# The "Brain Drain" of Health Care Workers: Causes, Solutions and the Example of Jamaica

Aisha K. Lofters, MD, PhD<sup>1-3</sup>

#### ABSTRACT

Despite much media attention being given to the physician shortage in Canada in recent years, this shortage pales in comparison to that seen in many middle- and low-income countries. A major cause of the shortage in these countries is the migration of health care workers from developing to developed nations, a phenomenon known as the "brain drain". The loss of these workers is having devastating impacts globally, particularly in Sub-Saharan Africa and the Caribbean. Causes of the "brain drain" are numerous and include poor working conditions in poorer countries and active recruitment by richer countries. Jamaica has been one of the countries in the Caribbean hardest hit by mass migration of health care workers. The multiple dimensions of Jamaica's health worker "brain drain" illustrate both the complexity of the issues reviewed in this commentary, and the net loss for low- and middle-income countries. Creative and sustainable solutions to the problem are actively being sought globally, but will require commitment and support from all nations as well as from international funding bodies if meaningful impacts on health are to be realized.

Key words: Emigration and immigration; Jamaica; globalization; brain drain; health worker migration; health manpower

La traduction du résumé se trouve à la fin de l'article.

Can | Public Health 2012;103(5):e376-e378.

ny problem that exists within a health care system cannot be tackled without adequate staff, and indeed, no health care system can exist without a workforce to staff it. Much media attention has been given to the physician shortage in Canada in recent years, and both physicians and politicians have called for concrete plans to address the issue.1 However, the situation in Canada pales in comparison to that seen in many lower-income countries.

High-income countries, on average, have a physician density of 300 per 100,000 people.<sup>2</sup> Canada's density is considered low among OECD (Organisation for Economic Co-operation and Development) countries, at 203 per 100,000 in 2010.3 Lower-income countries, in stark contrast, have average physician densities of only 17 per 100,000.2

Why is there such a dramatic difference between higher-income and lower-income countries in health care worker supply? Ironically, a major cause is the migration of these workers from the latter to the former; a phenomenon that is colloquially known as the "brain drain".

The loss of health care workers can have devastating impacts on lower-income countries, especially when we consider that it is often the brightest of the bunch who have the best chance of migration.<sup>4</sup> The International Organization for Migration (IOM) estimates that lower-income countries pay US \$500 million per year to train health workers who go on to migrate to high-income countries.5 The Caribbean and Sub-Saharan Africa have been especially hard hit by health worker migration.6 For example, South Africa's overall estimated loss of returns from investment for physicians who have migrated to high-income countries is US \$1.41 billion.7 Unfortunately, these two regions are also the areas with the highest HIV prevalence rates in the world.8 Brain drain can even occur within a resource-poor country, where imbalances in rural areas versus urban centres encourage health professionals to move into the latter. Moving to an urban centre may be the first step to migrating over-

# Causes of the "brain drain"

When one understands the scope of the problem of health care worker migration, it is disturbing to learn that many health professionals have been actively recruited away by high-income countries. In 2006, 41% of migrant nurses in Britain reported moving there primarily because of recruitment.<sup>4</sup> Recruitment strategies have proven to be successful. In the US, the UK, Canada, New Zealand and Australia, approximately one quarter of practicing physicians are foreign-trained, and 40-75% of them are from lower-income countries.6,9

However, it is oversimplifying the problem to put all the blame for health worker migration on recruitment strategies. Any person should have the right to migrate to a place of their choosing, and in a world with globally uneven development, migration is expected and inevitable. 4,5 A large number of health workers leave their home countries without any recruitment having taken place, in many cases due to conditions in their home countries. Source countries may have weak economies and, as a direct result, weak public health care systems with poor working conditions.<sup>4,10</sup> Recipient countries, on the other hand, can offer higher salaries (sometimes

## **Author Affiliations**

- 1. Department of Family & Community Medicine, University of Toronto, Toronto, ON
- 2. Department of Family & Community Medicine, St. Michael's Hospital, Toronto, ON 3. Canadian Institutes of Health Research Strategic Training Fellowship,

Transdisciplinary Understanding and Training on Research - Primary Health Care Program (TUTOR-PHC), London, ON Correspondence: Dr. Aisha Lofters, St. Michael's Hospital Dept of Family &

Community Medicine, 30 Bond St., Toronto, ON M5B 1W8, Tel: 416-867-7428, Fax: 416-867-7498, E-mail: aisha.lofters@utoronto.ca

Conflict of Interest: None to declare.

up to 24 times higher) $^{2,11}$  in the context of safer environments, better infrastructure, a plethora of resources, and accordingly, more intellectual stimulation. $^{12}$ 

Furthermore, the brain drain itself perpetuates brain drain. With fewer workers, patients have longer waiting times, the health professionals left behind have more work thrust upon their shoulders and become unable to perform their jobs to their maximum potential. This creates a breeding ground for frustration, discontentment and burnout.

### Solutions to the "brain drain"

The problem of the brain drain and its devastating impact on the health care systems it affects are clear. Policy-makers are finding that solutions, unfortunately, are not so clear. Yet they are urgently needed. As the shortage in poorer countries rises, so too does the demand from richer countries.<sup>2</sup> To target the issue of recruitment, attempts have been made to establish international codes of conduct. To date, two Global Forums on Human Resources for Health have occurred, convened by the Global Health Workforce Alliance, the first in 2008 and the second in 2011. The ultimate goal of these forums is to improve human resources for health in order to achieve the health-related Millennium Development Goals. At the first forum, a Global Agenda for Action was created to advance an international code for both recipient and donor countries.<sup>5,13-15</sup> Key elements of the WHO Global Code of Practice on the International Recruitment of Health Personnel include calls for ethical recruiting, fair treatment of migrant workers, the support of return migration, gathering of reliable data, and the prioritization of public sector spending on health. In 2013, a progress report on the code is planned to be presented to the World Health Assembly. Although the commitment evident by the convening of these global forums is a necessary first step in correcting the global health workforce crisis, at the most recent forum, participants themselves emphasized the need to move from commitment to action to ensure that every person on the planet has access to a health care worker. These codes do draw attention to the problem, which is an important accomplishment, but adherence is ultimately voluntary and the codes are not legally binding. 4,5,15,16

Low- and middle-income countries cannot solve these problems on their own. High-income countries and international agencies such as the World Bank and the International Monetary Fund (IMF) need to recognize this, and to do more order to slow and eventually reverse the brain drain. <sup>4,5,17</sup> Specific policies that countries like Canada could institute include agreeing to only recruit from other high-income countries with similar or higher physician densities, or creating formal linkages with source countries to provide support for developing the sustainability of their health care systems. <sup>4,11</sup>

# The example of Jamaica

The story of Jamaica is one that well illustrates the issues discussed above. Jamaica is a middle-income nation in the Caribbean with a good medical education system.<sup>9,18</sup> According to the World Bank, the OECD and the IMF, the Caribbean region has been especially hard hit by migration, with Jamaica at the top of the list.<sup>19,20</sup> The country has been affected by the brain drain in all sectors. Statistics from the IMF and the IOM tell us that more than 80% of all Jamaicans with tertiary education of any kind have migrated.<sup>21,22</sup>

The health sector has not been spared. In 2001, there were 25 physicians per 100,000 people<sup>23</sup> and this number may well be decreasing. In a study by Mullan that describes the percentages of medical school graduates from a source country who are now working in Australia, Canada, the US, or the UK, Jamaica was the leader at 41.4%.6 Jamaican nurses are also quite likely to leave the country. Each year, the country loses 8% of its registered nurses and 20% of its specialist nurses to high-income countries, most of them to the US and the UK.<sup>24</sup> It is estimated that two thirds of Jamaica's nurses have emigrated.<sup>25</sup> This mass exodus led to nationwide vacancy rates in 2001 of 37% for registered nurses, 28% for public health nurses, 17% for nurse practitioners, and 61% for assistant nurses.  $^{24}$  In 2003, the overall nursing vacancy rate had reached 58%.<sup>24,25</sup> Migration has become so pervasive that many Jamaican nurses enter nursing school already with plans to migrate.9 The effects are being felt throughout the health care sector; for example, the Ministry of Health is painfully aware that mental health requires more attention in Jamaica, but there are simply not enough human resources to support patient treatment and rehabilitation.<sup>23</sup> The training of nurses and other health care workers is heavily subsidized in Jamaica, 23,24 which means that the island nation, which is heavily in debt,18 is essentially providing foreign aid to some of its own creditors.

This health care worker shortage must have a profound effect on patient care, health outcomes, production and the economy, but these are not the only negative consequences. The vast majority of Jamaican nurses are female, and it is quite common for children to get left behind with relatives when mothers migrate.<sup>22,24</sup> This means an increased ratio of dependents to caregivers, with increased costs that, according to the IMF and World Bank, are not offset by remittances,<sup>19,24</sup> even though remittances make up nearly 20% of the country's GDP. Three of every ten households in Jamaica include these "barrel children", who are at risk for poor school performance, delinquent behaviour, and sexual abuse.<sup>22</sup>

Even though Jamaica has lobbied the UK government in the past to stop depleting their nursing resources, <sup>26</sup> it has had to resort to doing the exact thing that is causing its own problems: recruiting from poorer countries. <sup>24</sup> Nigeria, Ghana and Guyana have all become source countries for Jamaican nurses, as well as for physicians and pharmacists. This recruitment, in turn, contributes to shortages in those nations. <sup>24</sup> To whom will the latter turn to replenish their supplies?

So, as in other countries, active recruitment and financial incentives both play a significant role in health care worker migration in Jamaica.<sup>24,27</sup> But there are factors pushing as well as pulling: some leave to escape the "old boys network" that limits advancement, some because of the lack of benefits, and some to get further medical training that is either not available at all in Jamaica, or not available at high quality.23,27 Many see Jamaica as offering no substantial opportunities for personal or academic development.<sup>27</sup> Some of these Jamaicans go overseas for further training and, finding better conditions abroad, never return.<sup>23</sup> It can be incredibly frustrating working within a system that is persistently depleted. With a chronically underfunded Ministry of Health,<sup>23</sup> the country is often unable to meet the demands of either health care consumers or health care providers, at least within the public system. As well, many may want to return to Jamaica after migration, but may be kept away by high crime rates and other hardships.<sup>28</sup>

# THE "BRAIN DRAIN" OF HEALTH CARE WORKERS

However, Jamaica and its partners are actively working on ethical solutions and ways of making better use of the resources that they do have available, both human and otherwise.<sup>23</sup> The governments of Jamaica and Ghana have together established limits on the number of nurses that Jamaica can recruit from the African nation.<sup>2</sup> Some Jamaicans who go overseas for further training are now funded through international cooperative arrangements.<sup>23</sup> An initiative called the Managed Migration Program of the Caribbean, spearheaded by the Pan American Health Organization and building on a Jamaican concept, has incorporated methods such as temporary migration programs, partnerships with overseas nurses associations, and recruitment of international nurses for short-term stays.25 The country also hopes for increased US support for education in Jamaica.<sup>24</sup> Finally, Jamaica is now working with the IOM on the development of a national policy on international migration. Proposed areas to address in this policy include facilitating shortterm labour migration, developing returning resident programs to encourage repatriation of workers currently overseas, and improving the measurement of the impact of migration on health and education within the country.29

# **CONCLUSION**

Any person or organization committed to seeing the attainment of the health-related Millennium Development Goals must also be committed to addressing the global shortage of health care workers. Sustainable and viable solutions can be found and are actively being pursued in Jamaica and other countries, but these solutions will not reach their maximal impact unless the global community comes together. One can only hope that the global forums in 2008 and 2011 constitute the first real step in correcting the global health workforce crisis, but they cannot be the last. Without addressing this global health crisis, any attempts to improve and sustain health care systems in affected countries such as Jamaica will ultimately be a failure.

## **REFERENCES**

- Collier R. Doctors call for plan to curb physician shortage. CMAJ 2008;178(4):384. Dovlo D. Taking more than a fair share? The migration of health profession-
- als from poor to rich countries. PLoS Med 2005;2(5):e109.
- Canadian Institute for Health Information. Supply, Distribution and Migration of Canadian Physicians, 2010. Ottawa, ON: CIHI, 2010.
- Connell J, Zurn P, Stilwell B, Awases M, Braichet JM. Sub-Saharan Africa: Beyond the health worker migration crisis? Soc Sci Med 2007;64(9):1876-91.
- Lopes C. Restrictions on health worker migration proving problematic. CMAJ 2008;178(3):269-70.
- Mullan F. The metrics of the physician brain drain. N Engl J Med 2005;353(17):1810-
- Mills EJ, Kanters S, Hagopian A, Bansback N, Nachega J, Alberton M, et al. The financial cost of doctors emigrating from sub-Saharan Africa: Human capital analysis. BMJ 2011;343:d7031 doi: 10.1136/bmj.d7031.
- Morison L. The global epidemiology of HIV/AIDS. Br Med Bull 2001;58:7-18.
- World Health Organization. Migration of health workers: Fact sheet no. 301. Geneva, Switzerland: WHO, 2010. Available at: http://www.who.int/mediacentre/factsheets/fs301/en/index.html (Accessed April 2, 2012).
- 10. Cooper RA. Physician migration: A challenge for America, a challenge for the world. J Contin Educ Health Prof 2005;25(1):8-14.
- 11. Shuchman M. Economist challenges recruiting hyperbole. CMAJ 2008;178(5):
- 12. Pang T, Lansang MA, Haines A. Brain drain and health professionals. BMJ 2002; 324(7336):499-500.
- World Health Organization. Global Forums on Human Resources for Health. Geneva: WHO, 2012. Available at: http://www.who.int/workforcealliance/forum/en/ (Accessed April 2, 2012).

- 14. World Health Organization. 10 facts on health workforce crisis. Geneva: WHO, 2008. Available at: http://www.who.int/features/factfiles/health\_ workforce/en/index.html (Accessed April 2, 2012).
- 15. A global dialogue on a global crisis. Lancet 2008;371(9619):1138.
- 16. Pagett C, Padarath A. A review of codes and protocols for the migration of health workers: The Regional Network for Equity in Health in East and Southern Africa (EQUINET) with the Health Systems Trust, 2007.
- 17. World Health Organization. Do most countries have enough health workers? Geneva: WHO, 2008. Available at: http://www.who.int/features/qa/37/en/ index.html (Accessed April 5, 2012).
- 18. Jamaica Data. World Bank, 2012. Available at: http://data.worldbank.org/ country/jamaica (Accessed April 5, 2012).
- 19. The brain drain [Editorial]. Jamaica Gleaner. November 14, 2005.
- 20. Jamaica named among countries suffering from 'brain drain'. Jamaica Observer. February 22, 2008.
- 21. Carrington WJ, Detragiache E. How extensive is the brain drain? Finance and Development 1999;36(2). Available at: http://www.imf.org/external/pubs/ft/ fandd/1999/06/carringt.htm (Accessed April 3, 2012).
- 22. IOM Jamaica. International Organization for Migration, 2011. Available at: http://www.iom.int/jahia/Jahia/jamaica (Accessed April 10, 2012).
- 23. Pan American Health Organization. Jamaica: Health in the Americas, 1998 Edition, Volume II. Washington, DC: PAHO, 1998. Available at: http://www.paho.org/english/HIA1998/Jamaica.pdf (Accessed April 5, 2012).
- 24. Wyss B. Econ-Atrocity: Global Poaching Jamaica's Brain Drain. Center for Popular Economics, 2004. Available at: http://www.populareconomics.org/ 2004/01/econ-atrocity-global-poaching-jamaicas-brain-drain/ (Accessed April
- 25. Salmon ME, Yan J, Hewitt H, Guisinger V. Managed migration: The Caribbean approach to addressing nursing services capacity. Health Serv Res 2007;42(3 Pt 2):1354-72.
- 26. Kingma M. Nursing migration: Global treasure hunt or disaster-in-themaking? Nurs Ing 2001;8(4):205-12.
- 27. Goffe L. An exodus of doctors: Wealthy countries snapping up Jamaican physicians. Jamaica Observer. November 6, 2005.
- 28. The negative push factor in Jamaica's brain drain [Editorial]. Jamaica Observer. November 14, 2011.
- 29. Freckleton T. Integrating migration in national development agenda: Towards a National Policy on International Migration and Development for Jamaica. Planning Institute of Jamaica, October 12-13, 2011. Chisinau, Moldova: Mainstreaming Migration into Strategic Policy Development.

Received: April 13, 2012 Accepted: July 18, 2012

# RÉSUMÉ

Les médias ont beaucoup parlé de la pénurie de médecins au Canada ces dernières années, mais cette pénurie n'est rien en comparaison de ce que l'on voit dans de nombreux pays à faible revenu et à revenu intermédiaire. L'une des grandes causes de la pénurie dans ces pays est la migration des travailleurs de la santé vers les pays développés, un phénomène qu'on appelle « l'exode des cerveaux ». La perte de ces travailleurs est dévastatrice à l'échelle mondiale, surtout en Afrique subsaharienne et dans les Caraïbes. Les causes de l'exode des cerveaux sont nombreuses; elles incluent les mauvaises conditions de travail dans les pays pauvres et le recrutement actif des travailleurs de la santé par les pays riches. La Jamaïque est l'un des pays des Caraïbes les plus durement touchés par la migration massive de ses travailleurs de la santé. Les multiples aspects de l'exode des travailleurs de la santé jamaïcains montrent à la fois la complexité des enjeux abordés dans ce commentaire et la perte nette subie par les pays à faible revenu et à revenu intermédiaire. On recherche activement des solutions novatrices et durables à ce problème partout dans le monde, mais il faudra l'engagement et l'appui de tous les pays ainsi que des institutions financières internationales pour que cela ait un impact concret sur la

Mots clés: émigration et immigration: lamaïque: mondialisation: exode des cerveaux; migration des travailleurs de la santé; main-d'œuvre en