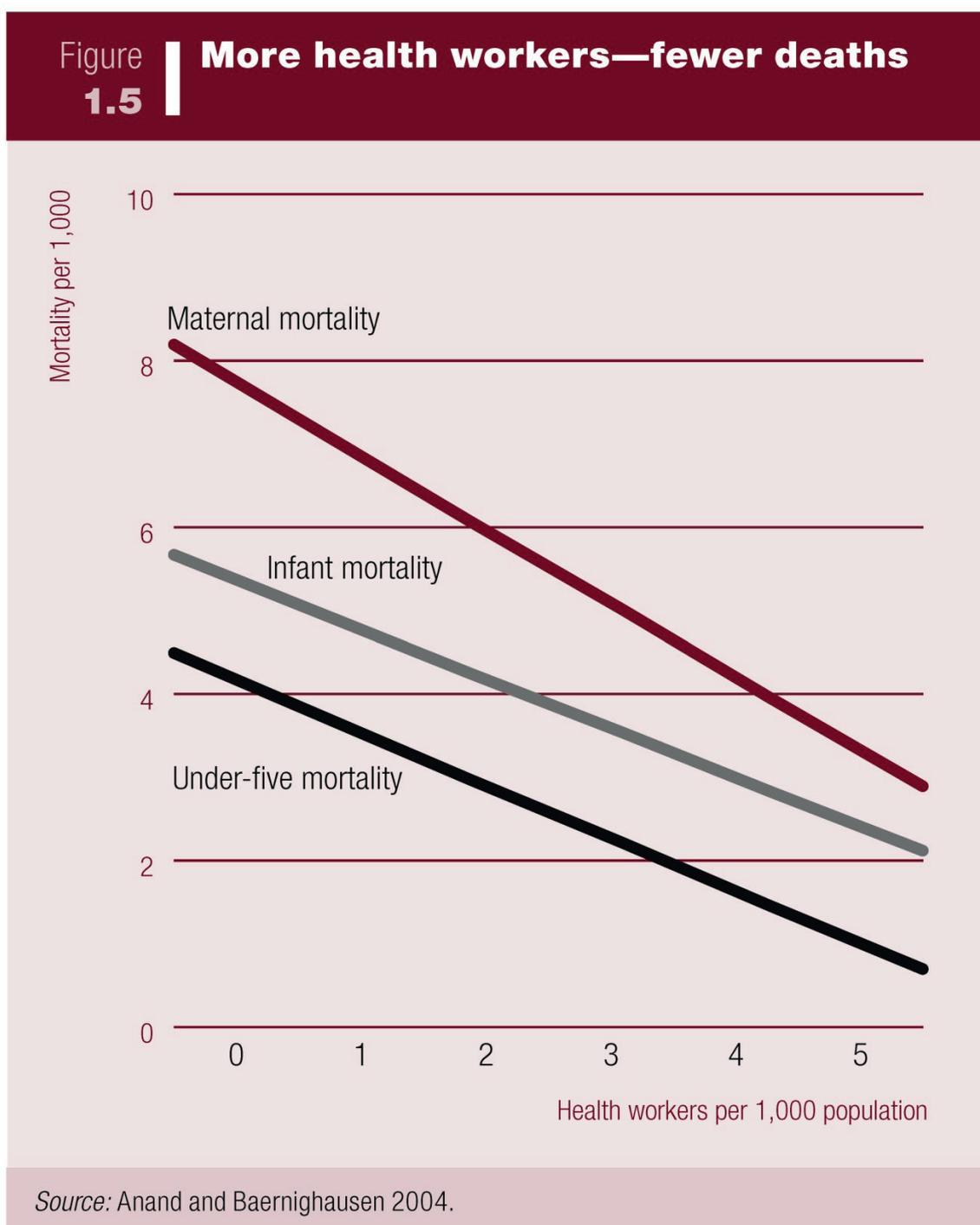


Figure 2 reproduced from JLI 2004.

The graphs in the Joint Learning Initiative (2004) and the World Health Report (2006) cite one paper that is notable for its demonstration of an independent effect of healthcare professional density on mortality rates in an analysis from a number of countries (Initiative 2004; WHO 2006). The authors of this paper are cau-

tious in framing the consequent recommendations in terms of the density of human resources having a role to play ‘in addition to other determinants’ when ‘accounting for the variation in rates of maternal mortality, infant mortality, and under-five mortality across countries’ (Anand and Bärnighausen 2004).

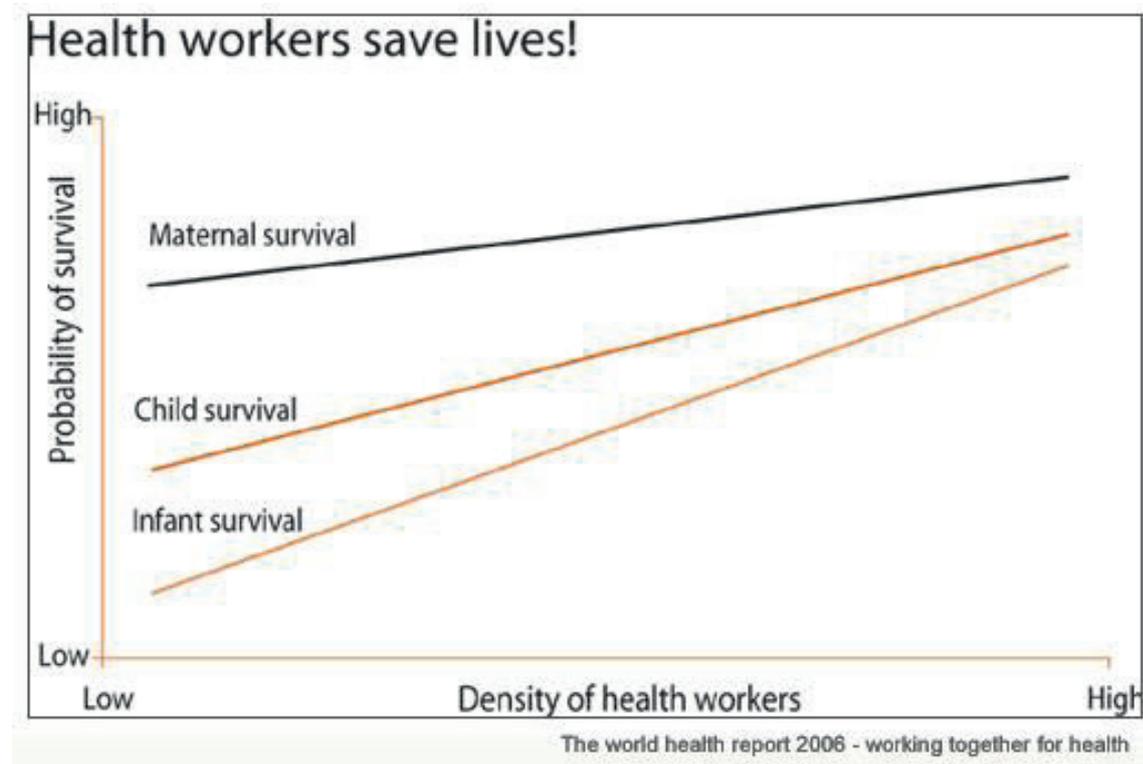


Figure 3 reproduced from WHO (2006).

The text of the 2006 World Health report states that

... worker numbers and quality are positively associated with immunization coverage, outreach of primary care, and infant, child and maternal survival ... The quality of doctors and the density of their distribution have been shown to correlate with positive outcomes in cardiovascular diseases (Anand and Bärnighausen 2004). (WHO 2006)

Immunization coverage and primary care outreach are good indicators that health services are being provided, but are not necessarily indicators of population health, whereas infant, child and maternal survival undoubtedly are. Yet, the tendency to confound the provision of **health services** with the provision of **health** is routine, as is an assumption that the provision of **health services** is closely related, if not co-terminus with, providing a higher density of skilled health workers. The assumption that more doctors and nurses will bring about more health in a population is

inappropriate in that the evidence base is lacking. The specific evidence of how gains in a population's health can be related to increased healthcare professional density is limited and contested. This relates to the more general debate on medicine's contribution to the dramatic gains in life expectancy associated with industrialization in Northern European countries and therefore the extent to which medicine might be responsible for improvements in countries that currently have poor health outcomes (McKee 2011; McKeown 1976).

The repeated confounding of health with health services and of the provision of health services with the provision of health and, furthermore, a recurring assumption that the provision of more doctors and nurses amounts to providing better health services and therefore better health mostly remains implicit, but not always. Thus, nurses have been described as 'one of the most critical components of the workforce' (Buchan and Aiken 2008) with the global nurse shortage adjudged 'not just an organizational challenge or a topic for economic analysis; it has a major negative impact on health care' (Buchan 2006). Elsewhere, both doctors and nurses are referred to as the 'most precious resource' (Johnson 2005) for sub-Saharan African countries (Coombes 2005) and

As crucial instruments of health, doctors and nurses should be treated differentially – indeed exceptionally well, exceptionally soon – for ethical reasons that go far beyond their own well-being (Alkire and Chen 2006: 116).

In the wake of the declaration of a global workforce crisis by the WHO in 2006, skilled health workers were described in emotive and/or hyperbolic terms, particularly as the provision of health continued to be confounded with the provision of doctors and nurses. The 'robbing', 'raiding' (Johnson 2005) and 'poaching' of trained professionals who may constitute poor countries' 'educated elite is deeply immoral' (Hooper 2008). Employing professionals from countries who can little afford to lose them (Pang 2002) adds 'insult to injury' since the poor countries' health services are likely to go through a 'complete implosion' (Arah, Ogbu, and Okeke 2008). The 'devastating consequences for the source countries' (Larsen et al. 2005: 351) of the crisis in human resources are due to a 'vicious cycle leading to further decline' (Mc Auliffe et al. 2011: 80) wherein the recruitment of personnel can be considered a criminal activity (E. Mills et al. 2008).

The tendency to discuss healthcare staff brain drain in emotive terms is epitomized by a short piece in the *British Medical Journal* which likens 21st Century medical migration to slavery (Heath 2007). This article illustrates how the simplified ver-

sion of the claim that ‘health care professionals save lives’ (WHO 2006: xvi) is used to propose simplified solutions to the workforce crisis that the claim justifies. Heath (2007) claims that ‘there is a linear relation between health outcomes and the density of healthcare workers’ such that

Current policies of recruiting doctors from poor countries are a real cause of premature death and untreated disease in those countries and actively contribute to the sum of human misery (Heath 2007).

## Responses to the crisis

Having established that there was a global crisis in terms of a lack of skilled healthcare workers and that this shortage is critical in sub-Saharan African countries which bear a disproportionate burden of infectious disease with very limited resources (E. J. Mills et al. 2011) and that migration contributes to these critical shortages, what responses have been proposed? Initially the response to the uneven distribution of trained healthcare personnel laid great emphasis on the regulation of migration flows. More recently, as the difficulties of regulating migration have become apparent, other responses have emerged.

## Migration regulation

With global migration of healthcare professionals established as a prime contributing factor to poor health (or at least poor provision of services) in the countries of emigration, responses that sought to regulate that migration seemed unavoidable. The focus on restricting or reversing migration flows has been widespread, although it is not an explicit part of the 10 year plan outlined in the 2006 World Health Report (WHO 2006). The report suggests that it should be possible to ‘Manage increased migratory flows for equity and fairness’ which is rather different from the implication that doctors should be induced to stay where they were trained or to return there.

In contexts where a link between migration and development are posited Raghuram points out that it is routinely assumed that migration is ‘something that can be contained, regulated or influence’ (Raghuram 2009: 104). Conceptualising migration

as a current that can be manipulated is often accompanied by an assumption of ‘perfect human capital transferability’ in the analytical framework’ (Lien and Wang 2005: 154). Since the low density of healthcare professionals had been identified as virtually causing poor mortality rates, the problematic movement of doctors and nurses clearly had to be slowed or reversed. Preventing professionals from leaving countries with poor health outcomes and persuading those that have left to return thus becomes a priority. To this effect, source countries applied various combinations of pressures and incentives. Policies to strengthen local education and training to prevent people from leaving in search of career development elsewhere have been combined with attempts to bond health workers by requiring a period of labour after graduation. The likely utility of such policies varied very much between countries, depending on the size of the country’s population, its resident healthcare professionals and the medical diaspora. In poor countries, such as Ghana, with a small number of resident healthcare workers, even if a policy of migration-reversal could be achieved, it would not bring the density of physicians up to suitable levels (Arah, Ogbu, and Okeke 2008). By contrast in richer countries such as New Zealand, where the numbers are much higher per head of population, it has proved easier to attract health workers to return from the OECD countries to which they have migrated (Zurn and Dumont 2008).

It is not clear that such initiatives have had much enduring success in preventing graduate doctors and nurses from leaving their country of education (Kwadwo Mensah 2005). Not surprisingly proposals to require medical school fees to be re-paid by graduates who emigrate have proved highly unpopular and also circumventable, partly due to the weaker currencies in countries using such initiatives (Kwadwo Mensah 2005).

Doctors themselves are very much against their own migration being subject to regulation (Aly and Taj 2008; Igbokwe 2007), arguing that their international mobility will, ultimately benefit the country where they received their training (Dalmia 2006; Rahman and Khan 2007). In some cases, emigrant doctors are involved with bringing their own expertise back to the place where they received their initial training, for example see <http://tslworkshopsng.com/home> (Igbokwe 2007) and <http://www.iub.edu.bd/index.php/component/content/article/386-professor-m-omar-rahman-appointed-as-vice-chancellor-of-independent-university-bangladesh.html> (Rahman and Khan 2007). To improve retention of doctors in source countries, doctors suggest improving their conditions of training and employment (Aly and Taj 2008; Rahman and Khan 2007).

## ‘Ethical’ recruitment

Destination countries have been urged to adopt ethical recruitment policies, to make bilateral agreements with the sending countries and offer compensatory payments to countries which have trained a considerable proportion of their healthcare staff (Mackintosh, Raghuram, and Henry 2006). The UK announced a code to restrict recruitment from 150 developing countries, albeit having absorbed 13,000 foreign nurses and 4,000 doctors between 2000 and 2004. While such restrictions on recruitment applied to public sector health care facilities, private healthcare was exempt, so there was little effect on overall numbers of foreign recruitment (Daniels 2008). In the Canadian context, research has shown that there is little consideration given to the ethical implications of recruitment, since the over-riding concern is simply to fill empty jobs (Runnels, Labonté, and Packer 2011).

## Restitution

There has been discussion of compensating the countries of emigration for the costs of training medical professionals subsequently employed elsewhere. While in private medical schools, the cost of medical school fees falls to the student, in publically-funded education systems the injustice of ‘poaching’ professionals who should be available to the local public could be addressed by financial restitution (Mackintosh, Raghuram, and Henry 2006; Mackintosh et al. 2006). Initiatives in source and destination countries have encouraged migrant professionals to get involved in developing medical services and medical education in the country where they were originally trained. Immigration regulation makes it difficult for migrant doctors and nurses to return to work in their countries of education, without relinquishing permanent residency or citizenship of the new country (VSO 2010).

Medical migration is treated as an issue of inequality between nation states whereby the cost of creating expertise should be borne by the country that benefits. Thus when the ‘intellectual property’ that medical professionals represent leaves the country that trained them, that country should gain from the migration in some way (Pang 2002). The logic of this argument is that the market for medical professionals has created the inequalities, and therefore perhaps the methods of the market should also rectify them.

## Problematizing migration

A clear and simple link has been constructed whereby 'brain drain' 'creates a large gap in the workforce that leaves the provision of healthcare in these countries in tatters' (Hooper 2008). Such descriptions of 'brain drain' suggest that appropriately qualified people are following the gravity of income differentials to flood from poor to rich countries, thereby simply altering the location where they provide services. Medical migrants have been described as 'intellectual property' (Pang 2002), asserting their status as a commodity. Modelling migration as a flow constructs skilled migrants as a resource that can be regulated and is an over simplification. Migration has never been straightforwardly driven by market demand such that if the employment opportunities are reduced, then people will stop arriving. Migration is more complicated and contradictory than a simple transfer of expertise from one location to another, since it involves processes at a number of levels, including international, national, local and individual. Migration is shaped by distinctive policy processes and political structures (Smith and Favell 2006), within which people operate. Migration is doubtless motivated by a desire for professional development, among other values, hopes, expectations (Larsen et al. 2005) and aspirations that migrants hold for themselves, their immediate and extended families (Humphries, Brugha, and McGee 2009). These powerful motivations mean that migrants sometimes travel to a new location, even in the absence of work (Connell 2010: 80) but migrants also tend to maintain allegiance to localities such that migration extends rather than transfers a person's belonging.

The tendency to maintain contact with more than one locality has led some to speak of circulation rather than drain (Smith and Favell 2006: 25) of brains. While this may over-emphasize the likelihood of skilled professionals returning to resource-poor settings, it underlines migrants' agency. Other models have highlighted that private remittances by migrant workers in general represent a significant source of funds for developing countries, greater than development aid funds and second only to direct foreign investment. However, health workers constitute a small proportion of the total number of workers and, since, their remittances are not reinvested in human capital for the health system (Scott et al. 2004) they should not be offset against the losses to a country of losing medical professionals.

The impact of doctors' emigration on the health systems of the countries that they leave has been an unknown variable. One model of calculation suggested that those sub-Saharan African countries most affected by HIV/AIDS showed great losses

with Zimbabwe and South African showing the greatest estimated compounded lost investment over gross domestic product (E. J. Mills et al. 2011). On the other side of the argument, high rates of professional emigration can encourage a higher proportion of the population putting themselves forward for professional training, thereby boosting the education achievement of the whole country (Stark 2005; Clemens 2007).

In seeking to disrupt the focus on migration as a cause of health problems, the emigration of skilled healthcare workers and poor health outcomes are both cast as symptoms of the same problem of economic under-development, but not as causatively associated. Rather than trying to 'fix' migration we should see health worker migration and poor health outcomes as twin symptoms of uneven global development (Clemens 2010). Arguing that emigration of highly trained health professionals was unlikely to be a key factor in African countries' poor health outcomes, it is suggested that those doctors who emigrate from sub-Saharan African countries would not otherwise have been working with the rural and slum-dwelling poor. Drawing on census data (Clemens and Pettersson 2008), show that the number of trained health professionals working outwith the public sector or entirely outwith the health sector in Kenya and South Africa is greater than the number working outside the country (Clemens 2007). Rural posts in, for instance, South Africa, often remain unfilled, because qualified staff prefer city-life and even where officially filled, post-holders may be regularly absent. In short, unfilled positions and a lack of service provision is not a function of the number of health workers within a nation's borders and therefore introducing a recruitment ban or blocking visas to control emigration is unlikely to promote the uptake of medical jobs (Clemens 2007). This analysis suggests that the impact of a highly trained professional is smallest where that person can be replaced by a less trained professional capable of delivering the same or more effective preventative care. Restricting migration or banning recruitment not only has little potential to improve matters in terms of increasing the numbers of healthcare workers in public service, but may actually 'inflict harm' (Clemens 2007: 38). By contrast, a well-designed migration policy, it is argued, can result in a 'brain gain' to the developing country rather than in just a 'brain drain' from it (Stark 2005).

The loss of trained healthcare personnel from public health services can, of course, happen in the absence of international migration, with, for example charitable foundations and other non-governmental organisations (NGOs) offering better terms and conditions of employment than local hospitals in resource-poor settings (Zachariah 2009; Larsson 2009). The development of a job market parallel to the local general medical services has attracted healthcare workers away from rural settings

and public hospitals to city-based jobs, sometimes administering NGO programmes, rather than performing clinical work (Connell 2010: 104). Well-funded international programmes aimed at people with HIV have been held responsible for this type of internal or local 'brain drain'. The contemporary move away from funding interventions focused on HIV/AIDS and towards maternal and child health as well as improving the overall strength of health systems can be seen as a response (E. J. Mills et al. 2011).

From early analysis (Gish and Godfrey 1979) to more recent assessments (Arah, Ogbu, and Okeke 2008), there is agreement (which has not necessarily been heeded) that solutions to

the problem raised by these international movements are not to be found within the movements themselves but in necessary changes within the framework of specific national (health care) systems and, of course, the social, political and class structures in which they exist (Gish and Godfrey 1979).

## Task-shifting

Of late there has been a realization that the 'global health workforce crisis' goes beyond the issue of migration (OECD 2010). While the sense that there is a global shortage of 4.3 million health personnel persists, there is acknowledgement that the international migration of doctors and nurses which 'has become increasingly visible' has 'often seen as the main culprit behind these shortages' (OECD 2010: 1) which may not have been appropriate.

Given that nurse and physician shortages look set to remain a feature of the health-care staffing for the foreseeable future in the UK, Australia and the US, healthcare professional migration to these countries is likely to persist. The gravity of the health problems facing countries such as Malawi and Zambia, which have been exacerbated, if not created, by mass emigration has shaped the 'necessary conditions for exploring new ways to deliver health care; ways that are possibly less expensive, more community focused, more empowering' and possibly more effective (MacLachlan and Mc Auliffe 2005).

This search for ways of providing health care that are not reliant on physicians and nurses, derives from the observation that where these professionals were absent, services were being delivered nonetheless (Kruk et al. 2009). The informal practice whereby unqualified people take on work conventionally undertaken by trained or

more highly trained personnel elsewhere is termed ‘task-shifting’ and has been proposed as a means of overcoming staff shortages (Smith and Favell 2006). In Mozambique, Uganda, Kenya and Malawi, nurse practitioners have become the core of the health system, doing surgical procedures, administering anaesthetic and anti-retroviral therapy and writing prescriptions (Connell 2010: 180). While in Malawi clinical officers and clinical assistants now constitute a significant healthcare workforce but one that does not have the international mobility conferred by an internationally recognized medical degree (MacLachlan and Mc Auliffe 2005).

Instead of producing clinically oriented health professionals who are expensive to train, health workers whose skills are appropriate to the disease burden and availability of resources in that particularly setting are being trained. Research evidence points towards the clinical efficacy and economic value of so-called mid-level cadres particularly in the provision of emergency obstetric care (Mc Auliffe et al. 2011).

One advantage of this approach has been described as the reduced tendency for health professionals educated in Thai (rather than English) to be able to emigrate for employment overseas afterwards (Dovlo 2003). However, others warn that the ‘belief that these cadres are not internationally marketable has given rise to a certain complacency in the management and motivation of such workers.’ (Mc Auliffe et al. 2011). Such complacency has apparently been compounded by a tendency to introduce such ‘mid-level cadres’ as a short-term measure in anticipation that once the stock of workers built up again, they would no longer be needed (Mc Auliffe et al. 2011).

The success of task-shifting and the interest that it has provoked world-wide (East, Central, and Southern African Health Community (ECSA-HC) 2010; Lehmann et al. 2009; Mannan et al. 2010) suggests that the provision of healthcare services is undergoing a significant change. The provision of surgical interventions such as Caesarean section and cataract removal interventions that were previously confined to physicians and nurses by people with less training is noteworthy.

## Global equity

For some, the rise of ‘intermediate cadres’ or clinical officers represent the provision of sub-standard care to poorer countries, whereas for others it is a long overdue recognition that highly trained healthcare professionals are not an appropriate

response to the major public health problems facing the global south. The questions of global equity that underpin how we should respond to the inequitable distribution of healthcare personnel are not particular to the field of health: how should resources be distributed nationally, internationally, globally? Where resources are related to health and wellbeing, there is a certain exigency in the question of equity, since without one's health, it is difficult to enjoy any of the other aspects of human existence (Daniels 2008).

The question of how health relates to economic development has also underpinned how medical migration and its effect on the provision of health services has been understood. During the rise of the neoliberal reduction of regulation on markets, there was a belief that economic expansion would automatically result in health improvements. When life expectancies were shown to be in decline at the end of the 1990s, the idea that population health had to be promoted as a precursor to economic development gained support. Quantifying the effect of improved health (e.g. 'increase in life expectancy raises GDP by 4%' (Garbayo, Campbell, and Nakari 2012)) advances health as a pre-requisite for economic development rather than as a human right and public good which should be promoted and developed for its own sake.

## Concluding comments

Simplistic assumptions about the causes of and appropriate responses to the 'global healthcare workforce crisis' are being revisited. The migration of skilled medical workers in search of improved employment and living opportunities cannot be regarded as the sole or major cause of shortages of healthcare staff in resource-poor settings, including those with a high burden of HIV infection. Concomitantly attempts to regulate migration flows of healthcare workers through ethical recruitment, migration restriction etc., cannot be the major global response to shortages of healthcare workers. While rich countries' obligations to staff their healthcare systems in a sustainable fashion that does not damage the prospects of other countries developing good quality health services is not in doubt, this survey raises other questions around national and international obligations and equity.

Medical migrants have been treated as a resource, available for the staffing of rich world health services, as a migration flow that can be regulated through the manipu-

latation of visa distribution and professional regulation. As the ethical dimension of international medical migration emerged, physicians' and nurses' skills and labour have been presumed to 'belong' to the country where they were initially trained. Restitution payments and ethical regulation of migration reinforce this idea of the national ownership or situated belonging of skilled healthcare workers. The success of task-shifting as a means of providing particular interventions looks like a means of safe-guarding some healthcare staff against the tendency to migrate away from impoverished or otherwise difficult clinical settings. Through a reduction of a worker's ability to sell his or her skills internationally, task-shifting reduces the possibility of some forms of occupational mobility. But for how long will this reduction in mobility pertain? If clinical officers become significant providers of health services in more than one setting, will the familiar patterns of rural-to-urban and then urban-to-urban migration develop? Will training as a clinical officer become the first step in an eventual nurse-training to facilitate longer-range migration?

The 'medical exceptionalism', whereby skilled healthcare workers are treated as particularly precious to and vital for a society's wellbeing, in comparison with other types of workers, stands in tension with other aspects of medical migration. A tendency to treat physicians and nurses as belonging to or having particular obligations to their original national setting, stands in contradiction to the increasing internationalisation of medical labour markets, and efforts by countries such as India (with its significant supply of private medical schools), Ireland and Cuba to train physicians for export, and the Philippines supplying nurses across the globe. The claims that medicine makes as a universally applicable system of knowledge and practice facilitates international migration of qualified workers, even as the difficulties that migrant medics find in practising abroad call such universality into question.

Certain categories of patients are matching healthcare workers in their global mobility (Whittaker, Manderson, and Cartwright 2010), with, for instance, the Norwegian Directorate of Health pondering its obligations to the ten to thirty thousand Norwegian nationals living in Spain ("Migration and Health. Challenges and Trends" 2009). Despite the mobility of patients and providers, the demand for health services and the delivery of those services remains a thoroughly localised business, in that, localism and proximate embodied communication remain key to understanding both the provision and experience of care.

The ways in which the training of healthcare professionals and provision of health services remains localised and nationally-bounded, despite the international movements of personnel, ideas and technology represents a tension that is not easily solu-

ble through ethical recruitment policies nor other global governance initiatives. The changes, of which global medical migration is a part, represent a re-forging of the relationship between the individual within society and how this relates to mobility between nation states. An interesting prospect for the future is whether we can use the lessons learned from evaluations of task-shifting in resource-poor settings to re-evaluate how health services are provided in the rich world.

Research questions around international medical migration are ripe for a multi-disciplinary approach that permits consideration of macro, meso and micro-level aspects of migration and healthcare provision. Until now international policy making on migration has been confined to 'silos' where each particular interest (trade, labour, security) works towards its own goals, which may be different or even incompatible with one another (Zimmerman, Kiss, and Hossain 2011). Until evidence regarding the health aspects of migration, whether positive or negative, is taken seriously, it is hard to see how global policy with respect to the mobility of healthcare professionals will develop beyond a simplistic manpower approach, interwoven with emotive pleas for justice.

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