BRAIN-DRAIN PHENOMENON AMONG HEALTHCARE WORKERS

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ABSTRACT

Background: One of biggest challenge for health human resource is the brain-drain issue. Regardless of the push and pull factors, migration of health care workers from developing countries to developed ones, have done more harm than good on the health care deliveries in the various countries. The aim of this paper is to review and explore the factors, impacts and strategies to improve the brain-drain phenomenon among healthcare workers.

Materials and Methods: A general review was conducted with the focus on the healthcare workers issues related to the brain-drain from various countries, guided by one research question; What are the brain-drain factors among the healthcare workers, its impacts and the strategies to improve the phenomenon? Relevant studies were identified. The literature searching was done based on the formulated research question from the electronic databases, PubMed, ScienceDirect and Google Scholar.

Result: 14 articles were reviewed from high-, middle- and low-income countries. Focusing on the healthcare sectors, most low- to middle-income countries demonstrated the internal brain-drain issues as income-generating potential was commonly observed within the private service. However, external brain-drain was more common in high-income countries. The factors that causes brain-drain include financial rewards, continuing rewards, career development, continuing education, hospital infrastructure, resource availability, hospital management, political issues, family issues, training, education and development.

Conclusion: The internal and external brain-drain phenomenon among healthcare workers were contributed by the pulling and pushing factors either from the donor countries or the receiving countries. The most common factors including income-generated potential, inadequate wages despite of poor working condition, no clear professional development and intellectual stimulation, and aggravated by the political and economic instability. A comprehensive approach needed by the policy maker and political actors to tackle these factors to improve the equity at all levels of healthcare service deliveries.

Keywords: brain-drain phenomenon, brain-drain factors, brain-drain impacts, brain-drain strategies, brain-drain in healthcare.
1.0 Introduction

One of the biggest challenges for health human resource is the brain-drain issue (Chen, 2004). Migration of health workers ‘brain-drain’ is defined as the movement of health personnel in search of a better standard of living and life quality, higher salaries, access to advanced technology and more stable political conditions. Migration of health workers from the developing to the developed world has remained pertinent for decades now. Regardless of the push and pull factors, migration of health care workers from developing countries to developed ones, have done more harm than good on the health care deliveries in the developing countries (Yusuf et al., 2016). The “brain-drain” is not a new phenomenon or limited to the health sector. One of the first documented brain-drains occurred during the Dark Ages, when emigrants from the Byzantine Empire played an important role in the transmission of classical knowledge to the Islamic world and Renaissance Italy. In the 19th and 20th centuries there were notable emigrations to North America from Europe. In modern times, brain-drain occurs mostly from low-resource to high-resource nations and from rural to urban areas (Serour, 2009).

International migration of highly skilled professionals first emerged as a major public health issue in the 1940s, when many European health professionals emigrated to the United Kingdom and the United States. By the mid-60s, the losses were enough to cause concern. World Health Organization (WHO, 1979) had published a detailed 40-country study on the importance and flow of health professionals, which findings suggested that close to 90% of all migrating physicians were moved to just five countries: Australia, Canada, the Federal Republic of Germany, the United Kingdom, and the United States (Ahmad, 2004). However, brain-drain can be beneficial, e.g. if migrants establish commercial networks abroad, remit significant amounts of income or technology, or return with greater skills, or if the possibility of migration increases the incentives to obtain education (Mountford, 1997). Therefore, human resource management in the public sector must be diligent in addressing issues involving these workers so that they could be retained for as long as possible in the public health care services. Turnover of doctors is costly for both the employer and the workers. The employer (government) would find replacement cost and hidden costs high while the workers (doctors) would find monetary and psychological costs taxing (Mitchell, Holtom & Lee, 2001). The proportion of effects of brain-drain depends on the extent of a country’s development (Yusuf, 2011). Developed countries, overall, have large numbers of scientists and healthcare and other professionals, the developing countries may have just a handful.

1.1 Brain-drain phenomenon among healthcare workers

The brain-drain of the health workforce is a global problem. The health care workers concerned in this phenomenon are commonly from the group of doctors and nurses that looking for a better living environment and income opportunity (Kalipeni et al., 2012). The health service providers, either form government or private entities were affected most by this phenomenon as more cost required for training and retaining activities (Yusuf, 2011). Doctors from Sub-Saharan Africa, Asia, and Pacific countries migrate to resource-rich countries, and it is estimated that more than 20% of physicians working in Australia, Canada, and USA come from other countries (Bourassa, Simoens & Gjouverida, 2004). The brain-drain of health workers occurs mostly from low- and low/middle-income countries to resource- rich countries and from rural to urban areas. The highest brain-drain rates are observed in the small
developing islands of the Pacific and the Caribbean (Serour, 2009). Approximately 65,000 (one-fifth) of African-born physicians and 70,000 (one-tenth) African-born professional nurses worked overseas by 2000 (Clemens and Pettersson, 2008).

The main aspects to observe in brain-drain are the situations that cause healthcare workers to migrate, their patterns of migration, and the extent to which push and pull factors influence their decisions. Push factors are generally present in donor countries, and pull factors pertain to receiving countries (Kline, 2003). The factors that causes brain-drain may include financial rewards, continuing rewards, career development, continuing education, hospital infrastructure, resource availability, hospital management, political issues, family issues, training, education and development (Aidalina, 2015). The push–pull theory which was first introduced by Ravenstein in 1889 and elaborated upon by Lee in 1966 is the most frequently quoted explanation for migration (Lee, 1966). This perspective argues that migration results from push–pull factors which operate at areas of origin and destination, respectively.

1.2 Internal brain-drain (within countries)

The “urbanization” is the main reason for internal brain-drain. The distribution of doctors is particularly important since the shortage of doctors appears to be much greater in the rural areas in comparison to more urban areas (Marchal & Kegels, 2003). One possible explanation for rural areas having disproportionately fewer doctors is that “rural areas struggle to recruit and retain health professionals” (Molinari & Bushy, 2011). This is most likely due to urban areas having greater pull. Hence, urbanization, the “process that leads to the growth of cities due to industrialization and economic development” (Patil, 2014), is an important factor to our subject of study. Some examples of push factors in rural areas are “poor working and living conditions,” “work-overload” and “emotional burnout” (World Health Organisation, 2009). These and other push factors cause doctors to want to leave rural areas and essentially drive them out of the areas where there is arguably the greatest need. Meanwhile, pull factors, such as “improved working conditions” in urban areas, encourages doctors to relocate to more urban environments (Jenkins & Weuste, 2017).

Doctors are not only migrating within countries, from rural to urban, but also between different healthcare sectors. It appears that, within each of those sectors, doctors tend to leave the public sector for one of the other sectors. This type of movement within the region is again due to push and pull factors. An example of a push factor would be low pay in the public sector. Meanwhile, better pay in other sectors serves as a pull factor drawing people away from the public sector (Shinn, 2008). Many literatures suggested pushing and pulling factors for both types of migration, either due to living environment such as from rural to urban area, or due to monetary attraction from public to private or vice-versa.

1.3 External brain-drain (international or cross-border)

Better standards of living have pushed many workers to seek migration to other countries, healthcare professional is needed in every part of the world, higher salaries, better lifestyle, job stability, stable economy and political atmosphere were among the biggest concern. the countries from which these healthcare professionals have migrated, have invested heavily in their education and training in hope they get return on their investment, by year 2000, according to United Nation Population division (2002), almost 175 million people (or
equivalent to 3%) were living outside their country of origin, many of these people are healthcare professionals, and half of them were driven by economic reasons.

According to a report published a detailed long study involving 40 countries around the world, and found out that 90% of migrating physicians were moving to high income countries, like US, UK, Germany, Canada and Australia (Bach, 2004), other report also have mentioned that almost three-quarters of the physicians migrations happen by 1974 were ultimately in favour of three major countries, USA, UK and Canada (Ioannidis, 2004).

1.4 Aim of the study

The aim of this paper is to review and explore the factors of the brain-drain phenomenon among healthcare workers, the impacts and the strategies on how to improve the phenomenon.

2.0 Materials and Methods

A general review was conducted with the focus on the healthcare workers issues related to the brain-drain from various countries, guided by one research question; What are the brain-drain factors among the healthcare workers? Relevant studies were identified using keywords: “motivation” and “retention” and “health worker” and “brain-drain”. The literature searching was done based on the formulated research question from the electronic databases, PubMed, ScienceDirect and Google Scholar. A total of 14 English articles, published guidelines, and reports were identified, selected and analysed.

3.0 Result

The information obtained from the 14 articles were tabulated and summarized in Table 1, forming the basis of this report.

Table 1: Review of results of brain-drain phenomenon among healthcare workers.

<table>
<thead>
<tr>
<th>No.</th>
<th>Paper/Author/Year/Country</th>
<th>Factors</th>
<th>Impacts</th>
<th>Strategies</th>
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<tbody>
<tr>
<td>1.</td>
<td>The impact of health sector reform on public sector health worker motivation in Zimbabwe. Mutizwa-Mangiza, 1998; Zimbabwe</td>
<td>threatening job security, salaries, training or career advancement opportunities feared ethnic political influence on new employment practices under a decentralized system.</td>
<td>Public service inequities Human resource burden</td>
<td>Organization reforms with extensive planning, informing, and consulting health workers; improving country-specific political support</td>
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<td>2.</td>
<td>Brain-drain and health professionals: a global problem needs global solutions. Pang et al., 2002; Central African Republic</td>
<td>Poor remuneration, bad working conditions, an oppressive political climate, persecution of intellectuals, discrimination</td>
<td>Public service inequities Human resource burden</td>
<td>Demanding compensation from departing professionals; provision of the compulsory service to delay the departure; increasing salaries in the public health sector; permitting health professionals in the public sector to do some private practice; providing educational benefits for their children.</td>
</tr>
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<td>3.</td>
<td>Push and pull factors in international nurse migration Kline, 2003; United States</td>
<td>No clear professional development Inadequate wages Poor working environment Political and economic instability</td>
<td>Public service inequities Human resource burden</td>
<td>To develop national workforce plan that would include timely and consistent nursing workforce data; the creation of a chief nurse role at the federal level to advise on nursing issues; to establish a practice guideline in international recruitment for healthcare employers.</td>
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<tr>
<td>4.</td>
<td>Where have all the doctors gone? Career choices of Wits medical graduates. Price, 2005; South Africa</td>
<td>Better income in the private service Poor working condition Poor public healthcare management Better lifestyle perceived in the urban setting compared to the rural</td>
<td>Public service inequities</td>
<td>To provide comprehensive training to motivate the doctors; focusing more towards academic aspect; provide better career path for medical specialties; providing better work hours; new policies to incentivise the doctors to stay in the rural and remote health facilities, other benefits such as rural allowances, and sabbatical leave.</td>
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<td>5.</td>
<td>Nurse migration from Zimbabwe: analysis of recent trends and impacts. Chikanda, 2005; Zimbabwe</td>
<td>Weak economies, conflict, political instability, Poor governance Lack of individual freedoms,</td>
<td>Public service inequities Human resource burden</td>
<td>The government has introduced bonding of newly qualified nurse professionals; fellowship and scholarship programmes, and advanced training programmes, to enhance the capacity of the health professionals in the provision of their services; salary reviews; performance management in health sector.</td>
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<td>6.</td>
<td>Brain-drain from developing countries: how can brain-drain be converted into wisdom gain? Dodani et al, 2005, United States</td>
<td>combination of economic, social and psychological factors, and family choices and reflect the ‘push–pull’ nature of the choices underpinning these ‘journeys of hope’</td>
<td>Public service inequities Economic burden</td>
<td>To provide rewards (monetary or non-monetary) for skilled health staff, acknowledge the difficult job they do, motivate and provide supportive work environment; building an enlightened leadership and an enabling national scientific community.</td>
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<td>7.</td>
<td>The cost of health-related brain-drain to the WHO African Region Kirigia et al., 2006, Africa</td>
<td>Lack of research support Limited career structures Poor intellectual stimulation</td>
<td>Human resource burden Economic burden</td>
<td>Measurement of the economic loss due to emigration of health worker; improve the advocacy and policy on emigration; establish a cost data for health human resource to predict future brain-drain phenomenon.</td>
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<td>No.</td>
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<td>8.</td>
<td>Nurse Migration from a Source Country Perspective: Philippine Country Case Study Lorenzo, 2007; Philippine</td>
<td>Poor working condition Poor motivation</td>
<td>Public service inequities</td>
<td>Review of the past, current, and future scenarios of the nursing and medical human resources; create a database of Filipino health human resources; develop a 25-year National Health Human Resources Policy and Development Plan.</td>
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<td>9.</td>
<td>Addressing the Internal Brain-drain of Medical Doctors in Thailand: The Story and Lesson Learned Suwit, 2008; Thailand</td>
<td>High cost of living Inadequate salaries</td>
<td>Public service inequities</td>
<td>Implement a programme to recruit new medical students through the concept of ‘rural recruitment, local training and hometown placement’; implement both financial and non-financial incentives to the compulsory public services; promote medical tourism.</td>
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<td>10.</td>
<td>Healthcare workers and the brain-drain. Low-income nations as a whole Serour, 2009</td>
<td>Unreasonably low wages health professionals; political instability poor socioeconomic conditions; internal and regional armed conflicts; wars; fractionalization and religious and ethnic drives</td>
<td>Public service inequities Human resource burden</td>
<td>Improving the health workforce database; improving wages, health resources, and working conditions; payback from recipient countries and migrant health professionals; task shifting; securing additional investment in the health workforce; locally relevant medical training and research.</td>
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<td>11.</td>
<td>The “Brain-drain” of Health Care Workers: Causes, Solutions and the Example of Jamaica Lofters, 2012; Jamaica</td>
<td>Poor recruitment strategies Poor motivation Lack of incentive</td>
<td>Public service inequities</td>
<td>To establish international codes of conduct; to improve human resources for health through global forums; creating formal linkages with source countries to provide support for developing the sustainability of their health care system.</td>
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<td>12.</td>
<td>The brain-drain of health care professionals from sub-Saharan Africa. Kalipeni et al., 2012; Sub-Saharan Africa</td>
<td>Weak economies, conflict, political instability, Poor governance Lack of individual freedoms</td>
<td>Public service inequities Human resource burden</td>
<td>Codes of practice for ethical recruitment; improved health human resources planning; multilateral and bilateral agreements; bonding of health care professionals; health system strengthening.</td>
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<td>13.</td>
<td>The metrics of Syrian physicians’ brain-drain to the United States Arabi, 2012; Syria</td>
<td>Weak economies, conflict, political instability, Poor governance</td>
<td>Public service inequities Human resource burden</td>
<td>Revamp in health and education policy, improve professional working environment to achieve broad societal changes; providing better academic and professional opportunities, allowing more flexibility to the health and education systems, promoting research, establish networks between professionals inside and outside the country.</td>
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<td>No.</td>
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<td>14</td>
<td>Factors Associated with The Brain-Drain Phenomenon of Doctors from The Public Sector to The Private Sector in Selangor and Kuala Lumpur Aidalina, 2015; Malaysia</td>
<td>Dissatisfaction (benefits, pay, rewards, promotion, work operations) Family commitments Personal issues</td>
<td>Public service inequities</td>
<td>Create a family-friendly policy concerning the service of the public doctors; minimize the dissatisfaction faced by the health worker; serious consideration given to the female worker regarding their children’s welfare; job satisfaction survey and focused-group discussions were suggested to identify problems.</td>
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</table>

4.0 Discussion

4.2 Factors of brain-drain in the healthcare system

The healthcare sector in most countries is fast becoming a competitive industry, which is comprised of doctors and nurses who are very limited in number and became the most valuable assets. Up to the mid-1980s, most countries, including lower income countries such as Zimbabwe, and sub-Saharan (Ghana, South Africa and Zambia) have relatively strong economy’s capacity (Mutizwa, 1998; Arabi, 2012; Kalipeni et al. 2012). New medical graduates could buy a second-hand car, a house in a high-income residential area, and offer economic support to siblings and parents. By the end of the decade, this was no longer possible because of the deteriorating economic situation but those expectations persisted. The chronic process of dissatisfaction subsequently affected the motivation levels among healthcare workers and promote migration (internal or external brain-drain) phenomenon.

In Zimbabwe and Africa, the reported pushing factors that affected the health human resource prior to health reforms, including job insecurity, poor remunerations, lack of individual freedoms, and poor infrastructure in most of the health facilities especially in the rural area with bad working conditions (Mutizwa, 1998). The motivation level was further decreased when the global economic instability pushes the government to practice a decentralized system, with poor governance, and political instability. A series of strikes were reported in 1990 by health workers to express the frustration and dissatisfaction with working conditions and forced the government to reduce the bonding period for doctors. Nonetheless, the competitors (private) at that point of time offered better salaries, regular working hours, and fringe benefits, among them housing loans, school fees and transport allowance. Meanwhile, the brain-drain phenomenon was countered by the pulling factors. Minimal number of the competitors prevent an internal brain-drain because only government provided better opportunities for further training for career advancement. The career structure for nurses and doctors, had several promotional levels, although the nursing career structure had limited positions at each of the higher levels. The medical profession had the best opportunities for both further training and career advancement.

In Malaysia, one of the issues reported regarding internal brain-drain phenomenon is the migration of the healthcare workers from the government service to the private service, as approximately 10% of the existing public doctors in Malaysia leave public service to join the
private service was reported (Aidalina, 2015). According to the National Health Facts 2008, doctors and nurses within the Malaysian healthcare sector comprised of 60% from the public service and they catered for about 80% of Malaysians. This could be one of the factors that contributed to an inequitable healthcare provision for the public, and lead to many other brain-drain cases as better salary was offered by the private sectors and will influence other doctors to grab the opportunity. Similar brain-drain issues were highlighted in other developing countries such as Thailand, Philippine, Jamaica and Syria (Lorenzo, 2007; Suwit, 2008; Lofters, 2012; Arabi, 2012). Because the expectations of health workers and the economic environment are unmatched, the real relationship between those component and the brain-drain phenomenon is unexplained and that is inevitable as the demand for better quality of work and lifestyle is always in the healthcare worker "what people want far beyond what people need ".

In a higher income country such as Australia, Canada, Ireland, United States and United Kingdom, mainly an external brain-drain phenomenon was observed according to the push-pull theory of migration among nurses in those countries, with similar factors were reported including political, social, economic, legal, historical, cultural, and educational (Kline, 2003; Dodani, 2005). Apart from unclear professional development, inadequate wages, poor working environment, political and economic instability, the nurses sought areas to work where they would encounter less risk to their personal safety. Personal safety is an increasingly strong political and social factor in nurse migration and “may be motivated by circumstances within the health sector or the external environment”. For an instance, the nurses prefer to migrate to a country with low prevalence of HIV, tuberculosis and other infectious diseases, due to the level of health literacy among the nurses.

Based on the retrieved brain-drain evidence reviewed from the country with lower or higher economic development, many similarities on factors observed related to the brain-drain phenomenon, either pull or push theory. These factors, however, can lead to a greater impact either desired or undesired for both donor and receiving country. As a people driven factors, the brain-drain phenomenon is difficult to be tackled because every people have different level of perception, needs and satisfaction. Therefore, the impacts of brain-drain especially in managing human resources in the health sector should be monitored and evaluated continuously by the organization with robust leadership quality.

4.2 Impacts of brain-drain in the healthcare system

The brain-drain of the health workforce is a global problem which affects the human resource management in healthcare and it begins when public sector health care workers have gone from being high status and relatively well paid members of the community to workers struggling to get a living wage from their jobs (Mutizwa-Mangiza, 1998; Chen et al., 2004). Trained health professionals are needed in every part of the world. However, better standards of living and quality of life, higher salaries, access to advanced technology and more stable political conditions in the developed countries attract talent from less developed areas. Most of the migration is from developing to developed countries. This is of growing concern worldwide because of its impact on the health systems in developing countries. These countries have invested in the education and training of young health professionals. This translates into a loss of considerable resources when these people migrate, with the direct benefit accruing to the recipient states who have not forked out the cost of educating them.
The intellectuals of any country are some of the most expensive resources because of their training in terms of material cost and time, and most importantly, because of lost opportunity (Dodani, & LaPorte, 2005).

In Africa alone, where health needs and problems are greatest, around 23,000 qualified academic professionals emigrate annually. Doctors from Sub-Saharan Africa, Asia, and Pacific countries migrate to resource-rich countries, and it is estimated that more than 20% of physicians working in Australia, Canada, and USA come from other countries (Bourassa, Simoens & Giuffrida, 2004). The brain-drain of health workers occurs mostly from low- and low/middle-income countries to resource-rich countries and from rural to urban areas. The highest brain-drain rates are observed in the small developing islands of the Pacific and the Caribbean (Serour, 2009). Approximately 65,000 (one-fifth) of African-born physicians and 70,000 (one-tenth) African-born professional nurses worked overseas by 2000 (Clemens and Pettersson, 2008).

The brain-drain further weakened already fragile health services in low-income countries. By observing the articles retrieved in this review, low-income countries as a whole have loosely not strictly shared common factors of brain-drain, for example, countries like Zimbabwe, Central Africa and Syria were observed to have something in common, i.e. economic or political instability, or sometimes both. Internal armed conflict and brutal regimes had driven many of healthcare workers in these countries to flee their homelands looking for safety and prosperity in abroad. This huge movement of healthcare workers from poor countries to have devastated the already poor situation of healthcare services. This poor situation has demoralized little remaining manpower through increased working hours and aggravating the ratio of health workers to populations which was not that good to begin with like the case of Jamaica (Mutizwa, 1998; Chikanda, 2005; Pang et al., 2002; Arabi et al., 2012).

The cost of the outflow of health workers can be considerable high. When low-income nations pay to educate their healthcare workers only to have them leave the county, they are, in effect, subsidizing a wealthier nation; this makes the rich nations richer and the poor nations poorer and is a curse for economic development. Low-resource nations spend US$500 million each year to educate health workers who leave to work in North America, Western Europe, and South Asia. Negative economic impacts of brain-drain led to structural adjustment Programmes, inadequate remuneration, substandard health care systems, limited training opportunities, political instabilities and daily security problems (Kalipeni et al., 2012).

Based on the retrieved country-specific brain-drain evidence reviewed either from lower or higher economic development, the impacts were rather to become the negative side of the donor country, and positive side of the receiving country. These adverse impacts would lead to health service inequities and human health resource burden in both public and private health sectors for both donor and receiving countries. Therefore, closer attention should be paid to the needs and problems faced this group of health professionals and remedial actions must be taken promptly. In order to curb the brain-drain issues, the potential strategies and solution can be identified and addressed by the policy actors, including government, politic support, policy maker and relevant stakeholders to enhance the inequities and human resource burden within healthcare services following the brain-drain phenomenon.
4.3 Strategies to improve brain-drain phenomenon

In a situation of public service inequity due to migration of healthcare workers from public to private service in Malaysia, the situation can be curbed by improving pay, career advancement opportunities, workload, family-friendly policies and non-monetary incentives. Scheduled job satisfaction surveys and exit interviews for doctors could detect job dissatisfaction for timely remedial actions (Aidalina, 2015). Similar internal brain-drain issues reported in Thailand and South Africa, by which most healthcare workers, especially doctors preferred to work in a richer urban area compared to the rural, due to high income gap between urban and rural health facilities (Price, 2005; Suwit, 2008).

To overcome the internal brain-drain in Thailand, especially on measures to retain doctors in rural public sector, many programmes were implemented to increase the number of healthcare workers and medical graduates to serve rural health facilities. Within the programme, the concept of ‘rural recruitment, local training and hometown placement’ was introduced to the multiple cohorts of the medical students to encourage a longer working duration in the public rural areas. However, a longer duration needed to implement the strategy. Apart from the programme, the component of incentive for both monetary and non-monetary have been implemented to retain the healthcare worker to work in public as well as rural health facilities. For non-monetary, the duration of compulsory services for doctors in Thailand was further extended from conventional three years to twelve years for those working in the rural public services. Furthermore, the penalty fine for breaching the compulsory service contract was set to be at five times higher than previous fine.

For monetary benefit, various types of incentives were offered such as hardship allowances, overtime payment, professional allowances and non-office hour intervention, per case basis (Dodani et al, 2005; Serour, 2009). Others, including improving working conditions, career development, continuous formal and informal training, freedom of practice, fairness in management, and social recognition. Regarding external brain-drain, less issue was reported in Thailand (Suwit, 2008). Their government was able to provide favourable income, good working environment and opportunity for career development, as a retention mechanism to curb inequity issues. Besides, the language barrier was observed as the main driver that suppress the external brain-drain phenomenon, as most healthcare workers in Thailand has limited capacity in foreign language that could be an obstacle for them to leave the country and migrate to other country.

In South Africa, the migration of junior doctors from the public to private service were influenced by income-generating potential. In addition, doctors working in private service have more autonomy in managing their cases, more independence and less politics issues. As reported by most private doctors, the choice to work as general practitioner (GP) in a private sector was preferred due to minimal issues of attitudes and racism within the healthcare management operations (Price, 2005). To retain the healthcare workers, (mainly junior doctors) to continue working at the public service, the government aligned several strategies which include comprehensive training to motivate the doctors, focusing more towards academic aspect, provide better career path for medical specialties, and providing better work hours. As mechanism to reduce inequities, many policies were proposed by the government to
incentivise the doctors to move or stay in the rural and remote health facilities, and providing other benefits such as rural allowances, and sabbatical leave.

In a situation to curb an external brain-drain in several high-income countries such as Australia, US and UK, various the strategies were observed from many departments within the healthcare public sectors (Kline, 2003). Most common government intervention to improve the situation is the establishment of the monitoring system at the national level to capture the workforce situation and analyse the supply and demand of the healthcare human resource. In Australia, the role of chief nurse at the federal level was created to advise on nursing issues. Apart from the monitoring role, formal bilateral agreements between rich countries and poor countries can be established to provide clearer workforce projection to prevent unregulated external brain-drain, as implemented by the government in the South Africa, UK, Spain and Caribbean countries. In addition, the practice guidelines in international recruitment was established for The National Health Service employers, as implemented by The Department of Health in the UK.

5.0 Conclusion

As a people driven phenomenon, the brain-drain phenomenon is difficult to be tackled because every people have different level of perception, needs and satisfaction. The internal and external brain-drain phenomenon among healthcare workers were contributed by the pulling and pushing factors either from the donor countries or the receiving countries. The factors including income-generated potential, inadequate wages despite of poor working conditions, unclear professional development and intellectual stimulation, aggravated by the political and economic instability. The impacts were rather to become the negative side of the donor country, and positive side of the receiving country. These adverse effects will lead to imbalances in health services and human resource burden in the public and private health sectors for both donor and recipient countries. The strategies may include core modifications in health and education policy, improve the professional working environment to achieve the broad societal changes, provide better academic and professional opportunities for healthcare workers, allowing more flexibility to the health and education systems, promoting research, and establish international networks between professionals. Hence, a comprehensive and multisectoral approach is needed by policy makers and political actors to address this phenomenon, to enhance equity, to promote efficient human resource management at all levels of health care services.

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Declaration

We, the authors of the article declare that there is no conflict of interest regarding publication of this article.

Author’s contribution

Authors 1 – 3: Data collection and preparation of manuscript
Author 4: Initiation of idea and final editing of manuscript

References


