An Analysis of the Healthcare Brain Drain and its Effect on Maternal and Neonatal Health in Developing Countries

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INTRODUCTION

The brain drain of skilled healthcare professionals is an all too common phenomenon in today's globalized world. Skilled health care workers, in particular professionals with midwifery skills, are a scarce commodity in many countries.[6] There are significant implications of the brain drain for maternal and neonatal health. Brain drain is defined as:

> *...the current global heath workforce crisis,[1] in which highly skilled health care professionals, including doctors, midwives, and nurses, emigrate from one country (the source country) to another (the recipient country). Generally, this international flow of workers is from low-resource developing to high-resource developed countries.[1] This reduces the supply of health care professionals in the source countries and creates what is known as a "brain drain.[2]*

The United Kingdom, Australia, United States, and Canada have the largest number of internationally trained health care professionals contributing to their health workforces (23-28%);[3,5] with up to 75% having immigrated from lower-income countries.[3,5] In place of absolute numbers of emigrants, Mullan computed *emigration factors* which represent the proportion of physicians from source countries lost to the UK, Australia, USA, and Canada.[5] The larger the emigration factor of a source country, the fewer the physicians left to sustain the healthcare in that county.[5] Regions of the world with the highest emigration factors are Sub-Saharan Africa, the Indian Subcontinent, the Caribbean, and Middle East and North Africa.[5] As examples, it is estimated that 23,000 African health professionals[6] including 79% of newly registered nurse-midwives in Malawi,[10] 81% of Haiti's university-educated health professionals,[4] and 65% of Bangladesh's newly qualified doctors emigrate to high-income countries every year.

The international migration of health care workers has resulted in severe shortages of healthcare workers in the source countries, placing further strain on their healthcare systems and creating even greater inequalities to healthcare access for people in developing countries.[1] It is estimated that in developed countries, 33% of the world's population have access to 75% of the world's physicians,[1] leaving only 25% of the world's physicians to care for 66% of the remaining world population. This inequality is further exacerbated by the asymmetrical distribution of financial resources in comparison to the global distribution of disease. For example, while North America holds 42% of the world's health workers and spends greater than 50% of the world's financial resources on healthcare,[9] Africa has access to only 3%[1] of the world's health workers and access to less than 1% of global financial expenditures,[1] including loans and grants from abroad.[9] The global distribution of disease for these regions is 10% and 25% respectively.[1] While the Americas have a global health workforce density of 24.8 health workers per 1000 population,[4] Africa only has 2.3 health workers per 1000 population.[4]

Factors Driving the Brain Drain

In high-resource countries, a growing aging

population, increasingly high-tech health care and consumer expectations, combined with poor planning and underinvestment in health worker's education, have created a situation of too few health workers to meet rising demands,[6] characterized by the press as "national doctor and nursing shortages."[2] Although no formal policies have been adopted to compensate for these shortages with internationally trained health care professionals,[5] in order to meet demands, western countries in the 1960s revised their immigration policies[2] to focus on the recruitment, training,[5] and licensing of foreign-trained health professionals.[2] Between 1961 and 1975, 12 000 foreign trained doctors became licensed to work in Canada.[2] In the ensuing decades, hundreds of thousands of international trained health care professionals migrated to Canada and became licensed to support the Canadian healthcare system, including specific programs in rural and/or remote regions.[2]

The shortage and unequal distribution of health care workers exacerbated by the brain drain, has contributed to the decreased availability of skilled birth attendants and emergency obstetric care in developing countries.

A number of socioeconomic factors contribute to a healthcare professional's decision to emigrate from their home country in a developing nation to seek work in the developed world.[6] Hooper categorized these as "push/pull" factors.[7] Push factors are "indigenous factors that put pressure on those who are able to leave the source country to do so".[7] These include a lack of basic services,[5] such as food, housing and water, poverty, brutal regimes[1] and the threat of political instability and war[5] including internal and regional armed conflicts, fractionalization and religious ethnic drives,[1] poor working conditions,[6] including limited protection from HIV/AIDs and violence,[6] high unemployment rates[5] and exclusion of some healthcare workers (i.e. nurses and midwives) from policy decision making.[6] The "reform" of health care systems that has occurred in many low income countries has not only lead to the destabilization of the systems but has also added to the existing push factors that contribute to migration.[6] Budgetary cuts, reduced employment and educational opportunities, and mandatory early retirement[6] have lead to unreasonably low wages,[1] low career prospects[5] including employment in fields other than those of their expertise[1] and limited opportunities for promotion even with advanced education.[6] Pull factors are "those factors that make the recipient country seem attractive."[7] These include quality services[7] and resources (infrastructure, equipment, supplies),[10] low unemployment rates,[7] higher compensation,[8] better working conditions and postgraduate training programs[8] and much better career prospects[7] leading to personal economic, social[1] and professional growth,[6] greater satisfaction,[7] and the ability to afford basic life amenities.[8]

Implications of the Brain Drain on Maternal and Neonatal Health

The international migration of skilled healthcare workers disrupts the delivery of healthcare in the source countries. Today, many hospital wards, rural health clinics, and maternity units are unacceptably understaffed,[7] with dangerous health care provider to patient ratios and closures of entire facilities all too common.[6] The WHO has identified 57 countries that cannot meet a widely accepted basic standard of healthcare coverage by physicians, midwives, and nurses, 36 of which are in Sub-Saharan Africa.[5] The WHO estimates that the global deficit of physicians, midwives and nurses is 2.4 million,[4] leading to an estimated 1.3 billion people worldwide with no access to basic healthcare.[7]

The WHO has described a direct relationship between the ratio of health workers per population and survival of women during childbirth and children in early infancy.[9, 10] As the number of health workers declines, survival declines proportionately.[9,11] The shortage and unequal distribution

of health care workers exacerbated by the brain drain, has contributed to the decreased availability of skilled birth attendants and emergency obstetric care[10] and therefore directly to the high rates of maternal and newborn mortality and morbidity in source countries.[1] The WHO estimates that at least 2.3 trained healthcare providers per 1000 people are needed to be able to provide 80% of women and children with skilled attendance and emergency obstetric care at birth and childhood immunizations.[1] In low resource countries, 35% of women have no access to prenatal care[1] and 43% of women do not have a skilled birth attendant with them during the intrapartum period.[1] Poor and rural women are disproportionately affected.[10]

The 2005 WHO report states that over half a million women and girls die in pregnancy, childbirth, or the early postpartum period each year,[11,13] equating to "one death every minute of every day,"[13] the majority of which could be preventable.[11] Of these maternal deaths, greater than 99% occur in low-income countries, with approximately 84% occurring in Sub-Saharan Africa and South Asia.[1] In Canada, 1/11,000 women will die from antepartum or intrapartum complications [1] Contrast this with Western Africa, where the lifetime risk of maternal death is estimated at 1/18 women[12] and Niger Africa, where the maternal mortality rate is as high as 1/7 women.[1] Four million newborns die each year, the majority of which occur in developing countries and can be attributed to their mother's poor health and/or inadequate healthcare following delivery.[13]

The Millennium Development Goals (MDGs) were developed in 2000 and signified the commitment of 189 countries to reducing extreme poverty worldwide.[13] MDG 5A and 5B aimed at improving maternal health, set targets of reducing maternal mortality by three-fourths and achieving universal access to reproductive health care by 2015, respectively.[13] MDG 4 aimed at reducing child mortality, set targets of reducing by two-thirds, the under- five mortality rate by 2015.[13] Improving maternal health, MDG5, is the "heart of the MDGs."[1] The efforts required to achieve MDG5 will directly support the achievement of the MDGs aimed at promoting gender equality and the empowerment of women, reducing child mortality, combating HIV/AIDS and other diseases, and ensuring environmental sustainability, and indirectly support the MDGs aimed at eradicating extreme poverty and hunger, and the achievement of universal primary education.[1,13] Unfortunately, the brain drain which has lead to a critical shortage of healthcare workers trained in midwifery skills in source countries, has been a major impediment to making progress with MDG 5, particularly in sub-Saharan Africa. And, "if MDG 5 fails, so do the others." [1]

Measures to Rectify the Brain Drain

A number of measures to combat the international migration of healthcare professionals from developing to developed countries, the driving force of the brain drain, are reported in the literature. The main focus of these measures are on training, sustaining and retaining adequate numbers of healthcare workers.[6]

Improved workforce planning[10] and increased investments in recruiting and training local healthcare professionals would decrease the need for high resource nations to "poach" healthcare professionals from low resource nations.[5,7] Compensation from recipient countries and migrant health professionals to source countries,[1,7] by means of funds, professional services, or continuing education, is an option.[6] The World Federation of Public Health Associations (WFPHA) has called for mandatory compensation from high-income recipient nations to low-income source nations for the loss of members of their health work force, including midwives.[6] A national code of practice on the international recruitment of health workers[1] is needed and needs to be followed, in order to prevent high income countries aggressively recruiting from low income countries.[1] In 2001, the UK Department of Health adopted on paper, an ethical code restricting the recruitment of health professionals from 150 low-income countries.[6] Unfortunately, in practice, the ethical code is generally not followed.[6:395)]

It is suggested that source countries need to increase

their network of healthcare professionals by investing more in training.[10] Strategies to enhance retention of trained professionals include locally relevant medical training[9] and opportunities for pro-fessional development, including post-graduate training programs in obstetrics and gynaecology,[1] opportunities to conduct research,[9] and avenues to update and refresh one's skills.[6] Other keys to retention include financial and nonfinancial incentives[1] such as improved wages and benefits,[1,14] resources to care for patients,[1,6] and improved basic working conditions.[1,6] Basic rights should include protection from work-place violence[4] and access to effective HIV/AIDS prevention and confidential treatment.[4,14] In conjunction with these strategies, revised legislation to enable lower cadre providers to perform procedures currently restricted to medical practitioners[1,2,10,14] may increase the efficiency and quality of the existing health workforce,[4] and expand the capacity to provide midwifery and obstetrical emergency skills in low-resource communities. Methods to reduce emigration of trained health professionals include a required term of national service in one's country of training before being permitted to emigrate,[7,10] and source government negotiations with recipient governments to reduced active recruitment.[10]

The key to reducing the high rates of maternal and neonatal morbidity and mortality in developing countries is to ensure that all women have access to skilled attendants with midwifery skills and access to emergency obstetrics during the pre, intra, and post partum period.

Today's global workforce is characterized by critical imbalances of healthcare professionals due to the migration of healthcare professionals from low to high-income countries.[6] This has lead to the brain drain of many national healthcare systems, and in its wake, has left only shells of healthcare systems that are, in many cases unsafe, and too weak to respond to the many millions of people in need of healthcare.[1] There are a number of factors that contribute to the international migration of healthcare workers. To reduce the brain drain and positively affect maternal and neonatal health, concerted efforts from both recipient and source countries are needed. The key to reducing the high rates of maternal and neonatal morbidity and mortality in developing countries is to ensure that all women have access to skilled attendants with midwifery skills and access to emergency obstetrics during the pre, intra, and post partum period. This is unlikely to be achieved without proper training and retention of healthcare professionals in all areas of the world.

REFERENCES

1. Serour G. Healthcare workers and the brain drain. Int J Gynaecol Obstet 2009;106(2):175-8.
2. Wright D, Flis N, Gupta M. The "brain drain" of physicians: historical antecedents to an ethical debate. Phil Ethics Human Med 2008;3(24):1-8.
3. Onyebuchi AA, Uzor CO, Okeke CE. Too poor to leave, too rich to stay: developmental and global health correlates of physician migration to the United States, Canada, Australia, and the United Kingdom. Am J Public Health 2008;98(1):148-54.
4. World Health Organization. The World Health Report 2006: working together for health. Geneva; 2006. Available at: http://222.who.int/whr/2006/whr06_en.pdf.
5. Mullan F. The metrics of the physician brain drain. New Eng J Med 2005;353(17):1810-18.
6. Anderson BA, Isaacs AA. Simply not there: the impact of international migration of nurses and midwives perspective from Guyana. J Midwifery Women's Health 2007;52(4):392-7.
7. Hooper CR. Adding insult to injury: the healthcare brain drain. J Med Ethics 2008;24(9):684-7.
8. Anderson FWJ, Mutchnick I, Kwawukume EY, Danso KA, Klufio CA, Clinton Y, et al. Who will be there when women deliver? Assuring retention of obstetric providers. Obstet Gynecol 2007;110(5):1012-16.
9. World Health Organization. The global shortage of health workers and its impact. Fact sheet No. 302. April 2006. Available at: http://www.who.int/medicacentre/

factsheets/fs302/en/index.html.

10. Gerein N, Green A, Pearson S. The implications of shortages of health professionals for maternal health in Sub-Saharan Africa. Reprod Health Matter 2006;14(27):40-50.
11. World Health Organization. The World Health Report 2005: make every mother and child count. Geneva; 2005. Available at: http://www.who.int/whr/2005/whr2005_en.pdf
12. Klufio CA, Dwawukume EY, Danso KA, Sciarra JJ, Johnson T. Ghana postgraduate obstetrics/gynecology collaborative residency training program: success story and model for Africa. Am J Obstet Gynecol 2003;189(3):692-6.
13. Women Deliver. Focus on 5: women's health and the MGDs. 2009. Available at: http://www.unfpa.org/webdav/site/global/shared/images/publications/2009/focus_on_5.pdf
14. ten Hoope-Bender P, Liljestrand J, MacDonagh S. Human resources and access to maternal health care. Int J Gynecol Obstet 2006;94:226-33.
15. Office of the fairness commissioner. Available at: http://fairnesscommissioner.ca/en/professions/college_of_midwives_of_ontario.php

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