

Health professionals' migration in emerging market economies: patterns, causes and possible solutions

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ABSTRACT

Background About a third of the countries affected by shortage of human resources for health are the emerging market economies (EMEs). The greatest shortage in absolute terms was found to be in India and Indonesia leading to health system crisis. This review identifies the patterns of migration of health workers, causes and possible solutions in these EMEs.

Methods A qualitative synthesis approach based on the 'critical review' and 'realist review' approaches to the literature review was used.

Results The patterns of migration of health professionals' in the EMEs have led to two types of discrepancies between health needs and healthcare workers: (i) within country (rural–urban, public–private or government healthcare sector–private sector) and (ii) across countries (south to north). Factors that influence migration include lack of employment opportunities, appropriate work environment and wages in EMEs, growing demand in high-income countries due to demographic transition, favourable country policies for financial remittances by migrant workers and medical education system of EMEs. A range of successful national and international initiatives to address health workforce migration were identified.

Conclusions Measures to control migration should be country specific and designed in accordance with the push and pull factors existing in the EMEs.

Keywords education, employment and skills, health services, public health

Introduction

Health workers are defined as 'people engaged in actions whose primary intent is to enhance health'.¹ The global healthcare labour market comprises 59.2 million health workers.² Globally, there is a shortage of 2.4 million physicians, nurses and midwives and 1.9 million pharmacists and other para-medical workers.^{1,2} World Health Organization (WHO) estimates that the basic healthcare system of 57 countries is affected by shortage of human resources and about one-third of these are the emerging market economies (EMEs).¹ The World Bank classifies 61 countries as emerging market economies based on their 'growing economic potential and international engagement, broader than the traditional classifications based on the gross national income per capita'.³

The biggest supplier of physicians to the world is India^{4–6} and Philippines the largest supplier of nurses.^{5–7}

Other major exporters are China, Mexico, Malaysia, Colombia, Egypt and Pakistan.^{4,6,8–11} The importers are mainly the high-income countries such as New Zealand, the USA, the UK, Canada and Australia.^{6,8} Research shows that >770 000 (~23%) doctors licensed to work in the USA in 2002 were imported from other countries.¹¹ While most EMEs are exporters of health workers, some countries such as Poland, South Africa and Chile export as well as import nurses from the global healthcare labour market.¹² The aim of this literature review are to identify the patterns of health professionals' migration, factors influencing migration and present evidence of successful national and international

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measures to address the problem of health professionals' migration in the EMEs.

Methods

The literature review presents a critical synthesis of a range of published literature. Literature search was done by systematically searching appropriate databases including Scopus, Emdis, PubMed, Popline and Google scholar using the key words 'migration', 'health workers', 'health professionals', 'brain drain' and 'emerging market economies'. The review was limited to the literature published in the past 22 years (1990–2012). This resulted in 678 hits, after reading the abstracts 196 articles were found suitable for full text review and 56 articles were included in this review. The review was undertaken using a qualitative synthesis approach based on the 'critical review'^{13,14} and 'realist review' approaches to the literature review.^{15,16} The literature review had an explanatory rather than a judgemental focus which is the strategy used in the realist review.¹⁵ The information from the identified literature were qualitatively synthesized by critically reviewing the studies and presenting them with their inherent bias (a realist perspective) in order to answer the research question.¹⁴

Findings

Patterns of migration

The direction of movement of health professionals across countries is from south to north,^{2,17,18} and within countries is from rural to urban² and public sector to private or non-governmental organizations (NGOs),¹⁹ known as 'internal brain drain'.^{20,21}

A WHO study showed that ~6% of the doctors and 5% of the nurses were living outside their home countries.¹⁷ A recent World Bank study showed that the proportion of health professionals' migration increased from 2.7% in 1991 to 3.7% in 2004 in the upper middle income countries and from 1.4 to 1.6% in the lower middle income group.²² Pacific island and Sub-Saharan Africa (SSA) had the highest rates of migration (~13%), followed by Latin America and the Caribbean islands (~11%) and the Middle East and North Africa (~10%).² This has contributed significantly to the shortage of health professionals in these countries. Among 30 identified countries, EMEs constituted the second most affected group after SSA where the rate of medical brain drain in 1991–2004 exceeded 75th percentile of the total distribution, and the number of physicians per 1000 population was below the 25th percentile.²²

The highest shortage in absolute numbers was found to be in India and Indonesia.^{1,2}

Although the number of medical and nursing schools is growing in the EMEs producing a substantial number of health professionals, the ratio of health professional to population in rural areas is grossly inadequate.⁸ India produces ~27 000 medical graduates every year and >75% of these work in cities, whereas ~70% of the patients are from rural areas.²³ Such rural–urban disparities are found in many EMEs and has resulted in inequity of health services and disproportionate distribution of the health professionals between urban and rural areas.²⁴

The move from public to private is now commonly seen in the EMEs such as India, Thailand and China. In a free market economy, with the growth of medical tourism there is an upsurge of private and multinational hospitals.^{24–26} To compete for status and quality, these hospitals hire the best specialists in the country, increasing the internal brain drain^{23–25} and resulting in compromises to the public healthcare systems.^{23,27} NGOs and humanitarian agencies mainly implement vertical programmes that require high intensity and accelerated performance. Human resource and time are the major determinants for their success. Hence, they often adopt shortcuts by hiring efficient health workers from the public health system through generous remunerations.^{20,21}

Thus, the migration of health professionals has led to two types of discrepancies between health needs and healthcare workers: the first is within country and the second across countries from the south to north.²⁸ However, globalization has made 'brain drain' multi-directional and the term 'brain circulation' appears to replace 'brain drain'.² For example many health professionals from Canada migrate to the USA and the vacancies left behind are filled by health professionals from India, Philippines, South Africa and other EMEs.² In addition, a new pattern of migration is becoming prevalent in the EMEs in recent years. In the Philippines many doctors are re-training as nurses owing to the high international demand for nurses²⁹ and in China local doctors unable to compete in the growing market for physicians trained abroad are shifting to research and jobs in the pharmaceutical companies leading to 'brain waste'.^{27,30}

Factors influencing migration

The most common factors prevalent for >60 years that influence migration are described as the external 'pull' and the internal 'push' factors.^{6,31,32} The factors related to the patterns of migration in the EMEs are summarized in Table 1.

Table 1 Push and pull factors promoting migration in the EMEs

Push factors	Pull factors
Low-employment opportunities ^{12,33}	High-employment opportunities due to shortage of health staff in the destination countries ^{7,31,34,35}
Low wages ^{31,36} and poor work environment in home country ^{34,35,36}	Higher wage, Filipino nurses earn ~20 times more in the USA than in the Philippines ³⁴
Lack of professional development and specialist training especially in advanced medical technologies ^{7,31,34,35,36}	Proximity and family links in destination countries ^{7,36}
Political instability and poor socioeconomic conditions ^{10,33,36}	

Push factors

There is an increased rate of unemployment among health professionals due to the high annual turnover of doctors and nurses from the growing number of public and private medical schools in the EMEs.^{9,17} In addition, the structural adjustment policies (of the World Bank) adopted by most EMEs resulted in the reduction of jobs and inadequate investment in the healthcare sector, particularly the primary healthcare infrastructure in the rural areas.¹⁸ Apart from unemployment, studies have emphasized 'wage' both as push and pull factors.^{2,9,19,24,37,38} The increased demand for nurses and better wage opportunity have led Filipino doctors to retrain as nurses.²⁹

Health professionals who do not have proper work environments or are victims of bureaucracy and politics in the home country often go to other countries in search of opportunities.^{2,24,37,38} The level of stress related to responsibility and poor compensation has led to mental and physical exhaustion among young nurses in China.³⁹ Studies in several EMEs^{40,41,42} have identified better wages, job opportunities and work environment as the major reasons for migration. Other factors include poor living conditions for the healthcare workers and their families, and lack of proper educational institutions for their children in rural areas.⁴³

Further, the political climate and policies in some countries promote migration. For example, countries like the Philippines, Turkey and Mexico have developed policies for migrant health professionals to remit money to the home country in the form of taxes.^{2,12,26} The growing number of nursing schools in Philippines produce a large workforce that provides high remittances to the country, although their migration is crippling the country's own health system.^{12,29} Apart from the benefits of remittances, these countries also

do not have to create employment opportunities for the growing number of health professionals.^{29,31} The economic benefits from remittances on reducing poverty in the donor countries have been empirically demonstrated by various studies,^{44,45} but a study by Chauvet *et al.*⁴⁶ showed that the net benefits of remittances on child health and reducing infant mortality is reduced when expatriation of doctors are considered in the econometric models.

The growing number of medical and nursing schools and the mismatch between the curriculum and health system requirements also encourage migration. In order to maintain global competency, the medical education curriculum in many EMEs are highly technical and scientific, but the health system infrastructure and medical technologies available in these countries are not as advanced. Thus, the opportunities available to practice the advanced technical skills acquired by the health professionals are inadequate.⁹ This results in dissatisfaction and encourages migration.⁹ However, migrating in search of better opportunities may not always be favourable as many professionals are underutilized in the recipient country contributing to 'brain waste'.³³ The immigrants often encounter challenges in meeting the professional accreditation needs of the recipient countries and are known to face discrimination with regard to employment and promotions.³³ As a result many skilled immigrants end up in jobs for which they are over-qualified leading to brain waste or 'talent waste' which is suggested to be detrimental to the physical and mental health of such immigrants.^{47,48} This loss of 'human talent' is a universal loss, because the skills are not utilized by either the donor or the recipient country.⁴⁷

Pull factors

The desired opportunities (better wage, job opportunities and work environment) are usually provided by most high-income countries such as the USA, Canada, Australia and countries in the Western Europe to meet their increasing healthcare demands resulting from demographic transition.^{2,38} The current policies of investment in education of health professionals in these countries are insufficient to meet the demands of their growing healthcare market^{2,49,50} which they try to meet by recruiting health professionals from resource poor countries and from the EMEs.^{2,50} The necessity to address the increasing demand for health workers in these countries outweighs their commitment to human rights and ethics of recruiting health professionals from resource poor countries.⁵¹

Possible solutions

The migration of health professionals has resulted in breakdown of healthcare systems in many EMEs. To meet the

health challenges due to epidemiological and demographic transition, the healthcare systems in the EMEs need to be made fit for purpose,⁵² and tackling health professionals' migration is a key factor.

The literature suggests that the first step to resolve the problem of migration is to measure it through regular updating of databases of health workers for all countries.² The International Labour Organization maintains a database on Internal Labour Migration Statistics for its member states (http://www.ilo.org/public/english/protection/migrant/info/ilm_dbase.htm). This should be developed further to incorporate data on health professionals and their statistics of migration from all countries. There is the requirement of a vigilant surveillance system to show trends and patterns of migration, so that the underlying causes can be identified and to devise specific interventions. The following measures were identified for EMEs to mitigate the disadvantages of health professionals' migration:

Retention strategies. Analysis of the wage difference between the source countries in Africa and the recipient countries showed a huge gap which could not be narrowed by a small increase in the salary of the health professionals in these source countries.⁵³ It was suggested that non-wage instruments such as improved working and living conditions could be more effective in controlling migration in these countries.⁵³ Besides financial incentives, the provision for professional development was seen to work effectively in Ghana and South Africa.² Health professionals and students from local areas were awarded scholarships to undergo training in high-income countries if they agreed to return and work in rural and underserved areas of the country.^{2,54}

The education curriculum of most countries needs updating to focus on the healthcare needs of the population.² The focus is shifting from a specialist to generalist approach as most EMEs are undergoing reforms in their health systems.⁵⁵ This will decrease the mismatch between training and employment opportunities and will also help retain health professionals in rural areas.^{2,55} To resolve the issues of rural–urban migration of health professionals, there is a proposal to introduce a rural medical course to train a new cadre of health professional in India, who would be equipped to work exclusively in rural areas.⁵⁶ Other suggested strategies include provision of incentives such as fee concession, support to set up private practice in rural areas, mandatory government bonding and training nurses for primary healthcare centres.^{56,57} However, these incentives should be balanced with improving the working conditions for health professionals in rural areas coupled with

improving living conditions for their families and proper education for their children.

Task shifting. Migration of health professionals can be minimized, but cannot be prevented. Hence, adopting task-shifting strategies will be beneficial to expand the pool of human resources for healthcare. Studies have endorsed the benefits of task shifting in delivering cure and care services for HIV/AIDS in several countries⁵⁸ and the benefits of lay health workers in delivering primary and community health-care.⁵⁹ Despite challenges of the hierarchical healthcare system in India, the community health workers, known as the Accredited Social Health Activists, have been successful in aiding the delivery of the basic healthcare services (such as immunization, family planning, etc.) at the community level.⁶⁰

Brain circulation. An innovative approach taken by China since 2001 is 'brain circulation'. The Chinese government is encouraging their 'lost talent' to return for short-term assignments or hold concurrent positions in China and abroad to aid research and development in the country.²⁸ A similar trend is seen among the Indian emigrants.⁶¹ Perhaps affinities towards their culture, an emerging economy and provision from governments are the reasons that these two countries share the growing trend of 'brain circulation'.^{27,61} While EMEs can benefit from this triangular flow of talent, the challenge is to find successful measures to attract them.⁶¹ The returning skilled migrants can bring better skills and broader perspective to their home country paving way for breaking the prevailing orthodoxy of healthcare systems and the within-country push factors for migration.

Remittances. Although, studies show that donor countries benefit from the remittances, not all remittances are accounted for due to the various means used to remit income, some of which escape the tax systems of the receiving countries.⁴⁶ It is also not known whether the money remitted from exporting of health professionals is used to improve the health systems of the donor countries.⁴⁶ The donor countries could develop policies to use the remittances from exporting health professionals to build the public health infrastructure of the country. A radical measure suggested is that importing countries repay source countries through financial and technical support to their health systems.^{25,62} A recent paper suggested creating a Global Public Healthcare Service Corps, a national public health service structure to enable sharing of such expertise, technology and healthcare services.⁶³ This could benefit both the recipient and donor countries.

Discussion

Main findings of the study

The patterns of migration of health professionals within countries in the EMEs are from rural to urban and public to the private healthcare sector. Studies conducted in several EMEs identified a number of 'push and pull' factors for migration of health professionals.^{11,34,35,40} The 'push' factors include lack of employment opportunities, appropriate work environment and wages in EMEs, the medical education system of EMEs and favourable country policies for financial remittances by migrant workers. The major 'pull' factor identified is the growing need for health professionals in high-income countries to meet their increasing demand for healthcare. These factors have become even more powerful in the backdrop of globalization and free market economy.⁶

What is already known on this topic

Migration is an 'individual, spontaneous and voluntary act that is motivated by the perceived net gain of migrating'.⁶⁴ Migration has led to the inverse relationship between disease burden and density of health workers in many countries. The traditional 'push and pull factors' for migration are already known from various studies. The 2006 World Health Report highlighted the critical issue of global health worker crises and the WHO formed the Global Health Workforce Alliance (GHWa).⁶¹ In January 2009, a 'Global Code of Practice' was adopted by the executive board of the WHO to address the migration of health workers.⁶² To control the internal brain drain caused by movement of government health workers to NGOs, the 'NGO code of conduct' was launched in May, 2008 which urges the NGOs to replenish the loss by supporting training and capacity building of health workers.⁶⁵

What this study adds

Migration is a universal phenomenon and individuals have the right to choose their place of work. This review has collated the literature and identified the patterns of migration, factors influencing migration, and presents evidence of successful national and international measures to address the problem in the EMEs. Although various global strategies are recommended, there are barriers to implementing and enforcing them.⁶³ Even if implemented these do not address the fundamental problem of local and regional 'push and pull factors' that promote migration. The literature suggests that a possible solution to this problem would be for the donor countries to develop country-specific strategies related to the specific 'push and pull' factors of the

individual 'source' country to mitigate the disadvantages of health professionals' migration.

Limitations of the study

This is a critical synthesis of the published literature rather than the 'traditional' systematic review. However, the literature search was systematic and the qualitative synthesis used is a robust method. While the definition of health workers include all medical, para-medical, community and lay health workers, the inclusion criteria were limited to mainly doctors and nurses. The findings may therefore not be generalizable to other health workers.

Conclusion

Migration is a human right but its unidirectional pattern has caused concern especially due to the adverse impact on the healthcare systems of the EMEs. Measures to control migration should be country specific and designed in accordance with the push and pull factors existing in the source countries. Several national and international interventions have been implemented. However, it appears that interventions that focus on retention, task shifting, brain circulation and effective use of remittances could be the most effective.

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