

**Health workforce imbalances in times of globalisation:  
brain drain or professional mobility?**

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## **SUMMARY**

The health workforce is of strategic importance to the performance of national health systems as well as of international disease control initiatives. The brain drain from rural to urban areas, and from developing to industrialised countries is a long-standing phenomenon in the health professions but has in recent years taken extreme proportions, particularly in Africa. Adopting the wider perspective of health workforce balances, this paper presents an analysis of the underlying mechanisms of health professional migration and possible strategies to reduce its negative impact on health services.

The opening up of international borders for goods and labour, a key strategy in the current liberal global economy, is accompanied by a linguistic shift from 'human capital flight' and 'brain drain' to 'professional mobility' or 'brain circulation'. In reality, this mobility is very asymmetrical, to the detriment of less developed countries, which lose not only much-needed human resources, but also considerable investments in education and fiscal income.

We argue that low professional satisfaction and the decreasing social valuation of the health professionals are important determinants of the decreasing attraction of the health professions, which underlies both the push from the exporting countries, as well as the pull from the recipient countries. Solutions should therefore be based on this wider perspective, interrelating health workforce imbalances between, but also within developing and developed countries.

### ***Key words***

Brain drain, human resources, health policy, workforce balance, globalisation.

## INTRODUCTION

During the international 'Health Care for All' conference (Antwerp 2001, [www.itg.be/hca](http://www.itg.be/hca)), most national leaders and representatives from the South identified the availability and quality of human resources as the key determinant and the main problem of performance of healthcare organisations and health systems. Also the World Health Organisation and other authors have drawn attention to the insufficiencies of human resources in the health sector as a constraint to achieving the Millennium Development Goals and to the scaling up of interventions on major health problems, such as HIV/AIDS, maternal and child health, TBC and malaria (WHO, 1995, 2000, 2002; Martineau and Buchan, 2000; Mercer *et al.*, 2002; Van Lerberghe *et al.*, 2002; Brugha *et al.*, 2002; Kvale, 2002).

While obviously human resources have always been on the health policy agenda, the driving forces as well as the focus of the debate have changed over the last decade, with a shift to issues as the implications of the public/private balance, decentralisation, civil service reform, performance management, and last but not least HIV/AIDS (Van Lerberghe and Ferrinho, 2002; Mercer *et al.* 2002). More recently, the brain drain and the effects of globalisation on health systems have become topical issues (Frenk and Gomez-Dantes, 2002; Taylor, 2002).

In this paper, we analyse the underlying causes of the migration of health professionals and discuss possible strategies to reduce its negative impact on health systems.

## HEALTH WORKFORCE BALANCE AND IMBALANCE

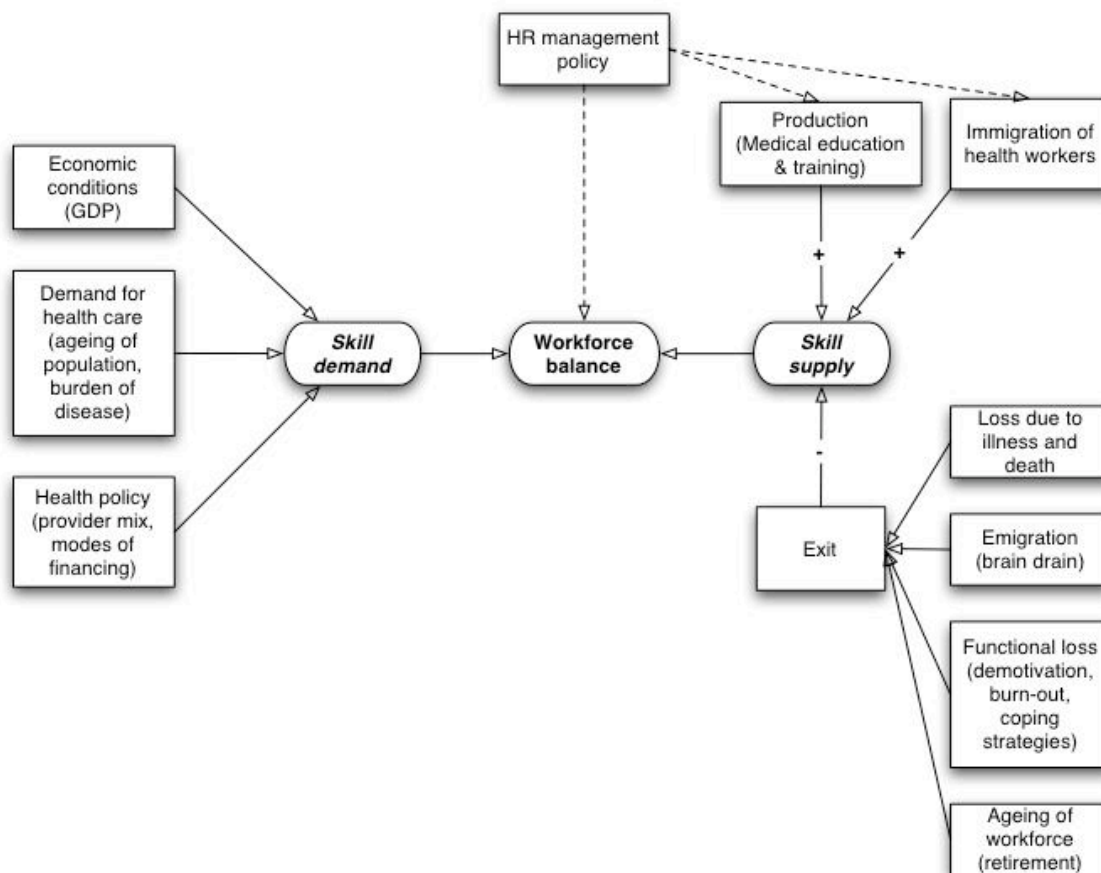
The term "brain drain" was coined in the 1960s to describe the migration of mainly British scholars to the USA and denoted a negative effect of the loss of qualified manpower for the "exporting" countries (Teferra, 2000). Already then, concerns were raised about the loss of professionals from the low-income to more developed countries (Martineau *et al.*, 2002). The subject lost its prominence in the international debate during the 1970s (Martineau *et al.*, 2002), but has recently reappeared high on the agenda with a flurry of publications (Anonymous, 2000; International Organization for Migration, 2001; World Bank, 2001; Economic Commission for Africa, 2002; Kerse and Ron, 2002<sup>1</sup>; Pang *et al.*, 2002; International Labour Office, 2003). Strikingly, in the publications of the World Bank and other international agencies, the terms 'human capital flight' and 'brain drain' are increasingly replaced by 'professional migration', 'professional mobility' or 'brain circulation' (International Organization for Migration, 2001; World Bank, 2001; OECD, 2002).

A health workforce balance model developed by Zurn *et al.*, (2002) allows situating the brain drain issue in a broader perspective. This model relates the factors that influence the balance between the supply of skills and the needs of the health system (figure). Economic conditions, the health system context, the demand for and utilisation of health care determine the demand. The supply side is influenced by the balance between inflow into the professions (education, training, recruitment) and outflow (retirement, illness, death and emigration).

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<sup>1</sup> Kerse L, Ron A. 2002. Migration of skilled professionals in the Pacific. Presentation to the plenary session of the symposium "Brain drain, brain gain or brain transfer?" 24 May 2002, Brussels, organized by the Centre for Equal Opportunities and Opposition to Racism, the Higher Institute of Labour Studies of the Catholic University of Leuven and the Flemish Inter-university Council (VLIR).

Figure – Determinants of health workforce balance (adapted from Zurn *et al.*, 2002)



### BRAIN DRAIN PATTERNS

An estimated 27,000 highly qualified Africans (lecturers, engineers, doctors, etc) left their continent between 1960 and 1975 (Economic Commission for Africa, 1999). The annual number of departures rose to some 8,000 per year in 1987, and to no less than 20,000 annually in the 1990ies. Other continents are hit as well. India has been losing an estimated 15,000 to 20,000 information and communication technology professionals annually (UNDP, 2001). Since decades, scientists from all over the world have been attracted to North America, Japan and Europe (Teferra, 2000).

Health personnel have always been subject to the lure of migration, in particular nurses and doctors and recently also physiotherapists, pharmacists and biomedical researchers; they probably even account for the majority of professional migration (Martineau *et al.*, 2002).

The brain drain is a quite heterogeneous phenomenon. It can be orderly, encouraged and even organised by importing countries; or irregular, unwanted and unauthorised. In the health sector, the brain drain consists of multiple flows. Within developing countries, internal migration flows generally from the primary level to hospitals, from rural to urban areas, from clinical and research positions to managerial posts, and from the government service to the private sector. Donor agencies also cream off skilled health workers to support their programmes.

In this paper, we will not dwell further on this internal migration. However, gaps created by departure of professionals are in many cases filled by attracting professionals from other countries. To a given extent, the international migration resembles a cascade, flowing from the most deprived regions within the developing countries to middle income countries and from

there to high income countries (Meyer, 2001). Overall, the USA, UK and Canada are the largest net gainers, able to attract health professionals from all over the world (OECD, 2002).

Up till the 1970s, medical doctors from all over the world were mainly attracted to the USA and to a lesser degree the UK. Language, cultural ties and recruitment programmes were important factors. While, particularly for the UK, the early influx came mainly from India and Pakistan, doctors increasingly migrated from sub-Saharan Africa, Egypt, the former Soviet Union and other countries as well (Martineau *et al.*, 2002). Historically, the migration of nurses has always been more diverse. In recent years the increasing inflow of nurses and midwives to the UK consisted of fewer professional migrants from developed countries and a higher proportion from sub-Saharan Africa countries (Martineau *et al.*, 2002).

By now, most health systems in Africa are suffering enormously. South Africa loses up to half of its medical graduates to the brain drain (Pang *et al.*, 2002), while in 1999 up to three quarters of its rural doctors were non-nationals (Martineau *et al.*, 2002). Thus, while exporting its own doctors to the UK, USA and Australia, South Africa was importing doctors from elsewhere, mainly Africa. Zambia is particularly hard hit. Of the around 600 doctors who graduated at the medical school of Lusaka since 1980, only 50 of them now remain in Zambia (Bundred and Levitt, 2000). It is estimated that half of Ghana's doctors are working abroad (Teferra, 2000) and that some 18,000 Zimbabwean nurses left their country (Pang *et al.*, 2002).

Other continents are hit as well. Half of Tongan doctors are working abroad, mainly in New Zealand and Australia (Kerse and Ron, 2002). In Jamaica, the brain drain diminished the nursing workforce from 3,000 to 1,000, forcing the country to recruit nurses in Cuba (Wickramasekara, 2002<sup>2</sup>). Filipino nurses have been leaving their country for more than 40 years, resulting in more than 150,000 Filipino nurses working outside their country (Pang *et al.*, 2002). The lure of vacancies for nurses in the USA is such that Filipino medical doctors are retraining as nurses (Choo, 2003). Also India, China, and Thailand are major suppliers of nurses to the USA and Europe.

In addition to the long-term migration, there may be also relatively high levels of shorter-term migration, although this is much harder to measure and accurate data are not available (Martineau *et al.*, 2002). The professional migration from Europe to the USA is more temporary than permanent, resulting in 'brain circulation' rather than 'brain drain' (OECD, 2002).

## CONSEQUENCES

The first and foremost consequence of this brain drain is a sharp decrease of the availability and quality of health services in developing countries, and by the cascade, this is mainly felt in rural areas and in the public sector. The poorest suffer thus most; the brain drain increases inequity (Anonymous, 2000; WHO, 2001b; Wickramasekara, 2002). Second, exporting countries lose considerable investments in the education and training of their health professionals, and must incur the cost of attracting foreign staff. The United Nations Commission for Trade and Development estimated that each professional leaving Africa costs the continent US\$184,000; with the current level of emigration of 20,000 graduates annually, the total cost roughly equals the US\$4 billion spent yearly on the salaries of 100,000 foreign experts, which represents one third of official development assistance funds to Africa (UNEP, 2001). Furthermore, these professionals are usually among the highest taxpayers in their countries and their departure results in important fiscal losses (The Economist, 2002). Finally, brain drain can lead to brain waste when expatriate specialists are employed in high-income countries in functions below their level of qualification (Bundred and Kerse, 2000).

It is argued that, to some extent, remittances of foreign exchange to the home country could offset the losses. According to the World Bank (2000), remittances from emigrants amount to

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<sup>2</sup> Wickramasekara P. 2002. The brain drain: Some reflections on migration of highly skilled persons from developing countries. Presentation to the plenary session of the symposium "Brain drain, brain gain or brain transfer?" 24 May, 2002, Brussels, organized by the Centre for Equal Opportunities and Opposition to Racism, the Higher Institute of Labour Studies of the Catholic University of Leuven and the Flemish Inter-university Council (VLIR)

about US\$75 billion each year, 50% more than total official development assistance. These represent around 20% of the GNP for Cape Verde, 23% for Eritrea, 25% for Yemen and 26% for Samoa (International Organization for Migration, 2001). These substantial funds improve household incomes, indirectly enhance local trade, and may be partially, but certainly not directly injected into the health system (Kerse and Ron, 2002; Wickramasekara, 2002). The creation of long term professional networks and improved training may be considered as positive consequences of the brain drain, but this does not outweigh the net loss of capacity (Pang et al., 2002). In general, migration may act as a safety valve to alleviate internal labour market surpluses (Teferra, 2000; World Bank, 2000); the Philippines sends out over half a million temporary migrants annually, providing an outlet for its workforce plagued by high unemployment rates (Alburo and Abella, 2002). However, it is hard to see how this argument would apply to the health sector in most countries.

## **UNDERLYING MECHANISMS**

### ***Exporting countries***

In low-income countries, political, economic and social push factors abound: political instability, civil strife, insecurity, oppression and poor housing, social services and educational facilities for children. Low salaries, shortages of supplies and work overload contribute to unsatisfactory working conditions. Finally, lack of continued education and professional development contribute to reduce professional fulfilment (Bundred and Levitt, 2000; Kerse and Ron, 2002). The lack of commitment (and resources) to improve these essential employment conditions from most African governments is considered to be a major bottleneck to the full use of existing professional capacity (Economic and Social Council, 2001).

### ***Importing countries***

The increasing demand for health care in the higher income countries is fuelled to a large extent by demographic trends, e.g. the ageing of the baby-boom generation (Berliner and Ginzberg, 2003). Also advances in medical practice and technology, emerging new diseases and increasing expectations increase the demand for health care (Berliner and Ginzberg, 2003; Buchan, 2000). In the UK for instance, the introduction of the National Health Service plan in 2000 called for an estimated 10,000 additional doctors to be employed by 2005 (Department of Health, 2000).

This increasing demand has not been met by appropriate measures to increase the domestic health workforce inflow and retention. In many higher income countries, applications for medical undergraduate and postgraduate education have been decreasing, either spontaneously or through intervention. In the USA, applications to medical colleges dropped from 46,968 students in 1996 to 37,137 in 2000 (Charatan, 2000), pointing to the reduced spontaneous attraction of the medical profession. A good example of the difficulties of the planning of health workforce development is Canada, where in the 1980s, a future oversupply was predicted and a 10% reduction in posts for medical residents instituted. Combined with a reduction in the intake of foreign medical professionals, this contributed to a current deficit of doctors (Bundred and Levitt 2000).

The inflow to the nursing profession is even more problematic. Increasing alternative career options for women (who still represent over 90% of the nursing workforce) and the reduced attraction of the job reduce inflow to the profession more than financial considerations (Berliner and Ginzberg 2003). In the UK, the number of newly graduated UK nurses declined by a third between 1990 and 1999 (Finlayson et al., 2002a). In 2000, vacancies for registered nurses and midwives amounted according to different sources to 10,000-20,000; it is estimated that with current trends, the National Health Service will need to recruit 110,000 nurses by 2004 (The Royal College of Nursing, 2000). Part of the strategy in these developed countries is to recruit overseas. A foreign recruitment campaign for nurses by the NHS resulted in 29,000 overseas applicants in 2001, of whom 7,705 were registered (Finlayson et al. 2002a).

Besides inflow, retention of nurses is a second major problem in higher income countries. Since 1997, the exit from the nursing profession in the UK has been higher than the inflow. Both inflow

and retention are influenced by the salaries perceived as insufficiently keeping up with the cost of living, the perceptions of being undervalued, and the existence of better employment opportunities elsewhere (Finlayson *et al.*, 2002b). The nature of the nursing job has also been changing. Higher patient turnover, staff shortages and productivity standards result in ever-greater workloads, health sector reforms and hospital restructuring in increasing bureaucracy. This may explain why half of newly employed nurses in New York City leave their position within two years of employment (Berliner and Ginzberg, 2003).

### ***Common motives?***

Dissatisfaction among health care professionals appears to be on the rise in both higher and lower income countries. For a large part, doctors and nurses in rich and poor countries express their reasons for leaving their posts in a strikingly similar manner. For doctors, much of it can be summarised in terms of diminishing professional autonomy, increasing accountability pressure, government 'meddling', bureaucratic chores, lack of recognition by patients and authorities and generally reduced social status. Doctors in low-income countries will usually add low pay and poor working conditions to this list of demotivating factors. Generally, expectations of graduating doctors are not being met and they have usually little reason to believe this will change in the future. This phenomenon is not simple, nor homogenous, and may relate to the complex changes affecting current society, including liberalisation and the information revolution.

For the nursing profession, the situation is more different in higher and lower income countries. In the richer countries, perceived lack of recognition by hospital management and government authorities, together with issues of work overload and burnout seem to be major issues. In many poor countries, however, the social image of the nursing professional group is also an element of dissatisfaction and material and professional expectations are not being met.

This area of the intrinsic motivation of health professionals in both developed and developing countries is in urgent need of better understanding.

## **STRATEGIES TO STEM THE BRAIN DRAIN**

Wickramasekara (2002)<sup>2</sup> has categorised a number of strategies which may help to stem the tide of the brain drain, most of which apply to the exporting countries. Obviously, economic growth, political stability, democracy, good governance and respect for human rights are critical to the process. However, measures must also be taken from the pull-side in developed countries.

### ***Improving staff retention in low-income countries***

An overall conducive environment that offers opportunities and favourable working conditions is a major determinant of the health staff recruitment and retention capacity. Besides reasonable salaries, improved benefits (hardship allowances, subsidised school fees, housing) for health personnel working in remote areas are important incentives. Adequate working conditions and available of drugs and equipment are not only vital for the patients, but also for the staff. Some countries such as Peru have structured programmes to attract health personnel to remote rural areas with such strategies (Martínèz *et al.*, 1999). Similar programmes exist in other countries. Clear-cut merit-based career structures offering attractive posts in clinical or research fields, accompanied by adequate remuneration, can contribute to reduce the internal brain drain toward management functions (Frenk, 1992).

Other measures can be taken at the intake for medical education, by identifying candidates who are likely to stay in their country and work where they are most needed. Curricula better adapted to local conditions can equip medical graduates with skills and knowledge relevant to their real life working and may reduce professional frustration (Frommel, 2002).

Heller and Mills (2002) go even further by suggesting that developing countries should reform the staffing structure and skill mix of their health services. They call for the training of mid-level health personnel who will be less marketable and to whom tasks of full professionals can be delegated. Such medical auxiliaries would replace doctors to a large extent to manage patients suffering from straightforward conditions, and be less frustrated than doctors to work in poor

health systems. For more complicated pathologies, a cadre of medical staff trained to international standards would still be necessary. The authors suggest that developing countries would finance the training of mid-level health workers, while the donor countries would finance the training of professional personnel to an international standard. The latter would be bonded to work in their country for some years, after which they would be eligible to work abroad.

The training of mid-level health workers has been a standard practice in developing countries for many decades and there is thus little new in these proposals. However, creating new cadres of lesser-qualified staff specifically to fill gaps left by *departing* professionals institutionalises not only the brain drain, but also the health inequity between North and South.

### ***Return of migrants to their home country and resourcing of expatriates***

Return home of migrants can be induced or non-induced and permanent or temporary. The International Organisation for Migration (IOM) (2001) has implemented several voluntary return programmes in Europe, Latin America and Asia. In Africa, the 'Return and Reintegration of Qualified African Nationals' programme ran between 1983 and 1995, and stimulated the selective return of 2,565 urgently needed professionals of all kinds to Africa. Earlier programmes for India, South Korea and Taiwan focused on professionals working in research and development. However, the replicability of this strategy for Africa was low. First, the Asian programmes were initiated well before the current wave of globalisation (Wickramasekara, 2002). Secondly, the costs of the interventions are very high (International Organisation for Migration, 2001).

The currently fashionable paradigm is tapping into the skills and resources of the diaspora by hiring emigrants for short-term assignments and development activities in their home countries. Diaspora networks were called for in order to reduce brain decay and under-utilisation of expertise (Economic and Social Council, 2001; International Organization for Migration 2001, 2002). Teleworking, repeat visits and channelling remittances to income and employment generating activities in the country of origin are applied as additional instruments. Examples of such programmes are the 'Migration for Development in Africa' of the International Organization for Migration (2001), the 'Transfer of Knowledge through Expatriate Nationals' of the United Nations Development Programme and the 'Reverse brain drain project' in Thailand (National Science and Technology Development Agency, 2003). In Africa, government initiatives seem currently to be lacking, but a number of small-scale grassroots initiatives have emerged, such as the 'South African Network of Skills Abroad' (SANSA, 2003) and the 'Ethiopian North American Health Professionals Association' (ENAHPA, 2003).

The most important argument for this approach lies in the fact that the interests of neither the exporting country nor the importing country are undermined (Meyer, 2001). It is too early to assess its impact, however, and it seems unlikely that this 'brain mobility' will structurally alleviate health staff shortages in developing countries.

To stimulate trainees sent abroad to return home, various bonding systems have been tried, mostly by contracts obliging government service after return. In Eritrea, for instance, an upfront payment of US\$15,000 was imposed on students departing for studies in South Africa as a guarantee of their return (BBC, 2001). This measure was strongly opposed and had to be withdrawn. In the aftermath, alternative strategies have been suggested, such as withholding academic certificates until the students return to home.

### ***Reparation for loss of human capital***

Taxing the brain drain is an idea that dates back to the 1960s. Recently, the United Nations Development Programme (2001) raised the issue again in its annual report. Proposed modalities include student loan recovery mechanisms, exit fees, flat taxes for overseas workers, and a taxing system on nationality rather than residence. Bundred and Levitt (2000) have argued for WHO to administer a system whereby gaining countries compensate less-developed countries for their loss. Administration and transaction costs are likely to be high, however, and practical problems would abound in determining payment levels, paying procedures, enforcement and reimbursement to the exporting countries. Most important, it does not tackle the root causes of migration (Wickramasekara, 2002)<sup>2</sup>.



### **Restriction of international mobility and international rules**

Kerse and Ron (2002) argue that countries need to impose barriers to professional migration in an effort to slow down the outflow. Demanding compensation from departing professionals may assist in retaining at least some of them (Pang *et al.*, 2002).

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (Wonca) called for governments to examine their recruitment policies. The UK Department of Health (date unknown) has instituted a code of practice for international recruitment and also the Commonwealth has started working on a code of practice for 'fair' recruitment. However, Kerse and Ron (2002) argue that not fair but less recruiting is needed. Some countries have committed themselves to stem the inflow to their own country: South Africa, for example, has banned recruitment of doctors from other African countries (Bundred and Levitt, 2000).

### **Measures in importing countries**

Long-term solutions to the brain drain must include measures responding to unmet demands for and of health professionals in higher income countries. Similar to the situation in exporting countries, the attractiveness and retention capacity of the health professions must be enhanced: improving the professional image, better marketing and dissemination of information on career opportunities in health care, fulfilling working conditions, competitive financial and non-financial incentives, adapted staff deployment, flexible employment, career breaks and part-time arrangements, good retirement packages. Particularly for the nursing profession, entrants from non-conventional sources could be mobilised, such as staff from fire, military and police departments who retire at relative early ages (Buchan, 2000; Berliner and Ginzberg, 2002). Organisational measures include adapting staff deployment to shifting workloads (Buchan, 2000). In a pilot project in the UK, improved attraction and retention of nurses resulted from increased participation of nurses in decision-making and improving support systems (Havens and Aiken, 1999; Berliner and Ginzberg, 2002).

## **DOES GLOBALISATION DRIVE THE BRAIN DRAIN? ARE THE HIGHER INCOME COUNTRIES ENJOYING A FREE RIDE?**

Qualified health professionals share a common knowledge base, which has always facilitated their mobility (Martineau *et al.*, 2002). Professional migration of health staff started well before the current globalisation set in. However, globalisation and deregulation have made (selective) international migration far easier, resulting in huge transfers of human resources (Bundred and Levitt, 2000). In this process of 'brain mobility', a medical qualification proves to be a valuable portable possession (Anonymous, 2000). It has even been argued that developing countries should explore how health services can contribute to their economic growth (Hilary, 2001). Indeed, the World Bank report 'Global Economic Prospects 2002' maintains that developing countries could benefit from temporarily sending skilled personnel overseas (World Bank, 2001). The Philippines is a long-standing example of a country that has promoted and institutionalised the export of health professionals (Alburo and Abella, 2002). Also Cuba has set up an agency to actively manage its brain trade policy (Hilary, 2002).

Most other developing countries, however, cannot export health professionals without negatively affecting the performance of their health systems. Even the Philippines currently face a shortage of around 6% in their nursing workforce, which may rise to 29% by 2020 if current trends of production and migration continue (Padilla, 2003).

The drive underlying the brain drain is the pursuit of solutions for labour market deficits in higher income countries. The neoliberal argument for globalisation maintains that deregulation, opening up of markets and stimulating cross-border movement of persons and goods will eventually benefit all countries. Ethically, individual freedom of movement and the personal right to pursue self-fulfilment and better living conditions are called upon to justify the brain drain. The arguments are accompanied by the linguistic shift mentioned above, from 'brain drain' to 'professional mobility' (International Organization for Migration, 2001; World Bank, 2001; OECD, 2002). In reality and for the foreseeable future, these strategies are applied asymmetrically.

Indeed, developed countries maintain considerable barriers to immigration and selectively lower them for well-specified highly skilled professionals. As shown in this paper, the net result is skimming off the precious human capital of low-income countries. Calling a spade a spade, this type of professional mobility remains a brain *drain*, that suits the rich countries but further reduces the chances of socioeconomic development in the South. The health care needs and the correction of workforce imbalances in the North lead to more ill health and poverty for the hundreds of millions have-nots elsewhere in this world.

## **CONCLUSION**

The current interest in the brain drain is driven by multiple factors. While the importance of human resources for the quality of both general health services and disease control initiatives is now generally acknowledged, a fundamental paradigm shift seems to have taken place in the analysis of professional migration. The current globalisation strategies further undermine the already fragile workforce balances in many low-income countries.

Given the high stakes and the interrelated root causes, interventions should be directed both at exporting and importing countries. The causes underlying low professional satisfaction and the decreasing social valuation of the health professions in many countries are key issues. Understanding these better is an important challenge in human resource policy making.

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