THE IMPACT OF HIGHLY SKILLED MIGRATION ON THE HEALTH CARE SYSTEMS OF DEVELOPING COUNTRIES

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TABLE OF CONTENTS

Definition	3
Significance	7
Background	9
Expert	12
Role Of Control	15
Logic Of Evil	19
South Africa	23
Philippines	30
Iraq	35
International Organizations	40
Canadian Connection	43
Solution	47

DEFINITION

The ability to live freely is one of the most fundamental rights in modern society. Under the concept of freedom is a principle entrenched in the constitutions of countries across the world. The principle involves the right to mobility, stated under Article 13 of the Universal Declaration of Human Rights: "everyone has the right to leave any country, including his own, and to return to his country."[1] This fundamental principle ensures that individuals have the ability to choose the location of their residence without the obstruction of any unjust authority figures. While extremely important in any modern society, problematic implications arise when examining the nature of migration, specifically the consequences associated with emigrating from a developing to developed country. It is during this process that a phenomena known as "brain drain" emerges, a topic ridden with both logistical and social issues.

Brain drain refers to the process of professionals emigrating from one country to another.[2] The problem of this emerges due to the fact that the individuals who emigrated are no longer contributing to the economy or aiding society, from which they were trained, with their expertise. These people, who were educated, often consuming large portions of tax payers dollars, leave the countries they originated in to work in countries which can provide more for them. Though the effects of brain drain occur in a wide range of professions, the health care industry is greatly impacted by the process of brain drain. Though health care professionals such as doctors and nurses are needed in every country of the world, these trained professionals will often migrate to the country which can provide the best life for them. Host countries, who welcome previously trained professionals, benefit from the results of receiving intellectuals because none of their financial resources have to go into their education, yet they still receive the economic benefits of these professionals within the country. However, source countries suffer harshly. These countries lose the professionals they have trained, and as a result are often severely understaffed in needed industries such as healthcare. Moreover, since source countries often use tax payers money in to

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[1] UN General Assembly, "Universal Declaration of Human Rights," 217 (III) A (Paris, 1948),

[2]Investopedia Staff, "Brain Drain," Investopedia, July 05, 2007, accessed April 12, 2017,

educate professionals, they are hit with the negative economic effects of these trained individuals leaving their home country.[3]

While brain drain does have an effect on all countries, because citizens will strive to work in the country that can provide the best opportunities for them, the greatest effects of brain drain are felt by developing countries who lose professionals to developed countries. In fact, in the ten year period between 1990 and 2000, the number of skilled immigrants from a club of wealthy countries known as the Organization for Economic Co-operation and Development (OECD) increased by 64%. Of these 64% immigrants, approximately 93% were from developing countries.[4] In fact, a report from the United Nations (UN) shows that approximately 2.9% of the world's entire population has been living out of the country where they received their education. While this percentage may seem small, in 1995 2.9% of the world's population was equivalent to 114 million people.[5] Furthermore, with regards to the health care industry specifically, approximately 6% of physicians were working outside of their country of origin in 1972.[6] The aforementioned statistics exhibit the existence of brain drain and show that there is a difference in the professionals of developing and developed countries. What is particularly alarming is the impact that brain drain has on healthcare workers.

Healthcare is one of the most important fields of study in society. It's entire purpose is to ensure the wellbeing of citizens and assist the population of a country in living a healthy and prosperous life. However, none of this is possible without adequate staff to fulfill the requirements placed on the health care system by society. The aspect that becomes particularly

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Dodani, Sunita, and Ronald E. LaPorte. "Brain drain from developing countries: how can brain drain be converted into wisdom gain?" Journal of the Royal Society of Medicine. November 2005. Accessed April 12, 2017.

[4] Docquier, Frédéric, Olivier Lohest, and Abdeslam Marfouk. "Brain Drain in Developing Countries." The World Bank Economic Review 21, no. 2 (2007): 193-218.

[5] Kuptsch, Christiane, and Harvey Glickman. "Population and Human Relations: Year In Review 1995." Encyclopædia Britannica. February 18, 2005. Accessed April 12, 2017.

Dodani, Sunita, and Ronald E. LaPorte. "Brain drain from developing countries: how can brain drain be converted into wisdom gain?" Journal of the Royal Society of Medicine. November 2005. Accessed April 12, 2017.

concerning is that brain drain has a major effect on the number of healthcare professionals in any given society. On average, developed countries with high income levels have a ration of approximately 300 physicians for every 100 000 citizens.[7] To place this in perspective, as of 2010, the Canadian ratio was 203 to 100 000 citizens.[8] Though this is low in the spectrum of OECD countries, it is much better than the ratio in developing countries. Developing countries that can only offer a relatively low income, average approximately 17 physicians to 100 000 citizens.[9] It is estimated by the International Organization for Migration (IOM) that developing countries pay approximately 500 million dollars every year to educate individuals pursuing a vocation in health care but their trained healthcare professionals then emigrate to developed countries.[10]

Statistics regarding the flight of healthcare professionals can clearly illustrate the framework of an issue, but to truly understand the impact of the migration of healthcare workers it is necessary to exam the topic from a humanitarian perspective. In Bangaldore, India stories describe mothers rushing to hospitals with babies close to death only to encounter a team of nurses with no doctor and no knowledge on how to save a child's life.[11] In Haiti, there are stories of people unable to receive treatment for diarrhea which ends up costing them their lives because of a lack of healthcare workers. It is cases like these which may sound like outliers to those living in developed countries, but in developing countries they are a testament to the healthcare systems suffering from the emigration of healthcare workers.

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[7] Aisha K. Lofters, "The “Brain Drain” of Health Care Workers: Causes, Solutions and the Example of Jamaica," *Canadian Public Health Association*, 2012, , accessed May 15, 2017.

[8] "Supply, Distribution and Migration of Canadian Physicians." *Canadian Institute for Health Information*. Accessed May 10, 2017.

[9]Ibid,. 7.

[10] Lopes, Christina. "Restrictions on health worker migration proving problematic." CMAJ : Canadian Medical Association Journal. January 29, 2008. Accessed April 12, 2017.

[11]And. "Lack of medical workers causes new health crisis in developing countries." The New York Times. October 01, 2008. Accessed April 12, 2017.

Factors For Migration

At the front of the issue surrounding the migration of professional health care workers are the causes for which this happens. Though complex and multifaceted reasons, they can be divided into two categories. These categories consist of the factors which push professionals out of a country, as well as elements which pull health workers into another country.

A developing country is defined and known most broadly as “a country with little industrial and economic activity and where people generally have low incomes”.[12] Before considering the potential benefits emigration to a developed country will bring, citizens are motivated by the negative elements of the developing country they live in. These negative elements include substandard living conditions, low wages, discrimination present in recruitment and promotion, and political instability.[13] In contrary, pull factors are the aspects of a country which draw immigrants into another country. In most cases, individuals are drawn into developed countries because the latter have more to offer. Developed countries have the potential to offer benefits such as better standards of living and quality of life, higher salaries for the same work, access to advanced technology, and political stability.[14] It is these aspects which draw professionals into developed countries as they often recognize that in doing the same work, they can receive a better life for themselves and their family.

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[12] "Developing country Meaning in the Cambridge English Dictionary." Cambridge Dictionary. Accessed April 12, 2017.

[13] "Causes And Effects Of Brain Drain In Economics." UKEssays. Accessed April 12, 2017.

[14]Dodani, S. "Brain drain from developing countries: how can brain drain be converted into wisdom gain?" *Journal of the Royal Society of Medicine* 98, no. 11 (2005): 487-91. doi:10.1258/jrsm.98.11.487.

SIGNIFICANCE

As a whole, any healthcare system consists of three main components. These components are human resources, physical capital and consumables. Though each play a vital role in the success of healthcare, human resources are justifiably the most important aspect because the entire structure of healthcare relies on the performance of these individuals and their delivery of health services.

The brain drain of healthcare workers has many negative effects on developing countries. With the severe lack of health care professionals needed to complete the tasks of caring for a nation, the healthcare sector of developing countries suffers from the inability to address key areas of public health priorities. In addition, since developing countries are training individuals who then emigrate for the benefit of a better life in developed countries, there is a great economic impact from the lack of medical personnel.

Weak Healthcare Sector

Healthcare professionals are needed in developing countries more than ever. With the burden of health issues found in developing countries, it would make the most logical sense that these developing countries have the largest population of healthcare professionals to deal with the problems. However, this is not true. 79% of deaths worldwide are a result of diseases which are found frequently in developing countries, yet there is a small minority of healthcare professionals practicing in developing countries.[15] In fact, 37% of healthcare workers worldwide can be found in North America, yet this region only has 10% of the global disease burden. Africa, home to 24% of the worldwide disease burden, is only home to 3% of the world's doctors. With the unequal distribution of healthcare professionals across the world, it is little surprise that developing countries have problems addressing areas of key public health priorities.

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[15] "Background." WHO. Accessed May 22, 2017. http://www.who.int/nutrition/topics/2_background/en/.

These areas include the child mortality rate, increased need for vaccine coverage, and the fight against epidemics such as human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS).

In a study completed by the World Bank in 2005, the mortality rate of children under the age of five in OECD countries is approximately 7 in 1000 deaths per year. In contrast, the mortality rate of children in developing countries is approximately 21 times higher at 150 in 1000 deaths per year. Moreover, it is estimated that there are five times the number or physicians per capita in developed countries. This clearly exhibits the correlation between number of healthcare professionals and the mortality rate of children.[16]

[16] Kuehn, Bridget M. "Global Shortage of Health Workers, Brain Drain Stress Developing Countries." *Jama* 298, no. 16 (2007): 1853. doi:10.1001/jama.298.16.1853.

BACKGROUND

To truly develop a comprehensive understanding of the issue surrounding the migration of health care workers from developing to developed countries, as well as the impact that has on health care systems, it is important to understand the history of the issue. By observing how the process of this migration has occurred, one can deepen their understanding of this comprehensive issue and given a historical base, can then begin to understand both the economic framework surrounding the issue as well as the ethical debate at play.

The study of the migration of highly skilled workers, most commonly known as brain drain, was originally hypothesized in a study titled *British Doctors at Home and Abroad*. The study, conducted in 1964, was based on an interview with 3600 doctors.[17] The results of the interviews showed that the reason for which the British population of doctors had been able to survive was because of high emigration rates from Scotland and Wales. This was the first study to ever be completed regarding brain drain, and though it did not focus on the reasons for which it was occurring, it was clear that there was an issue regarding the migration of skilled workers. This study was the first to reveal the thought that brain drain was happening between developed countries, but as growth in the study of this topic continued, it was clear that brain drain was happening most commonly between developing to developed countries. In fact, in 1963 the United Nations found that poor countries, especially in Asia, Africa, and Latin America, were struggling to keep up with the the technological and scientific advancements of the developed world, such as Western Europe and North America.

The process of highly skilled professionals, including healthcare workers, was experienced most heavily during the time frame of 1960 to 1979. This period of high migration rates was a result of western countries recognizing that they did not have the supply of professionals they needed. It was in fact the increase in universally run state health insurance

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[17] Wright, David, Nathan Flis, and Mona Gupta. "The 'Brain Drain' of physicians: historical antecedents to an ethical debate, c. 1960–79." *BioMed Central.*

systems that led to an increase in demand for medical professionals for which countries could not supply the demand domestically. Since both the presence and extent of universal healthcare had increased within the time frame shortly preceding the 1960s, developed countries experienced an increase in the use of healthcare as it had now become affordable and available to a greater extent. As a result of the inability to meet the demands for health care, western countries adjusted their immigration policies to focus primarily on the acquisition of highly trained professionals such as medical workers.[18] It was these policy reforms which led to an increase of brain drain and therefore reduced the healthcare workers in developing countries while boosting the supply in developed countries.

In the 1960s and 70s the rise of the health care brain drain became evident. Between the time frame of 1963 to 1979, the United States of America (USA) accepted over 60 000 foreign medical graduates.[19] In the same period of time, Canada admitted 12 000 international medical graduates.[20] In the eight years between 1966 and 1974, Great Britain allowed approximately 12 640 foreign trained officials to enter their country.[21] Though a time frame cannot be provided due to inaccurate statistics caused by the double counting of migrants, the World Health Organization (WHO) estimates that in the single year of 1972, developing countries from across the world experienced a loss of 70 000 highly trained individuals.[22] With a specific focus to the healthcare sector, the peak in skilled migration found approximately 140 000 physicians in countries outside of which they were trained. Out of this figure, three quarters of the 140 000 were found in the United States, United Kingdom, Canada, and Germany. In fact, by the early

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[18] Ibid,. 17.

[19] Shuval, Judith T., and Judith H. Bernstein. Immigrant Physicians: Former Soviet Doctors in Israel, Canada, and the United States. Greenwood Publishing Group, 1997.

[20] Choy, C. C. "Empire of Care: Nursing and Migration in Filipino American History, 2003." Durham, NC: Duke University Press, and Manila: Ateneo de Manila University Press, CrossRef Google Scholar.

[21] Maynard, Alan, and Arthur Walker. Doctor Manpower, 1975-2000: Alternative Forecasts and their resource implications. No. 4. HM Stationery Office, 1978.

[22] World Health Organization. "Multinational study of the international migration of physicians and nurses." Analytical Review of the Literature (1973).

1980s it is estimated that one third of Australia's, New Zealand's, and Canada's health care systems were comprised of physicians who were trained in foreign countries.[23] These statistics demonstrate high migration rates of skilled professionals.

After the high peak in skilled migration, several studies by investigative groups such as the United Nations Institute for Training and Research (UNITAR) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) revealed the true impact of brain drain on developing countries. [24],[25] Despite the decline of brain drain after the peak between 1960 and 1979, brain drain re-emerged as a prevalent topic in the late 1990s. With globalization drawing the world ever closer and technology playing a greater role in society, policy makers in government could no longer hide the process of healthcare migration or its impact on developing countries. With an increase in awareness, the WHO said that the world health day occurring in 2006 should be dedicated to the brain drain of healthcare workers. In addition, WHO's General Programme of work stated that between the years of 2006-2015 a large part of their agenda would revolve around the resolution of this issue.[26]

The migration of healthcare professionals is happening in all areas in the world. Despite the consequences and severe impact on the healthcare systems of donor countries, the issue still receives very little attention. It is through the examination of history that individuals can understand the greater picture surrounding the issue. The migration of health care professionals has progressed into a contentious issue with new implications. As the world progresses towards a state of greater interconnectedness, individuals are able to migrate with greater ease. Though attempts have been made by WHO, UNITAR, and UNESCO, as well as countless other organizations, the issue is still deeply entrenched in our society.

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[23] Shuval, Judith T., and Judith H. Bernstein. Immigrant Physicians: Former Soviet Doctors in Israel, Canada, and the United States. Greenwood Publishing Group, 1997.

[24] "Knowledge to lead." UNITAR. Accessed May 22, 2017. http://www.unitar.org/.,

[25] "UNESCO." UNESCO. Accessed May 22, 2017. http://en.unesco.org/.

[26] "World Health Day 2006." WHO. Accessed May 22, 2017. http://www.who.int/mediacentre/news/releases/2006/pr19/en/.

EXPERT

Professor of Sociology Director and Faculty Development Coordinator of International Studies and Sociology Program at Mount Mercy University, Mohammad Chaichian, is a leading expert in the research of the migration of highly skilled workers. Specifically, Chaichian studies the relationship between the phenomena which is globalization and the way it has impacted brain drain. With a Ph.D. in Sociology, an M.S. in Urban and Regional Planning, and an M.S. in Architecture, Chaichian is not only a highly educated professor, but a well regarded intellectual in his field. He has received notable awards and recognition including numerous summer faculty scholarships from Mount Mercy University, Visiting Scholar & Resident Fellow at the University of Iowa, and the designation of research fellow and grant recipient from the National Institute of Health.[27]

One of Chaichian's most significant contributions to the field regarding the migration of healthcare workers is an academic report titled "The New Phase of Globalization and Brain Drain". It published for the International Journal of Social Economics in 2012. The report examines the relationship between the phenomena which is globalization and the way it impacts the migration of highly skilled workers, including healthcare professionals. Although the report uses Iran as its case study, the theory behind the case study regarding globalization is relevant regardless of the country. In order to fully understand the implications of Chaichian's work, one must first gain an understanding of globalization and how it has progressed throughout history.

Globalization

Globalization, referring to the "trend for people, firms and governments around the world to become increasingly dependent on and integrated with each other" has become a household term in the minds of individuals across the world. Its use is often observed in relation to the process of the integration of the world as a whole. In theory, the world once consisted of a

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[27] https://www.mtmercy.edu/sites/default/files/uploads/faculty-staff/Chaichian-CV.pdf

supercontinent known as Pangea, but as a result of time and theory of plate tectonics, the world has grown apart. Globalization, in a sense, is the process of reconnecting these regions through modern technologies. Though it has taken off in the past 150 years, globalization's existence has been present for thousands of years and its earliest form can be dated back to 135 BCE. In fact, a loose sense of the term came into existence when Chandragupta Maurya, a historical figure who is credited for the formation of the Mauryan Empire, became a Buddhist, and in doing so, brought together the powers of a world religion, trade economy, and imperial arms in an unprecedented way. Though Maurya brought about globalization in the most primitive sense, its true form came into focus with the "discovery" of North America by Christopher Columbus in 1492.

First realized by Adam Smith in The Wealth of Nations, the thought that the "discovery" of North America by Columbus had started the trend of modern day globalization was unprecedented. Smith argued that the discovery of Native Americans had enabled a division of labour between Europe and North America for the first time. In the more recent era of globalization, the world has seen the international market change as a result of the rapid advancements of technology and transportation methods. Technology, specifically, has enabled the ability to share assets instantaneously across nations, communicate previously over unfathomable distances, and transport goods with a greater degree of ease than ever before. In addition, the economic liberalization of countries as a result of their embrace of the free market system has increased the number of foreign investment options for countries. Furthermore, to embrace these changes, governments from across the world have been negotiating trade agreements which enable the trade of goods and the distribution of labour in economically friendly ways.

Report Theory

Chaichian's report on the relationship between globalization and brain drain relies on the base that brain drain is relatively new, beginning in the 1960s, in a parallel time frame to the

most recent phase of globalization. This new phase, known as post-Fordist globalization relies heavily on “small-batch production, sub-contracting and outsourcing; as well as a two-tiered global labor market of highly mobile unskilled and skilled, multi-tasking workers with minimum or no bargaining power”.[28] This is in alliance with the new phase of globalization as it relies on the ability for immigrant populations to be moved around the world and be used in situations beyond national political barriers. It advocates this in order to meet the demands of a global capitalistic economy. Simply stated, the report advocates that this new trend of globalization brings about a sense of international connectedness that exists in a larger sense than just economics. This means that through the nature in which the world is now connected through globalization, individuals are able to develop a new “international identity” due to the increased exposure to the world. There is less of a national sentiment which connects individuals to their nation of birth. With the advent of technology such as media, telecommunications, and entities such as the internet, people who otherwise would not have the same understanding of the world now have a greater understanding. This means that they are able to meet the demands of a global economy because of international exposure, but are no longer tied to their home country with such a strong nationalistic sense.[29]

Though Chaichian does not offer any solutions with regard to the migration of healthcare workers, the findings of his study are unprecedented in this field. As a result of not only his work, but his unique findings, Chaichina is an expert who has made major contributions to this pressing global issue.

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[28] Chaichian, Mohammad A. "The new phase of globalization and brain drain." *International Journal of Social Economics* 39, no. 1/2 (2011): 18-38. doi:10.1108/03068291211188857.

Ibid,.28.

ROLE OF CONTROL

At the heart of the issue surrounding the migration of healthcare workers from developing to developed countries are the immigration policies of developed countries. Immigration policies from developed countries such as Australia, Canada, the United States and France revolve around a selective immigration process. Unlike many developing countries who accept immigrants on a "first come first serve" basis, these countries accept immigrants based on a points system. This points system uses specific selective processes which evaluate potential immigrants on a few different measures. One of these scales of evaluations is based on skill level. To gain a deeper understanding of the forces that control immigration and subsequently effect the migration of healthcare professionals, it is beneficial to examine the policies of a specific country to comprehend the exact effects. The Commonwealth of Australia has been a popular destination for immigrants for many years. Having a selective immigration process revolving around a point system, Australia is a prime example of how the governments of host countries indirectly control, or have influence, on the healthcare systems of developing countries.

Australia, being a destination of choice for many highly skilled migrants has an immigration system similar to those of Canada and the United States. Their system comprises the allocation of points based on several different categories. The minimum points needed to be considered for residence is 60. Firstly, the age of potential immigrants are taken into consideration. All applicants must be under 50 years old. Within this range, applicants between the age of 25 to 32 automatically receive 30 points, while those between the ages of 45 to 49 receive none. Secondly, points are given to applicants based on fluency in English. These points are minimal and are only given if skills are deemed "proficient" or superior". Thirdly, points are given to applicants based on their qualifications or experience. It is within this category through which the majority of the remaining points needed to reach the 60 minimum are acquired. It is here that points are awarded based on specific qualifications or work experience and educational credentials are weighed. For example, if a potential immigrant has a doctorate from a recognized post secondary institute, the applicant will receive an additional 20 points. Finally, occupation is

considered. If one works in a field deemed as skilled, they will receive additional points. For example, if a medical practitioner applies in the immigration process they will automatically receive 60 points based solely on their occupation. This points system demonstrates the value that is placed on traits which can will be most beneficial to the Australian economy. One can clearly see that they place such a high value on certain occupations that medical practitioners automatically receive the number of required points for immigration. In addition, 30 points are given to an applicant based on age. This figure is largely due to the ability to contribute to the economy for the greatest length before becoming dependant on society or family. Based on these factors alone one can clearly see that an emphasis is placed on individuals who will contribute the most to society, with a special allocation for those who are highly skilled.

Continuing with the example of Australia as a model example, in 2014-2015 skilled migrants attributed for 68% of their total migration programme. This example is not an outlier in the statistics of Australia's immigrant acceptance. In 2001-2002, skilled migrants contributed to 40.5% of all migrants with the family, humanitarian, and non program migration collectively attributing to the rest of the all accepted migrants (See chart below). Since the late 1990s Australia's immigration policy has been "specifically designed to target migrants who have skills that will contribute to the Australian economy" stated the Australian Department of Immigration.[30] This, however, is not limited to Australia. Developed countries across the world have the same goals as Australia. This is demonstrated in the United States when former President Barack Obama stated that the United States must strive to attract "the highly skilled entrepreneurs and engineers that will help create jobs and grow our economy" when speaking in relation to immigration.[31]

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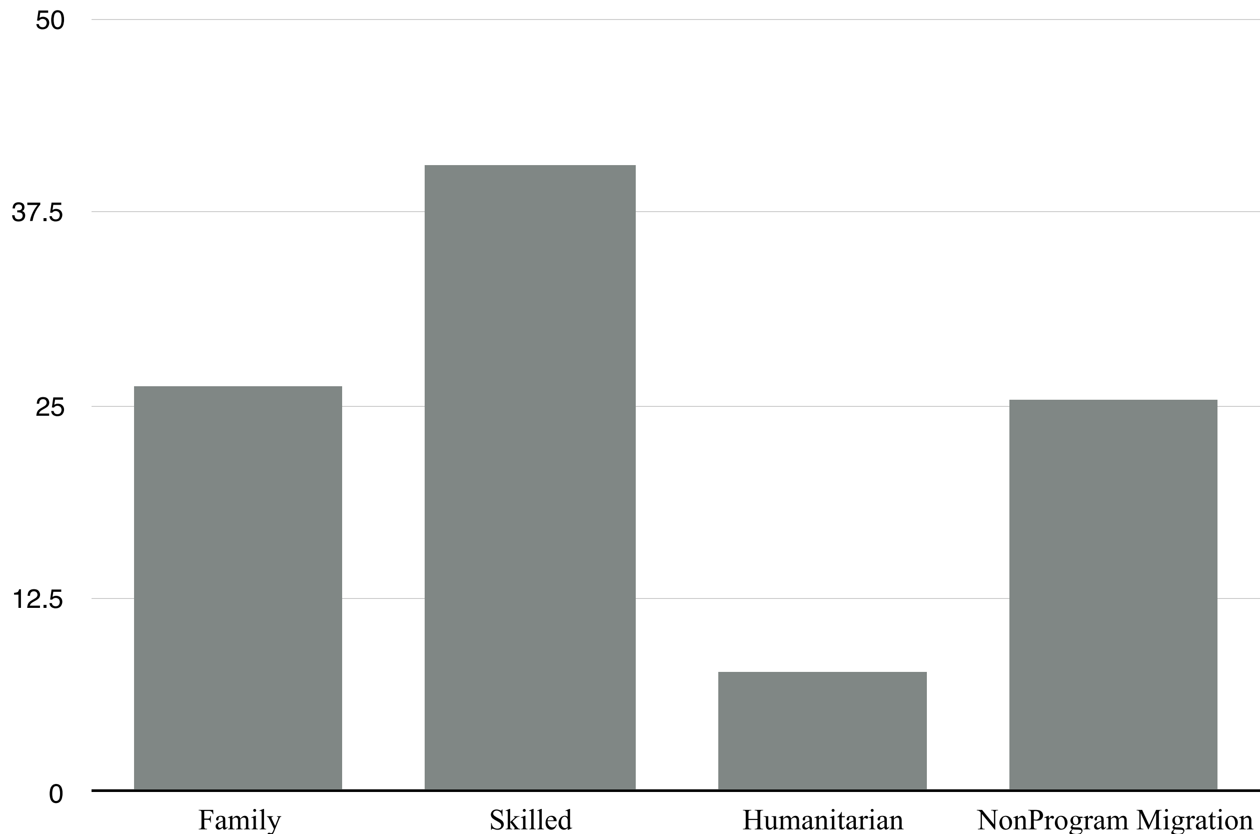
[30] Davidson, Helen. "What is Australia's points-based immigration system?" The Guardian. June 01, 2016. Accessed May 22, 2017. https://www.theguardian.com/uk-news/2016/jun/01/what-is-australia-points-based-immigration-system-brexit.

[31] Nathalie Baptiste, Foreign Policy In Focus. "Brain Drain and the Politics of Immigration." The Nation. June 29, 2015. Accessed May 22, 2017. https://www.thenation.com/article/brain-drain-and-politics-immigration/.



With a comprehension of the immigration system of a developed power such as Australia, one can then use that intellectual framework in order to understand the exact effects of points systems similar to this on the healthcare systems of developing countries. When developed countries have the ability to provide a better life for migrants, those who are able will often try to obtain residence in order to improve the quality of life for themselves and their family. The issue is that countries with points systems will, in most cases, allow entry only to those who will contribute most to their economy as previously demonstrated. With professional healthcare workers considered to be one of the most desirable immigrants, developed countries will in most cases welcome these immigrants to their country while denying residency to older individuals who are not skilled. In simple terms, countries want young doctors and lawyers who can generate wealth and employment rather than dishwashers and store clerks. As a result, developing

countries face the loss of professionals such as healthcare workers, while unskilled workers remain at home. If it were not for the point based system, but rather a “first come first serve” immigration policy, developed countries would have an equally distributed labour force, thus circumventing the issue of uneven immigration. It is therefore the policies of developed countries which favour skilled workers that is a large contributor to the issue of the emigration healthcare workers.

LOGIC OF EVIL

At the heart of the issue surrounding the migration of healthcare workers from developing to developed countries is the motivation for developed countries to acquire individuals who will be assets to their country. In doing so, developed countries gain individuals who are high income earners and generally will be able to contribute more to the government through taxes without adding a load to social programs. In addition, by acquiring highly skilled workers such as healthcare professionals, developed countries save money because they no longer have to pay for the education of these workers. As a result, developed countries utilize immigration systems that employ the assigning of points and actively recruit workers from developing countries.

The motivation for acquiring already trained health care workers is a result of the extreme financial costs of training health care professionals. In fact, the government of the United States spends approximately 15 billion dollars every year in order to subsidize a portion of the costs associated with training medical students in residency programs.[32] This statistic alone exhibits the sheer cost of training medical professionals. However, by employing an immigration policy which favours highly skilled workers such as medical professionals, countries such as the United States can benefit as a result of other countries subsidizing education costs. In fact, when examining South Africa, a recent report shows that in 1998 the province of Alberta, Canada made an effort to deal with provincial doctor shortages and high education costs by actively recruiting physicians from South Africa. In South Africa, the cost of training a doctor is estimated to be $150 000. As part of their recruitment plan, Alberta flew a private jet to pick up 44 doctors from South Africa to show them how attractive life in a developed country could be. In doing so, they recruited 44 new doctors from South Africa and in the process spent 1.2 million dollars on recruitment. However, due to the significant costs of education and training, Alberta

[32] Korobkin, Russell. "Subsidizing graduate medical education." The Washington Post. August 22, 2014. Accessed May 22, 2017. https://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/08/22/subsidizing-graduate-medical-education/?utm_term=.287f475a1e40.

made a gain of 10.4 million dollar from recruiting instead of funding their educations. This example showcases the benefits of highly skilled immigrants in developed countries.

Continuing discussion from an economic standpoint, the average gross pay of a Canadian family doctor is 271,000 dollars.[33] Taking into consideration the bracketed tax rate, the average family physician in Canada would have to pay $97 557 annually in income tax. Through an immigration point system which takes age into consideration, a 30 year old doctor who immigrated from a developed country with previous training would contribute approximately $3 400 000 in income tax before they retired at the average age of 65. These figures were calculated off the average income of family doctors alone. If one were to take into consideration the average pay of a medical specialist at $338 000 and that surgical specialists earn $446 000, the aforementioned figures regarding the government's benefit will increase significantly after pay variances are taken into consideration.

The money generated by the government through the aforementioned means can in turn be used to fund social programs that contribute to the overall betterment of society. This illustrates exactly how developed countries benefit from the immigration of health care. Though it impacts developing countries in negative ways, the positive benefits attracting health care workers from developed to developing countries is great enough that it can be justified by governments and policymakers.

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[33] Chai, Carmen. "How much is your doctor making? What you need to know about Canada's physician workforce." Global News. August 23, 2016. Accessed May 22, 2017. http://globalnews.ca/news/2898641/how-much-is-your-doctor-making-what-you-need-to-know-about-canadas-physician-workforce/.

SOUTH AFRICA

Located in in the Sub-Saharan region in Africa, South Africa accounts for some of the highest immigration rates of healthcare workers in the world. With a population of approximately 54 300 000 (2016), South Africa has a strong infrastructure, yet has high levels of social and economic issues.[34] As a result of this, the country is classified as an anomaly between a developing and developed country, and is a prime example of a nation which looses high numbers of healthcare workers due to their migration to more developed countries.[35]

The continuous migration of healthcare workers out of South Africa to developed countries is a phenomenon which is neither new for South Africa, nor new for the countries receiving the flow of doctors. However, as time has progressed, the impact and degree to which healthcare professionals migrate from South Africa has worsened. In 1975, a study was conducted by the University of Witwatersrand (Wits), in order to observe the trend of migration. The investigation found that between 1925 and 1972, 83.6 percent of South African medical graduates remained in their country. [36] That means that 6.4 percent of trained medical professionals left the country. In 1998 when Wits conducted a second study indicating that in the time period between 1975 and 1998, 45 percent of South African trained medical professionals had emigrated to a developed county.[37] In fact, 93 percent of migrants migrated to 15 OECD countries. These countries consist of Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, New Zealand, Norway, Portugal, Sweden, Switzerland, the United Kingdom, and the United States.[38] Out of the aforementioned OECD countries receiving large numbers of healthcare workers from South Africa, the United States is one of the most prominent host

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34 https://www.cia.gov/library/publications/the-world-factbook/geos/sf.html

35 http://www.seagullindia.com/archive/chapter10.pdf

36 Beaton GR, Mendelow AD, Bourne DE. A Career Study of Medical graduates of the University of the Witwatersrand, 1925-1972. S Afr Med J 1975;40:2131–2139.

37 Weiner R, Mitchell G, Price M. Wits Medical Graduates: Where are They Now? S Afr Med J 1998;94(2):59–63.

38 http://www.jstor.org/stable/pdf/40282277.pdf

countries of migrants. With one of the largest economies in the world, a study completed in 2002 showed that approximately 23 percent of the United State's medical professionals were trained outside the country. Out of this 23 percent, approximately 5334 doctors were licensed in the Sub-Saharan Africa region, of which South Africa is a par.[39]

Reasons For Migration

At the centre of the issue surrounding the migration of healthcare workers is the reason for which they are motivated to migrate to a more developed country. The following table outlines the results of a survey conducted by the University of the Free State in Bloemfontein, South Africa, regarding the reasons of emigration for healthcare workers in South Africa.

The chart below reveals that the single greatest factor for the emigration of health care workers involves financial issues; the second factor is the desire for better job opportunities. In relatively poor countries such as South Africa, medical professionals are paid a fraction of what they might receive in wealthy countries such as Canada. For example, the average South African General Practitioner makes approximately 450 000 Rands.[40] This translates into slightly over 46 000 Canadian dollars. To contrast this to the earnings of the median General Practitioner in Canada who earns approximately $150 000, one can clearly see that the pay of South African doctors is roughly one third the pay of the average Canadian doctor in the same field of work.[41] While the difference in wages and the desire to seek better job opportunities is a large contributor to the reasons for which healthcare workers migrate to developed countries, the same factors can be exhibited as motivation in almost every country suffering from the effects of brain drain. As a

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39 Reasons for doctor migration from South Africa

40 Physician / Doctor, General Practice Salary (South Africa). Accessed May 23, 2017. http://www.payscale.com/research/ZA/Job=Physician_%2F_Doctor%2C_General_Practice/Salary.

41 Picard, André. "How much are Canadian doctors paid?" The Globe and Mail. January 16, 2014. Accessed May 23, 2017. http://www.theglobeandmail.com/life/health-and-fitness/health/how-much-are-canadian-doctors-paid/article7750697/.

result, it is necessary to examine factors which are particularly significant within South Africa to gain a clear understanding of the specific push factors at play.

Reasons For Leaving (Push Factors)	Responses (%)
Financial reasons	86.2
Better job opportunities	79.3
High crime rate	75.9
Desire to change immediate circumstances	58.6
Personally wanted a new experience	58.6
Feeling of restlessness regardless of working conditions	55.2
Extended duty hours	55.2
High prevalence of HIV/AIDS	51.7
South African income tax system	51.7
Better schooling opportunities for children abroad	50.0
Dealing with business aspect of practice	48.3
On-call duties	46.4
Racial discrimination	44.8
Professional development	41.4
New dispensing laws	32.2
Meeting patient demands	31.0
Family circumstances	20.7
Family abroad	17.9

HIV/AIDS is one of South Africa's greatest issues with regard to the health of citizens. Despite efforts to reduce the spread, it has continued to be a major issue in the nation. However, to understand the correlation between this epidemic and the migration of healthcare workers, one must first understand the nature of the disease.

HIV/AIDS has taken the lives of approximately 39 million people around the world.[42] HIV stands for Human Immunodeficiency Virus and targets specific aspects of the immune system, rendering individuals with the inability to fight against diseases and infections which one's body would normally be able to fight off. In order to acquire this disease, the virus must enter one's blood stream. It does this most frequently through the transmission of infected fluids such as blood. This is where AIDS comes in, standing for Acquired Immune Deficiency Syndrome. AIDS is the final stage of HIV and is the result of numerous factors, the most significant being the lack of treatment for HIV. After approximately ten years after first being infected with HIV, AIDS sets in and leads to eventual death.[43] However, HIV can be controlled through the use of antiretroviral therapy (ART). ART not only slows the progression of HIV but prevents the spread of the virus to other individuals. While treatment such as ART is accessible in developed nations such as Canada, it is much less accessible in poor countries such as South Africa.[44] As a result, out of seven million individuals living in South Africa who have been diagnosed with HIV, only 48 percent of adults are on the antiretroviral treatment. This means that over half of the country's population infected with HIV has not received treatment.[45] As a result, South Africa has been deemed one of the countries in the world with the highest HIV epidemic rates.

One of the greatest fears of healthcare workers in South Africa is the transmission of HIV/AIDS to occupational workers dealing with patients. This issue is so prevalent in South Africa that numerous studies regarding the migration of healthcare workers have included the risk of the transmission in their research. In fact, survey results revealed that approximately 72 percent of healthcare workers in South Africa believe that physicians are at greater risk than any

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[42] "HIV/AIDS." World Health Organization. Accessed May 23, 2017. http://www.who.int/gho/hiv/en/.

[43] Parenthood, Planned. "What Is HIV / AIDS & How Do You Get It?" Planned Parenthood. Accessed May 23, 2017. https://www.plannedparenthood.org/learn/stds-hiv-safer-sex/hiv-aids.

[44] "Treatment and care." World Health Organization. Accessed May 23, 2017. http://www.who.int/hiv/topics/treatment/en/.

[45] "HIV and AIDS in South Africa." AVERT. December 01, 2016. Accessed May 23, 2017. https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/south-africa.

other healthcare professional because of the nature of their relationship with patients. In addition, approximately 62 percent of healthcare professionals believe that fear of transmission affects their relationship with patients. Furthermore, 48 percent of the surveyed healthcare workers stated that the care regarding patients with HIV/AIDS is too emotionally demanding to yield enough personal satisfaction.[46] What intensifies this situation is that, unlike the healthcare systems of developed countries, the availability of ART is limited. This means that healthcare workers are placing themselves in situations in which they must interact with patients who they fear could give them a disease which could end their life. In combination with statistics proving that the care of these patients is often too emotionally draining to be satisfying, the knowledge of a wage gap between professionals of the same skill level in developed countries, and the array of reasons summarized in the aforementioned chart, healthcare professionals have high incentives to emigrate to developed countries if the opportunity arises.

Impact

To fully examine the impact on the migration of healthcare workers, one must examine the country of South Africa from two perspectives. The first is from a macroeconomic standpoint, examining the effects on society as a whole. The second is a microeconomic view, observing the way in which the migration of healthcare workers impacts smaller social entities such as families. In doing so, a comprehensive understanding of the issue in South Africa will be achieved.

Macroeconomic

[46] Taylor KM, Eakin JM, Skinner HA, Kelner M, Shapiro M. Physicians' Perception of Personal Risk of HIV Infection and AIDS through Occupational Exposure. Can Mad Assoc J 1990;143(6): 493–500

Since the South African healthcare system is largely affected by HIV/AIDS, it is logical to continue exploring the impact of the healthcare brain drain and how it affects the epidemic in South Africa. When examining the impact that migration of healthcare workers has on society as a whole, one can see how detrimental the lack of physicians are for the treatment and prevention of HIV/AIDS. In fact, one can clearly see the correlation between adult deaths as a result of HIV/AIDS and the rate of healthcare migration after HIV prevalent rates surpass the three percent margin. A recent study funded by the International Migration and Development Research Programme of the World Bank found that “a doubling of the medical brain drain rate [in Sub-Saharan Africa] is associated with a 20 percent increase in adult deaths from AIDS.”[47] This statistic is extremely alarming as it shows how dramatically the number of physicians impacts the healthcare system of South Africa, a country within the Sub-Saharan Africa region. To put the critical shortage of doctors in perspective, South Africa has approximately 0.78 physicians for every 1000 citizens. In contrast, Canada has an estimated 2.07 physicians per 1000. As a result of the high levels of the epidemic, worsened by critically low levels of doctors, the countries average productivity level falls. These lowered productivity levels are a result of individuals being unable to work as a result of HIV/AIDS, which is either untreatable a result of the lack of access to ART or the inability to receive treatment due to the lack of physicians.[48]

Microeconomic

Examining the issue of the migration of healthcare professionals, one must observe the the issue from a microeconomic view to fully comprehend its impact on a county. One of the most concerning aspects of the healthcare brain drain in relation HIV/AIDS is the cycle of infection that it leads to. Since South Africa is a county with extremely high levels of HIV/AIDS, many healthcare professionals view the possibility of contracting the virus, due to the nature of

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[47] Bhargava, Alok, and Frédéric Docquier. "HIV Pandemic, Medical Brain Drain, and Economic Development in Sub-Saharan Africa." *The World Bank Economic Review* 22, no. 2 (2008): 345-66. doi:10.1093/wber/lhn005.

[48] Taylor KM, Eakin JM, Skinner HA, Kelner M, Shapiro M. Physicians’ Perception of Personal Risk of HIV Infection and AIDS through Occupational Exposure. Can Mad Assoc J 1990;143(6): 493–500

their work and low standards of working conditions, as a push factor towards emigrating to a wealthier country. With critical shortages of physicians as a result of the brain drain, many citizens who have contracted HIV/AIDS will die as a result of the inability to receive treatment. The increasing number of deaths will then lead to an increased number of orphaned children. These orphaned children generally have lower levels of psychological wellbeing as a result of being orphaned. Because of this, their attendance rates in school are statistically lower than children who have grown up with parents. With low attendance rates at school, these children generally have lower awareness regarding HIV transmission routes. This means that they are more likely to contract HIV/AIDS, and a result the cycle continues.[49]

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[49] Harman, Sophie. The World Bank and HIV/AIDS: setting a global agenda. London: Routledge, 2012.

PHILIPPINES

Located in Southeast Asia, the Philippines is home to one of the world's worst brain drain of healthcare workers. With a population of approximately 102 million, the Philippines consists of over 7101 islands, a contributing factor to the impact of the migration of skilled workers on the healthcare system.[50] However, what contributes most to the country's lack of healthcare professionals due to migration is the relationship the country has had with the United States. To fully comprehend the impact this relationship has had on the Philippines one must first understand the history of the relationship between these two countries.

History

The relationship between the United States and the Philippines began after the Spanish-American war of 1898 when the Philippines became a colony under the United States. Except for the brief time under which the Philippines was occupied during Japan during the Second World War, it remained a country under the colonial influence of the United States until 1946. During this span of 48 years, English became an official language, the education system was modelled after the one in the United States, but more specifically, English language nursing programs came into effect. These were the factors that later contributed to the migration of healthcare professionals out of the country.[51]

Though the systematic elements were already in place, such as the ability for nurses to speak English and the Americanized education system, the emigration of nurses out of the Philippines did not begin until 1948 when the United States developed an exchange program that allowed many citizens of the Philippines to visit the United States for the first time. This ability to visit the United States triggered the desire to live in a developed country, and by the 1950s the

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[50] "The World Factbook: PHILIPPINES." Central Intelligence Agency. May 01, 2017. Accessed May 23, 2017. https://www.cia.gov/library/publications/the-world-factbook/geos/rp.html.

[51] PBS. Accessed May 23, 2017. http://www.pbs.org/frontlineworld/rough/2007/12/philippines_havlinks.html.

Philippines became the largest supplier of nurses internationally. As time has progressed, the migration of nurses from the Philippines to the United States has grown exponentially. In fact, through the progression of time one can see the trend of this migration when observing the number of immigrant healthcare workers in the United States from a selection of Asian countries. Benchmarking the period of time between the start of migration in 1948 to present day, one can observe the time period in-between by examining the following
statistics.[52]

Country	1962	1963	1964	1965	1966	1967	1968	1969	1970
Philippines	119	101	63	66	259	550	639	696	1970
India	12	16	8	11	40	87	96	129	242
South Korea	18	19	10	11	35	70	63	128	228
Taiwan	-	-	-	2	11	34	21	27	36
Hong Kong	3	15	2	4	26	42	42	39	41
Japan	8	35	4	11	31	40	23	28	35

The chart above shows the migration rates of healthcare professionals to the United States during an eight year time frame. It is important to note that the six featured countries account for over 90 percent of the healthcare professionals migrating from the Far East. In addition, these six countries account for over 40 percent of the total migration rates of healthcare professionals to the United States in the 1970s.[53] The statistics demonstrate that as a result of the relationship between the Philippines and the United States, the Philippines is the largest supplier of healthcare professionals out of any country in eastern Asia. In addition, the jump in the number of immigrants from 1965 to 1966 is important to note. One can see that the figure almost quadruples from 66 to 259. This significant surge in the number of healthcare workers is due to revisions in the immigration policy of the United States. Before 1956, immigration was based on

[52] Ibid,.51.

[53] Pernia, Ernesto M. "The Question of the Brain Drain from the Philippines." *International Migration Review* 10, no. 1 (1976): 63. doi:10.2307/3002404.

a formula which heavily favoured immigrants from “Western and Northern European countries and drastically limit[ed] admission of immigrants from Asia, Africa, the Middle East, and Southern and Eastern Europe.”[54] The new formula, amended by President Lyndon B. Johnson, enabled individuals to migrate from any country, and favoured familial relationships and skilled individuals rather than country of origin.[55]

In more recent times, the United States has actively been recruiting large numbers of nurses from the United States in order to compensate national shortages. The reason for the high recruitment activity is a result of recent forecasts regarding the United State’s healthcare system. Health experts estimate that by the year 2020, the United States will be short between 800 000 to one million nurses. This is a result of an aging population demanding high quantities of nurses, but American schools being unable to supply the healthcare system with enough nurses to meet the demands.[56] Though the needs of the United States are important, the devastating impact on the Philippines cannot be ignored and raises an ethical debate.

Current Situation

Over the past 23 years it is estimated that over 100 000 nurses have left the Philippines. Though the United States actively recruits these nurses, their power to incentivize Pilipino medical workers comes through their ability to offer better financial compensation for their work. In the Philippines, the average doctor working in a public hospital can earn up to 800 US dollars per month. The average nurse in the same facility can make up to $250 a month.[57] These

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54 "Fifty Years On, the 1965 Immigration and Nationality Act Continues to Reshape the United States." Migrationpolicy.org. March 02, 2017. Accessed May 23, 2017. http://www.migrationpolicy.org/article/fifty-years-1965-immigration-and-nationality-act-continues-reshape-united-states.

55 Ibid,.54.

56 Ibid,.51.

57 Voa. "Philippine Medical Brain Drain Leaves Public Health System in Crisis." VOA. October 31, 2009. Accessed May 23, 2017. http://www.voanews.com/a/a-13-2006-05-03-voa38/315213.html.

incomes are significantly less than the average pay of a nurse in the United States who can earn approximately $5500 a month.[58] These pull factors, meaning factors which draw citizens out of their country, are so significant for nurses that many doctors and other skilled professionals such as accountants, engineers, and even teachers are returning to university in order to obtain degrees in nursing so they can emigrate to the United States. In fact, 80 percent of doctors working for the government have returned to a higher education facility in order to obtain degrees as nurses.[59]

What becomes alarming is how actively the United States is seeking immigrants. In 2005, the United states approached poorer countries such as South Africa and the Philippines with over 50 000 visas designated specifically for nurses. It is because of initiatives such as this, led by the United States, that caused 12 000 medical workers to leave the Philippines in 2006, and prompted 9000 former doctors to become nurses. Out of these 9000, 5000 are now working abroad.[60] Though the ability to migrate with such ease is beneficial to the individuals migrating, it is devastating to the Philippine's healthcare system. It is concerning to the healthcare system to the degree that Former Health Secretary Galvez-Tan "fears that if this brain drain does not slow, the Philippine health care system will collapse."[61]

Impact

Ranked first in the world for exporting nurses, and second for exporting doctors by the University of Manila, the migration of healthcare workers has an extremely high impact on the healthcare system of the Philippines.[62] It has reached such a decrepit state that often treatable or manageable medical conditions often become fatal because their are no specialists available to

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[58] "Registered Nurse RN Salary." Nurse Salary Guide. Accessed May 23, 2017. http://nursesalaryguide.net/registered-nurse-rn-salary/.

[59] Ibid,.51.

[60] Ibid,.51.

[61] Ibid,.51.

[62] Finch, S. "Philippines brain drain: Fact or fiction?" *Canadian Medical Association Journal* 185, no. 12 (2013). doi:10.1503/cmaj.109-4459.

treat people in need. For example, according to experts, meningitis and strokes have an increased likelihood of becoming fatal in the Philippines simply because of their inability to to meet with a physician.[63] Often, women give birth without the presence of any medical staff such as doctors or nurses simply because of insufficient access to medical workers in the Philippines. Cases such as these are exemplified by the following statistics: 50 percent of the Filipino population does not have access to healthcare, half of Filipinos die without any form of medical attention, and an estimated ten mothers die daily due to child birth related causes.[64]

Though the statistics show one side of the picture, it is the accounts of individuals suffering from the shortage of healthcare professionals in the Philipines that truly lend a human perspective of the issue. For example, in an interview conducted for the Canadian Medical Association Journal (CMAJ), Filipino doctor Dr. Carmella Cunanan described her working situation in the rural Philippines. She stated that in a district home to 200 000 individuals, she should be working with a staff of nine doctors and 20 nurses. However, she is working as the only doctor with a staff of six nurses. Her situation clearly illustrates how devastating the migration of healthcare workers can be on the healthcare systems of the countries that they leave. Another story describes how the rich are able to receive healthcare, but the poor are often unable. In the same CMAJ, an interview was conducted with Dulcisimo Emberador, a 77 year old individual who lives a three minute walk from a hospital. When Emberador got a severe fever, he had to travel to a town 35 kilometres away to receive any form of medical attention because the hospital close to him was so understaffed that they were unable to admit him as a patient. This story demonstrates how the understaffing of a hospital prevents the treatment of those in need, and unfortunately, represents the majority of cases in the Philippines.[65]

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[63] Voa. "Philippine Medical Brain Drain Leaves Public Health System in Crisis." VOA. October 31, 2009. Accessed May 23, 2017. http://www.voanews.com/a/a-13-2006-05-03-voa38/315213.html.

[64] Brain Drain Philippines (Connie)

[65] Ibid,.61.

Since the Philippines is comprised of over 7000 islands, it is often a necessity for individuals to travel by boat for hundreds of kilometres in order to receive medical attention. While such travel is often possible for wealthy citizens of the Philippines, it presents a challenge to poorer individuals who cannot afford to travel distances in the time frame required to seek medical attention. As a result, many poor citizens in the Philippines die due to their inability to access an operating medical facility in a timely manner.

IRAQ

The Republic of Iraq, with a population of 38 million and a GDP per capita of $16 500, is home to one of the worst brain drains in the Middle East. The brain drain, consisting largely of the migration of healthcare professionals, will adversely impact the rebuilding of the country at the end of its era of political instability. To gain a clear understanding of the nature of brain drain in the country, one must first have an understanding of the political background, followed by an examination of the migration of healthcare workers.

Political Background

Iraq has a long history of political conflict and civil tension. However, in order to understand the implications of this tension on the migration of healthcare workers it is necessary to understand a small portion of the occurrences in Iraq since 1990. It is during the period of time between the 1990s and the current day that the migration of healthcare workers in this region has had the greatest implications on society and the nation's overall health. The account will briefly outline the political occurrences beginning at the Start of the Gulf War.

The First Gulf War began in Iraq in August of 1990, when Iraq's dictator at the time, Saddam Hussein, invaded Iraq's neighbour Kuwait in order to acquire their large oil reserves. Since Kuwait not only boarders Iraq, but also shares a boarder with Saudi Arabia, Saudi Arabia

feared an attack on their country because of the long standing tension between the two nations, as well as the fact that Saudi Arabia is one of the largest oil producers in the world. In attempt to assist Saudi Arabia from a potential attack, the United States, in addition to other members of the North Atlantic Treaty Organization (NATO) assembled troops in Saudi Arabia hoping to prevent the feared attack. In fact, additional Arab countries, such as Egypt, joined in the protection of Saudi Arabia and assembled an army of approximately 700 000 troops. In response, Iraq build their army, stationing approximately 300 000 troops in the country of Kuwait.

With soldiers from both Iraq as well as the coalition of Anti-Iraq countries both ready to fight, the United Nations said that unless Iraq withdrew their presence in Kuwait by the prescribed date of January 15, 1991, their would be an attack. In response to the request from the UN, Hussein refused, and on January 16, 1991, the coalition attacked Iraqi forces. In fact, the Iraqi forces were so weak that by February 28th, during the same year, Kuwait had been reclaimed and Iraq promised to not only recognize Kuwait's sovereignty, but to also give up all weapons of mass destruction.

Despite the fact that the armed conflict was over, an ethnic group of people known as the Kurds, as well as the Shia Muslims rose in rebellion. However, their were suppressed by Hussein with great brutality. Though Iraq remained under patrol by a coalition of countries, the terms of inspection decreed by the UN were not met. Since Iraq did not, and later refused, to co-operate with the agreed upon terms of the end of the first gulf war, a brief exchange of fire occurred, and in 2002 the United States called for a resolution set forth by the UN which would once again mandate weapons inspectors. Without any cooperation, the United States called for Hussein to step down from power, and in response to his rigidity, the United States began a war with Iraq commencing on March 20th, 2003.

The United States began their invasion through Iraq's neighbour Kuwait and invaded with ease. However, with thousands of citizens still loyal to Suddan Hussein, they soon found themselves without a job after the United States invasion. Capitalizing on the feelings of the disenfranchised, Al-Quaeda was able to boost support by forming Al-Quaeda in Iraq. Its primary

purpose was to fight the US troops and wage war with other Shia militias in central Iraq. In order to limit this, the US set up prison camps. However, these camps enabled prisoners to meet up together and radicalize. As the US troops swept through Iraq, they experienced little resistance except from Ba'th party supporters. The Ba'th party was led by Suddan Hussein until his regime fell on April 13th 2003. Later convicted against crimes against humanity, he was executed on December 30th, 2006. With a political void, Iraq saw an increase of crimes and guerrilla warfare became a major issue. In addition, many Shia religious leaders, who had previously fled Iraq, returned home. These prominent leaders were able to form militias which increased the Sunni-Shia divide. This was a major aspect of the destabilization of the country.

In 2007, the US placed Nouri Al-Maliki in office as PM. In addition, they helped to facilitate the Sunni's rejection of Al-Quaeda in Iraq. On August 18th, 2010, the US led by Barack Obama, removed all American forces from Iraq and left nearly 50 000 as a transitional force. To fast-forward to the Arab Spring, Brashar Al-Assad, The President of Syria, became violent on protesters out of the fear his regime would be toppled. In order to combat this fear, he released Syrian Jihadist prisoners to draw attention away from himself. This again led to the strengthening of Al-Quaeda in Iraq. Moving between Iraq and Syria in order to resupply, Al-Quaeda and Iraq saw Al-Assad's violence as a way to regain power. Officially changing their name from Al-Quaeda in Iraq, they became the Islamic State of Iraq and Syria (ISIS). Quickly gaining support as a result of the disenfranchisement of citizens, the violence in Syria and the power vacuum in Iraq, ISIS was able to capture much of Iraq, including Mosul, Raqqa and Deir ez-Zor. Though the conflict has progressed with the passing of time, ISIS is still very present in Iraq. Though it has lost the grip that it once had, it is still present in Mosul, though it does not have complete occupation and only small groups are present in the city.

Status of Migration

On October 10th, 2016 the President of Iraq, Fuad Masum, passed a law designed to reduce the migration rates of healthcare professionals leaving the country. The primary reason

for the bill being passed was due to high levels of migration precipitated by “threats to … personal safety, a lack of career prospects and unbearable working conditions.”[66] In fact, physicians in Iraq receive only 25 to 40 percent of their usual monthly wages. The shortfall in their wages is largely because of a collapse of oil prices, but most significantly due to Iraq’s war on the Islamic State. With a nation distraught with violence, the financial priorities of the government are focussed on reclaiming the country from the terrorist organization and reducing conflict. Because of these priorities, wages for workers such as physicians are extremely limited. The average physician in Iraq, at best, is expected to make approximately 8473 US dollars a year. With the current state of Iraq, the best case scenario of 40 percent of regular pay amounts to earnings of only $3389 a year.[67]

What further exacerbates the issue of brain drain in Iraq is the political state of the country as summarized above. With the country distraught by violence, these healthcare professionals are concerned about the basic safety for themselves, and their families. In fact, an article published by the Middle East Institute estimates that between 25 to 35 percent of medical staff emigrated out of the country within 18 months of the fall of Saddam Hussein’s regime.[68] Furthermore, the sentiment regarding the wish to leave the war torn country is found in “more than 95 percent of the doctors … Myself included,” stated 25 year old Dr. Qahraman Mohammed about doctors in Iraq. Mohammed further added that he personally knew of physicians trying to make their way into Europe through illegal means.[69] This anecdote illustrates how desperate physicians are to leave their homeland of Iraq.

Impact

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[66] "Health crisis in the making as doctors flee Iraq." Al-Monitor. October 21, 2016. Accessed May 23, 2017. http://www.al-monitor.com/pulse/en/originals/2016/10/health-iraq-doctors-dohuk-kurdistan-brain-drain.html.

[67] "Iraq | 2016/17 Average Salary Survey." Average Salary Survey. Accessed May 23, 2017. http://www.averagesalarysurvey.com/iraq.

[68] "Brain Drain and Return." Middle East Institute. Accessed May 23, 2017. http://www.mei.edu/content/brain-drain-and-return.

[69]Ibid,.66.

Iraq is a wartime state filled with unpredictable violence. As a result, the need for healthcare professionals to aid the wounded is extremely high. However, due to wage cuts as a result of the conflict and lack of personal safety, needed healthcare workers are migrating through mostly legal (but even illegal) methods, because the situation in the country is so bad. Through the use of immigration points systems, as used by countries such as Canada, these healthcare workers are able to migrate with general ease as a result of their profession, while unskilled workers in the same environments, who often need healthcare workers, are unable to do the same. This situation demonstrates, from a broad perspective, the utter importance of healthcare workers.

From a narrow perspective, examining the impact on the healthcare system itself, it can be seen that because of critically low numbers of physicians, approximately 0.8 per 1000 compared to Canada's 2.5 per 1000,[70] an estimated 70 percent of critically injured people die in emergency rooms in Iraq because of staff shortages alone. What makes the situation worse is the precedent set by history. This precedent indicates that once a family migrates to a country of political stability, children, who have the ability to adapt and embrace new society quickly , would have a hard time returning back to a country such as Iraq. In addition, women in developed countries have many more rights than they do in developed countries. This means that if a family migrates to a politically stable country because of a desired healthcare worker, women will often prefer to remain in their new host country rather than returning after the conflict because of the human rights they enjoy in the new country. For example, ISIS who has retained control over Iraq for a great amount of time has reportedly forced Muslim women into marriages with ISIS fighters.[71] Even if the conflict was over, and some kind of peaceful agreement was reached in Iraq, if ISIS wer still present, there is a probability that women woul be forced into

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70 "Density of physicians (total number per 1000 population, latest available year)." World Health Organization. Accessed May 23, 2017. http://www.who.int/gho/health_workforce/physicians_density/en/.

71 "Iraq." Human Rights Watch. January 27, 2016. Accessed May 23, 2017. https://www.hrw.org/world-report/2016/country-chapters/iraq.

marriages without their consent. As this is not desirable, women are a major aspect in influencing families about whether or not to return to their home country after the end of a conflict. This demonstrates that migration will often be permanent, and that the healthcare workers who fled due to conflict will often not return, even after a peaceful state has been accomplished.

INTERNATIONAL ORGANIZATIONS

The migration of healthcare workers is an issue affecting the lives of over one billion people around the world. Though it does not receive the attention it requires in order facilitate the resolution of the problem, there are organizations working on the international stage to not only bring this topic to the attention of global citizens around the world, but to also assist in its resolution. It is said that the world is short an estimated 7.2 million healthcare workers, yet this is not common knowledge to the majority of people around the world.[72] This is where international organizations such as the Global Health Workforce Alliance and the World Health Organization come into play.

Global Health Workforce Alliance

As of 2006, the Global Health Workforce Alliance (GHWA) has been working as an international forum for governments, societies, international agencies, financial institutions, and activists to work towards implementing strategies to counteract, or mitigate the effects of the migration of healthcare workers on home countries. Since its formation, GHWA has worked

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"About the Alliance." World Health Organization. Accessed May 23, 2017. http://www.who.int/workforcealliance/about/en/.

extensively with membered entities in order to generate attention across the world for the crises developing in nations suffering from high rates of healthcare worker migration. During its eleven years of existence, the GHWA has been able to not only expand membership within the alliance to over 400 different entities, but it has also prompted organizations such as the World Health Organization (WHO) to take action by raising the need for assistance with regard to this issue in their mandated programs of work.[73]

One of the most significant strategies designed to facilitate the solution of the issue is the initiative known as the Knowledge Centre. The knowledge centre is an action designed to inform policy makers about the international impact of the medical brain drain. One of the strategies they employ in the initiative is the creation of country profiles. The GHWA has a list of 57 different countries a long side with statistics pertaining to the healthcare brain drain. These are the 57 countries from which the GHWA has identified for having some of highest levels emigration with regard to healthcare workers. It is their belief that awareness of this pressing issue should be raised and from the rise in awareness solutions will begin to develop.

World Health Organization

Founded in 1948, the World Health Organization works with over 150 countries across the world in order to meet the goal of attaining the highest level of world health for all people. With WHO's partnered countries, they strive to combat issues such as the spread of disease, the underpopulation of healthcare workers in specific regions, as well as raise awareness of various health related issues present around the world. In addition, they work toward providing people around the world with the basic human needs they require in order to live healthy lives. These basic needs include drinking water, clean air, healthy food, and the medicine and vaccines needed in order to healthy prosperous lives.[74]

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[73] Ibid,.72.

[74] "Who we are, what we do." World Health Organization. Accessed May 23, 2017. http://www.who.int/about/en/.

WHO has taken a large stance with regard to the issue of the issue of the medical brain drain. Recognizing the implications of the healthcare brain drain on the societies of developing countries, WHO has not only worked to raise awareness with regard to the issue, but has also worked extensively in the development of efforts which work towards the solution of the issue. One of the ways they are working to relive stress placed on healthcare systems of developing countries is through furthering education programs. They wish to help increase the number of healthcare service workers in the field so as to increase the number of physicians overall which remain in their country. However, they are doing this by specifically training individuals who can together create multi-disciplinary healthcare teams. These teams consist of clinicians, healthcare workers, and healthcare managers. As a team designed in such a way with the right proportionate mix of each member, the team units will be able to work much more effectively and efficiently than they may otherwise have alone. In addition, WHO is working with stakeholders in able to develop methods of increasing both the quantity and quality of healthcare workers who remain in countries that are subject to high levels of healthcare migration. In the efforts at resolution as well as raising awareness, WHO is an international organization which is truly striving to make a positive impact with regard to this issue.[75]

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[75] "Education and training." WHO. Accessed May 23, 2017. http://www.who.int/hrh/education/en/.

CANADIAN CONNECTION

The migration of healthcare workers from developing to developed countries is a trend which is recognizable throughout the world. However, the greatest reason for which individuals migrate from developing to developed countries is because they are striving to provide a better life for themselves and their family. Often times, a major factor contributing to the migration is the ability to receive better financial compensation in wealthier countries. This means that in theory, the migration of healthcare workers will occur most frequently in situations in which individuals are seeking vocational status in a country wealthier than the one they originated in. Such occurrences have been exhibited between Canada, and its southern neighbour, the United States.

The migration of individuals between Canada and the United States has varied in rate over time. The first major wave of migration began the year of Canadian confederation. In 1867, the migration of Canadians to the United States consisted of unskilled workers who emigrated to the United States because of their high quantities of manufacturing jobs. The total migrants at the end of the first wave is estimated to be over 1.1 million by the turn of the century in 1900. The second wave of high migration occurred in the period of time between 1900 and 1930. During this 30 year time period, the majority of migrants were french speaking who were migrating as a result of discrimination in areas of Canadian society such employment, education, and religion. After the migration in the second period, emigration rates in Canada slowly declined as a result of the second world war generating jobs in Canada and Francophone Quebec became more politically accepted.[76] This was true with a few the exception of a few increases in the rates of

[76] "Canadian Immigrants in the United States." Migrationpolicy.org. March 02, 2017. Accessed May 23, 2017. http://www.migrationpolicy.org/article/canadian-immigrants-united-states.

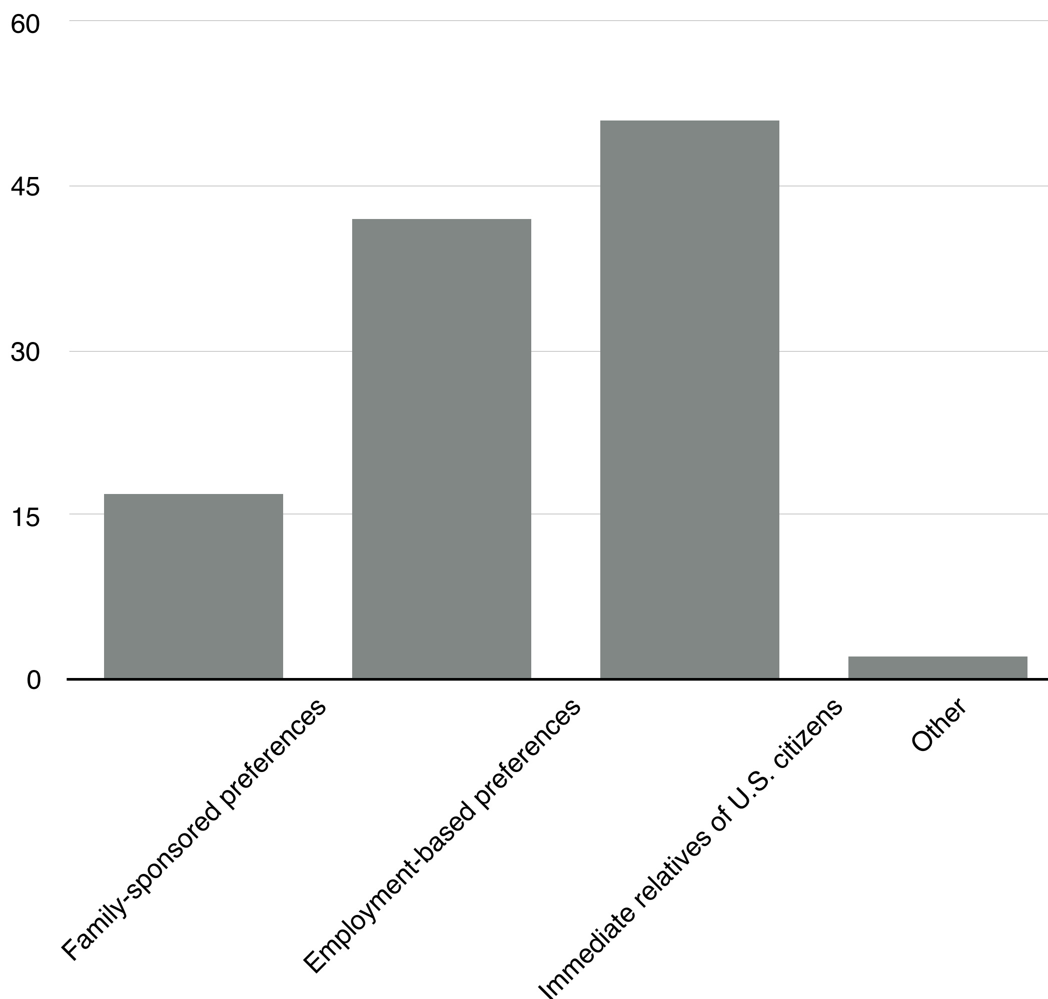
migration during the 1970s and 1990s. However, these increase were so small they have been deemed almost insignificant from a historical perspective.[77]

The decreasing rates of migration can be demonstrated when examining statistics derived from the American Community Survey between the years 2000 and 2006. The survey indicates that the number of Canadian citizens migrating in order to work in the United States has fallen 35%. However, data indicates that Canadian emigrants leaving to the United States accounted for over 30% of all Canada emigration. This percentage is down 15% from the census conducted for the period of 1996 to 2001 indicating that during the time frame over 45% of all emigration in Canada was to the United States.[78]

In 2012, it was estimated that over 800 000 Canadian immigrants were residing in the United states. The accounts for approximately 2% of the U.S. foreign born populations. The following chart shows pathways taken by Canadian citizen as a method of entry into the United States. From the chart, it is clear to see that as of 2012, the leading reason form immigration to occur was as a result of familial relationships. However, the second reason for which individuals gained entry to the United States is through employment based agreements. With point systems for immigration that exist and are heavily based on field of vocation, it is likely that the majority of individuals immigrating from Canada to the United States for reasons of work are highly skilled. With a majority of highly skilled individuals, a large portion of these individuals are likely to be healthcare workers.

[77] Zhao, John, Doug Drew and Scott Murray. 2000. "Brain drain and brain gain: The migration of knowledge workers into and out of Canada." Education Quarterly Review. Vol. 6, no. 3. Statistics Canada Catalogue no. 81-003-XIE.
DeVoretz, Don and Samuel A. Layrea. 1998. Canadian Human Capital Transfers: The United States and Beyond. Commentary 115. C.D. Howe Institute.

[78] Emigration from Canada to the United States from 2000 to 2006. July 13, 2010. Accessed May 23, 2017. http://www.statcan.gc.ca/pub/11-008-x/2010002/article/11287-eng.htm#n7.



From the chart above, one can clearly see that reasons for employment is the second most common reason for which Canadian citizens migrate to the United States. This makes sense as the United State's economy is much larger and more robust than the one present in Canada. In addition, the United States generally pays skilled workers more money for the same jobs they would be completing in Canada. For example, the average family physician earns roughly $145 000.[79] Though this is a lot of money in comparison to the wages of a worker doing to the same work in another country, it is still a significant less amount that that of an American doctor. The average American doctor doing the same work as their Canadian counter parts earn

[79] Emigration from Canada to the United States from 2000 to 2006. July 13, 2010. Accessed May 23, 2017. http://www.statcan.gc.ca/pub/11-008-x/2010002/article/11287-eng.htm#n7.

approximately $189 000 per year.[80] This demonstrates that though the migration of skilled workers from Canada to the United States is very small, it it still an issue which does exist between the two countries.

SOLUTIONS

The issue surrounding the migration of health care workers from developing to developed countries may not be a problem which can be solved easily, if at all. Though policy changes, government bodies, and progressive forces may not be able to solve the trend completely, reforms in the manner in which current society functions may be able to decrease the impact and provide a stepping stone towards complete resolution. The primary reason for which professional healthcare workers migrate from developing to developed countries is because they can provide a better life for themselves in a more prosperous country. Though easier said than done, the most logical solution to this issue is to reform society in developing countries so they are favourable to foreign investment and new business opportunities. In addition, these environments should contain prosperous working environments in which businesses would be attracted. The primary target of the goal to acquire foreign investment is to grow the small economies of developing countries into large scale economies which lead to prosperous countries.[81] In theory, a solution such as this sounds simple, but the array of complex steps needed in order to achieve this makes the idea of simply turning the economy into one that is economically prosperous and attractive to foreign investment extremely impractical and seemingly comical. In order to achieve this vision of success, practical policies and steps must be implemented.

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80 https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/jacquelynsmith/2012/07/20/the-best-and-worst-paying-jobs-for-doctors-2/&refURL=https://www.google.ca/&referrer=https://www.google.ca/

81 Dei, George J. Sefa, and Alireza Asgharzadeh. "What Is to Be Done? A Look at Some Causes and Consequences of the African Brain Drain." *African Issues* 30, no. 1 (2002): 31. doi: 10.2307/1167087.

One unique idea regarding the prevention of the migration of healthcare workers is to implement a program which would provide incentives for healthcare professionals to remain in their home country for a longer period of time. Since the single greatest reason for the migration of healthcare workers surrounds their ability to better themselves financially, a program designed to assist students to repay their student debt would be highly beneficial. In fact, Canada has a program very similar to this which provides incentives for doctors and nurses to work in regions of rural/northern Canada which suffer from severely understaffed medical facilities. From this example, it is possible to draw similarities and demonstrate how a program, such as the one in Canada, could be amplified in order to reduce the number of healthcare workers emigrating from their home countries. However, to understand how a program similar to the one in Canada could be implemented effectively, one must first understand the basis of the Canadian framework.

Effective April of 2013, the Government of Canada implemented a program known as the Canada Student Loan forgiveness for family doctors and nurses. Canada suffers from a lack of healthcare workers in small rural communities. These communities are relatively poor and generally suffer a high rate of migration to other regions in Canada. Because of this, the first similarity can be made. Developing countries often have push factors such as the overall wealth of the nation, and inability to access new job opportunities. In order to combat the low rates of healthcare workers in these rural communities, the government implemented this new policy. The program allows for new doctors and nurses to go to these small communities and in addition to the standardized pay, the government would help pay back student loans. As compensation, a family doctor or resident in family medicine could receive as much as $40 000 in loan forgiveness for their work over five years, and nurses, including nurse practitioners, could receive as much as $20 000 in loan forgiveness over the same period of five years.[82]

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[82] Canada, Employment And Social Development. "Apply for Canada Student Loan forgiveness for family doctors and nurses - How much you could receive." Apply for Canada Student Loan Forgiveness for Family Doctors and Nurses - How much you could receive - Canada.ca. July 15, 2016. Accessed May 23, 2017. https://www.canada.ca/en/employment-social-development/services/student-financial-aid/student-loan/student-loans/student-loans-forgiveness/amount.html.

This program has proven to be extremely effective with former Minister Candice Bergen stating, "Through our student loan forgiveness program, we are contributing to Canada's long-term growth, competitiveness and prosperity. We encourage more health care professionals to work in these communities to improve the overall health of Canadians."[83] This program is not just beneficial for those receiving the loan, but for the healthcare facilities that now have new staff to carry out the medical needs of society. Not only is it extremely beneficial, but many new healthcare graduates have taken advantage of the opportunity. In fact, when the program was first introduced in April 2013, over 1150 doctors took advantage of the program in the first seven months.[84] If this program were to be scaled to a larger state, it is likely, from the evidence of its success in Canada that medical professionals would stay in their home country.

For this to work, countries suffering from high levels healthcare migration could incentives medical professionals to work in their home country for a certain period of time through the promise that they will forgive set portions of their student debt. This would mean that much like small communities in rural Canada, poor countries would retain the healthcare workers they had trained for a longer period of time. In addition, it is likely that some of these workers will begin to develop a life in the society they are now working in. They will develop closer personal relationships with members of the community and will likely develop professional relationships in their field of work. As a result, instead of newly graduated University students coming out of the medical school with the thought of emigrating on their mind, it is possible that a larger percentage of graduates will stay even after their allotted time to forgive student debt. Another possibility is that in their line of work, these individuals will see how in need their country's healthcare systems are, and as a result of a growing conscience, will remain in their home country out of a moral obligation and personal satisfaction for giving back to their country.

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[83]"Harper government improves health care in rural communities through student loan forgiveness." Diane Finley, MP. November 14, 2013. Accessed May 23, 2017. http://www.dianefinley.ca/?p=675.

[84]Ibid,.83.

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