



Nursing Self Sufficiency/Sustainability in the Global Context

Developed for the
International Centre on
Nurse Migration
and the
International Centre for
Human Resources in Nursing

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Developed for the International Centre on Nurse Migration
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by Lisa Little and James Buchan

Introduction

The 2006 World Health Report has identified shortages of human resources as the critical obstacle to the achievement of the millennium development goals (MDGs). Nursing shortages are on the agenda in many countries, developed and developing, and the International Council of Nurses (ICN) has established a global workforce initiative which has highlighted that previous efforts to address nursing shortages have often been short term, fragmented and inadequate.

One major challenge for all countries is to establish workforce-planning mechanisms that effectively meet the demands for health care and provide workforce stability. However, few nations have developed strategic plans for meeting nursing resource requirements that effectively address supply and demand. Instead, many developed countries choose to implement short-term policy levers such as increased reliance on immigration, sometimes to the detriment of developing countries. This has prompted calls for developed countries to employ a model of so-called “self sufficiency/sustainability” in addressing nursing and other health human resource shortages. The aim of this paper is to examine what definitions and models of “self sufficiency/sustainability” exist in a nursing workforce context, and discuss their implications for policy.

There is broad agreement in the health professions regarding the need for developed countries to ensure an adequate domestic supply of health professionals, thereby lessening their dependency on developing countries. Good health human resource planning should focus on increasing investment in the supply of nurses, doctors and other health professionals to meet the demands of all countries more equably.

In 2004, when examining the policy implications of nurse migration, Aiken et al. highlighted that “the most promising strategy for achieving international balance in health workforce resources is for each country to have an adequate and sustainable source of health professionals” which includes developed countries being more diligent in exploring actions to stabilize and increase their domestic supply of nurses (Aiken et al. 2004 p. 76). They go on to add that “developed countries’ growing dependence on foreign-trained nurses is largely a symptom of failed policies and underinvestment in nursing”.

Similar arguments have been put forward in the medical workforce. The World Medical Association (WMA) has adopted a statement on ethical guidelines for the international recruitment of physicians that recommends “every country should do its utmost to educate an adequate number of physicians taking into account its needs and resources. A country should not rely on immigration from other countries to meet its need for physicians” (WMA 2003). In May 2005, the British Medical Association (BMA) hosted an international conference on the global health workforce in association with the Commonwealth Secretariat and representatives from the United States, Canada, United Kingdom and South Africa. One of the key points agreed to by participants was that all countries must strive to attain “self sufficiency” in their health care workforce without generating adverse consequences for other countries (BMA 2006).

The same point was recently reinforced by HEAL, a Canadian coalition of more than 30 health professional and employer organisations, who identified self sufficiency as one of 10 principles to guide health human resource planning (HEAL 2006). Conclusions from a research and policy retreat entitled *Human Resources for Health: National Needs and Global Concerns* held in the United States identified national self sufficiency as a goal. That goal is to be achieved by building, innovating and sustaining the core educational capacity in nursing and medicine thereby moderating the dependency of the United States on other countries, particularly developing countries (Penn Consortium for Human Resources in Health 2006). Use of the terms 'core' and 'moderating the dependency' implies some level of immigration is required and/or acceptable. Attaining self sufficiency/sustainability is also noted in two key international policy documents: the *Joint Learning Initiative Report* and the ICN report *The Global Nursing Shortage: Priority Areas for Intervention*. The *Joint Learning Initiative (JLI) Report* argues that it would be wise for wealthy countries to strive for self sufficiency because reliance on immigration is short-sighted, inequitable and risky; self sufficiency is both sound and fair (JLI 2004 p. 106). The International Council of Nurses (ICN) report notes that the "importance of building national self sufficiency to manage domestic issues of supply and demand, in rich and poor countries alike, is critical" (ICN 2006 p. 12).

Against this backdrop of growing use of the phrase 'self sufficiency/sustainability' in a nursing workforce context, this paper examines what exactly may be meant by the term 'self sufficiency/sustainability'. It is a phrase that has been used in different contexts, and it is not always clear what it refers to. How does it apply to health workforce planning and policy making? Is it a concept that is feasible or desirable? And what is the impact of such a policy decision on health systems and nurses themselves?

There is no general agreement in health human resources planning as to how self sufficiency/sustainability explicitly is defined or measured – or if it is desirable or achievable. The purpose of this paper is to discuss the definition of self sufficiency/sustainability as it relates to health human resources planning by analysing various existing or intended examples of self sufficiency in terms of their strengths and weaknesses, and their impact on health systems and nurses. The paper goes on to identify enablers and barriers to implementing self sufficiency/sustainability and suggests possible indicators to measure the concept.

1. Definitions of Self Sufficiency/Sustainability

Self sufficiency is a phrase applied in a range of contexts. According to Merriam-Webster's on-line dictionary, self sufficiency is defined as the quality or state of being self sufficient, which it subsequently defines as able to maintain oneself or itself without outside aid: capable of providing for one's own needs (Merriam-Webster Online Dictionary 2006). Applying this definition to the context of health workforce planning is complex. Examining the use of this term in other sectors may serve as a useful starting point and offer helpful insight for its application in the health sector.

In other sectors, the term is often used to describe a market that has sufficient domestic production to meet needs or consumption. A market that is self sufficient/sustainable does not require the importation of products to meet needs. Within the agriculture sector, a country is deemed self sufficient if it generates enough produce to meet that which is consumed by the inhabitants of its country. For example, “since the mid-1980s Benin has produced yams, cassava, corn (maize), millet, beans, and rice to achieve self sufficiency in staple foods” (Brittanica 2006a). Energy is another sector in which the term self sufficiency/sustainability has been regularly applied. “During the early 1970s the [Danish] economy suffered from dependence on imported petroleum for more than 90 percent of its energy needs. Finds of oil and natural gas fields in the Danish sector of the North Sea permitted a partial self sufficiency in this regard. Coal-fired power plants produce 90 percent of the nation's electricity, up from 10 percent in 1970” (Brittanica 2006b).

At the other end of the spectrum, self sufficiency had been used to describe individuals who are economically independent and do not require external financial support. In the United States, an Office of Self Sufficiency exists at the state government level with the mission of assisting families and individuals to transition from welfare dependency and poverty to economic opportunity and independence. Similarly, a family self sufficiency programme exists in much of the United States and Canada which helps families achieve greater financial independence and self sufficiency with the goal of moving them from subsidised housing to other forms of housing (BC Housing 2006).

Transference of the concept of self sufficiency/sustainability from other sectors to nursing human resource planning leads to a plausible definition of ‘a sustainable stock of domestic nurses to meet service requirements’. The term ‘stock’ may be further defined by examining its use by the Organization for Economic Cooperation and Development (OECD). The OECD model of health care production describes stock as a function of inflow, outflow, existing supply and productivity (Simoens, Villeneuve and Hurst 2005). This definition incorporates broader elements such as distribution, mix, quality, productivity and retention. This lends itself to a broad range of policy options to attaining self sufficiency beyond just increasing nursing student enrolment. Such policy options include:

- Reducing student attrition.
- Increasing productivity of the workforce by:
 - increasing participation rates in the workforce;
 - increasing full time employment rates;
 - removing non-nursing tasks; and
 - introducing technology.
- Increasing worker retention through a number of incentives such as the creation of healthy work environments, better pay, ensuring worker safety, provision of needed supplies and equipment, reasonable workloads, etc.

The phrase 'to meet service requirements' reflects

“the political and economic choices and social values that underlie a particular health care system. For example, in a health system where health care is publicly funded and the access to service is allocated on the basis of need, epidemiology is the main determinant of HRH requirements. In a health system where health care is privately funded and access to services is based on ability and willingness to pay, economic factors are the main determinant of human resource requirements” (Birch et al. in Dreesch et al. 2005 p. 267).

An approach based on this definition would encourage countries to examine their stock of nurses in relation to the services required to meet the health needs of their population. It would not limit or constrain countries to providing only those services possible within their current financial means. Rather, it would enable those developing countries that do not have the economic resources to increase their domestic stock of nurses in order to meet service requirements to do so with the support of international aid.

In summary, this definition of self sufficiency situates the stock of health providers in relation to service requirements. It is broad enough to reflect the dynamics of the nursing workforce and the realities of various countries in terms of how they define and meet the health needs of their citizens. It focuses on domestic nurses as the key element to meet service requirements, consistent with the notion of domestic production used in other sectors. However, it is broader than the notion of production alone. The phrase “sustainable stock” highlights the economic and political realities of each country. It also encourages further dialogue within each country and globally as to what level of domestic stock is feasible within various timeframes. In addition, this definition does not exclude some level of immigration as a secondary element to developing a sustainable stock. There can be numerous benefits of migration as outlined later in this paper.

2. Examples of Health Workforce Self Sufficiency/Sustainability

There are several existing or intended examples of the use of the term “self sufficiency/sustainability” within the health workforce planning context. At the national level, examples include that of Iran, Australia, Oman, Malawi and the Caribbean region. Each of these is described in more depth in this section.

Iran

“In 1985 Iran established a national Ministry of Health and Medical Education to improve the country’s development of human resources for health to better meet population health needs. There has been enormous progress in ensuring the availability of a health workforce with the right number and skill mix of workers. The ministry is responsible for all aspects of planning, leadership, supervision, and evaluation of health services, including the training and educating of human resources for health.” From 1985 to 2000 the number of medical students increased by approximately 27,000 and the number of other health profession students by approximately 60,000. They also increased continuing education

programmes for all licensed medical staff from 908 in 1998 to 1505 in 2001. “Iran’s innovative integration of medical education and the health care system has dramatically expanded access to health services throughout the country, reduced reliance on external workers and services, and significantly improved key health indicators.” From 1984, Iran was able to increase the supply of physicians from 14,000 to 70,000, reduce patients sent abroad for treatment from 11,000 to 200 and reduce the use of foreign medical workers from 3,153 to zero (JLI 2004 p. 86).

Australia

The Australian Health Ministers Conference (AHMC) in 2004, in its National Health Workforce Strategic Framework (NHWSF), established seven principles as key to the delivery of the “vision for the Australian health workforce”. The first principle was “Australia should focus on achieving, at a minimum, national self sufficiency in health workforce supply, whilst acknowledging it is part of a global workforce”. Subsequently, the independent review of health workforce policy prepared by the Australian Productivity Commission assessed the AHMC framework and concluded that “the Commission considers that the principle of national self sufficiency, as currently expressed in the NHWSF, is not an appropriate objective for health workforce policy. The health workforce is international and will be increasingly so, meaning that Australia should not restrict itself to employing only locally trained professionals. Hence, in its view, this particular principle should be more broadly couched- along the lines that, at minimum, Australia should aim to produce sufficient numbers of health workers to meet future needs, without unsustainable reliance on overseas trained professionals” (Productivity Commission 2005). In its response to the Productivity Commission, the Council of Australian Governments (COAG) agreed that they should reconsider their initial definition of self sufficiency as being “unduly restrictive in the context of the international nature of the health workforce” (COAG 2006).

Oman

Oman is a small country in the Middle East with expatriates forming more than one-fourth of the two million population, according to the first census held in 1993 (Ministry of Information 2006a). In 1998, Oman developed the Omanisation programme, working toward replacing expatriates with trained Omani personnel. Omanisation — a campaign meant not only to ensure a job for each citizen but also to reduce dependence on expatriates in search of self-reliance in human resource — has become the government's top priority. The government set Omanisation targets in government services at 72% of workers and also stipulated fixed targets in six areas of the private sector. A number of ministers have come out with in-depth working papers, pinpointing hurdles facing Omanisation and ways to remove them. The Sultan has said the Omani youth constitute a large vital section of the society and no effort would be spared to ensure a bright, dignified future for them. At the same time, he exhorted the youth to work diligently and selflessly for the development of the country, as “work, whatever its nature, is a virtue”. The local media has been enlisted as a partner to ensure success of the campaign.

The initiative was supported by televised forums on Omanisation. Sultan Qaboos has stated he was impressed by the level of frankness pervading the atmosphere of these forums. He announced that without open discussions nothing could be achieved. The

Omanisation Follow-up and Monitoring Committee is responsible for following up and monitoring plans and programmes to Omanise jobs in the public and private sectors (Ministry of Information 2006c). Its powers include helping to determine the national economy's manpower needs, preparing investment and recruitment plans for the implementation of Omanisation policies in conjunction with the other competent authorities, and preparing progress reports on Omanisation in the public and private sectors. The Committee is comprised of government and public members and reports to the Sultan himself.

By the end of 1999, the number of Omanis in government services exceeded the set target of 72%, and in most departments reached 86% of employees. The government has even gone so far as to send home thousands of illegal workers to create room for citizens, and more are leaving (Ministry of Information 2006a).

In terms of the health sector,

“Before 1970 no more than 100 people were employed in the health sector and only 13 of those were doctors. However, by the end of 2003 the Ministry of Health had a staff of 18,579 including 2,635 doctors and 7,340 male and female nurses. Omanis accounted for 61% of the total workforce.... From 1998 to 2003, 459 Omanis have graduated from the Health Institutes' post basic courses, of which 144 were in Health Management, 115 in Renal Dialysis, 85 in Midwifery, 74 in Intensive Care, 25 in Physiotherapy and 16 in Health Education, all of which contributes to the Omanisation of the health sector” (Ministry of Information 2006b).

As a result of Omanisation, the demand for higher education in Oman rose sharply in the last several years. However, according to Wilkinson and Alhajri (2005), the capacity of higher education has not developed to a level sufficient to meet this demand. One policy by the Omani government to address this gap was to encourage the opening of private universities and colleges by providing up to 50% of capital costs to build and equip such institutions. In addition, the government has provided student scholarships for those attending private universities and colleges to improve access for students who would otherwise be unable. To ensure the quality of these private programmes, the government has required them to be affiliated with well-recognised foreign universities. Additional attempts to address quality of education concerns as a result of the proliferation of schools include the development of quality assurance requirements for higher education and the establishment of an independent Accreditation Council. Other solutions by the government to increase the number of higher education students to meet Omanisation goals include reforms to all levels of education to minimise dropout rates and an increase in the supply of well-educated teachers.

While there has been an examination of the impact on Omanisation on the education system, there has not to date been any report published on the impact of this policy on the workforce or on patient outcomes.

Malawi

Malawi is an example of a developing country that has made major investments in its health workforce over the last few years in an attempt to become self sufficient/sustainable. The Malawi health care system is in crisis due to an insufficient workforce. Staffing in the health service is inadequate to maintain a minimum level of health care and for the delivery of HIV/AIDS related services. "In Malawi, between 1999 and 2001 over 60 percent of the entire staff of registered nurses in a single tertiary hospital (114 nurses) left for employment in other countries" (Kingma 2006 p. 12). "Malawi's Nurses and Midwives Council estimates that up to 1,200 qualified nurses living in Malawi have chosen to stop working in the health sector altogether, switching to better-paid or less stressful vocations" (Ministry of Health, Malawi in Palmer 2006 p. 31). These statistics suggest that Malawi's nurse shortage may have been more the result of push factors than pull factors.

In 2004, the Ministry of Health called for action to retain current staff and attract those who had left the health workforce as a top priority (WHO 2006). "The process also reinvigorated Malawi's Human Resources Advisory Committee (for health) formed in 2000 to bring together all key players in this area, but which had fallen dormant" (Palmer 2006 p. 32). It developed and is in the midst of implementing a six-year Emergency Human Resources Programme which includes:

- improving recruitment and retention of Malawian staff;
- gross salary increases;
- external stop-gap recruitment of physicians and nurses to fill critical posts while more Malawians are being trained;
- significant expansion of domestic training capacity;
- introducing a period of compulsory public health service for enrolled nurses trained at public expense;
- bolstering capacity for human resources planning, management and development functions; and
- recognising the need for longer term work to address a range of non-financial factors affecting retention.

The programme is supported by several international agencies as well as the Malawi government at an estimated cost of US\$ 278 million. "While it is early days, the approach seems to be having a positive impact... there has been a reduction in the outflow of staff from the public sector. Over 700 new health staff have been recruited with interviews for nearly 200 further posts currently taking place" (WHO 2006 p. 22). According to Palmer (2006), the top-ups appear to be effective in recruiting and retaining staff, particularly middle- and lower-ranking cadres. The one exception is nurse emigration, which did not appear to slow down in 2005. However, it is likely that these nurses began preparations to migrate prior to the start of the programme, so it is too early to tell whether the programme has reduced emigration. Palmer (2006) goes on to note that ongoing international migration of Malawi's nurses is a cause for concern. The demand for skilled health workers in rich countries will continue to rise. It is therefore likely that Malawi will continue to lose some of their most skilled workers requiring the nation to produce staff over and above those required domestically. However, it is anticipated that this programme should prevent

further loss of nurses from the public health system to other sectors due to unsatisfactory working conditions and, hopefully, serve to repatriate some of those 1200 qualified nurses who chose to leave the nursing workforce for other sectors.

Caribbean

Critical challenges of global nurse migration face the Caribbean. In 2003, there were approximately 13,046 nursing positions in the region. Over 3,000 of these were vacant while approximately 1,199 nurses were produced during 2001-2003. Over 900 nurses left the region during the same period, resulting in an overall net gain of 299 nurses, filling only 36% of the vacancies (Salmon and Yan 2005). Hospitals have been forced to merge male and female patient care units and cancel elective surgeries. Combined costs of sick outs, civil action and loss in public investment in training nurses at the basic level are estimated at US\$20 M (Deyal 2003). In addition to the fiscal loss, Caribbean countries also suffer by not having adequate nursing staff to ensure the delivery of quality health care.

In response to this nursing shortage, the region developed a 'managed migration' strategy, respecting an individual's right to choose where they wish to work and live. This strategy was comprised of six critical areas: recruitment and retention, education and training, utilisation and deployment, terms and conditions of work, management practices and policy and health services research (Yan 2006). This approach was designed to address both the push and pull factors of migration. Stakeholders endorsed a wide approach that takes into account the range of initiatives being undertaken by the governments, the Regional Nursing Body, professional nurse organisations and the private sector. They further endorsed the recommendation that, regardless of the option being pursued, the region must establish partnerships and develop its strategy for resources to expand the capacity of current and future training programmes (Caribbean Conference on Temporary Movement 2005). The total value of the managed migration programme was US\$699,000 (Yan 2006). Funding and support were provided by the Caribbean region, individual Caribbean countries, the Pan American Health Organization, and international and trade partners. Interventions included increasing production through the increased use of midlevel practitioners and community workers, adopting a team approach combined with task shifting, implementing staffing ratios, a mentorship programme, and increased compensation for direct care providers. Interventions targeted at valuing nurses included a social campaign led by Johnson and Johnson and a Year of the Caribbean nurse recognition programme.

One of the elements of this strategy was emphasis on training to meet the national skills needs in various areas. Within this context, countries in the Caribbean can be grouped into three groups: beneficiaries, providers, and beneficiaries/providers. Beneficiary countries are that group of smaller countries, such as the British Virgin Islands, the Turks and Caicos and the Abacos Islands, which do not have the capacity to train and so depend on the other countries of the Caribbean, especially Guyana, to help them. Provider countries include Guyana – the largest provider in the Caribbean – Dominica and St Vincent and the Grenadines. Beneficiary/provider countries are those such as Jamaica which receives nurses from other Caribbean countries and sends Jamaican nurses all over the Caribbean (La Rose 2004). For example, Antigua and Grenada have a partnership through which

Antigua can send students to Grenada for training and the training fees are waived. Upon completion of their education the students return to Antigua to work (Yan 2006).

The Caribbean has for many years attempted to achieve a regional model of self sufficiency/sustainability in the education of nurses. This has been enhanced even further by the move of several educational institutions, such as the University of the West Indies, to institute satellite campuses and distance education. This is facilitated by the fact that for more than a decade nurses have written a common regional examination so that a graduate of any English-speaking Caribbean country can work in another English-speaking Caribbean country. This is one of the foundational elements upon which the managed migration programme was built.

3. Analysis of Models

Drawing from the examples, concepts and models discussed above, it is possible to derive and develop common characteristics, as well as actual and potential impacts on health systems and nurses, of the various types of “self sufficiency/sustainability” that are described.

A. Common Characteristics

Common characteristics that emerge from examining the various examples include:

- Collaboration of several partners;
- Government (political) involvement and support;
- Short and long term or multi year health workforce planning;
- Collaboration and support from international partners in the case of the developing country examples;
- Plan to fill future gaps with domestic health care providers;
- Significant expansion of training capacity/programmes;
- Limited reliance on immigrant workers, with priority emphasis on domestic production; and
- Significant monetary investment.

B. Impact on Health Systems

There could be advantages and/ or disadvantages for health systems that attempt to move to self sufficiency/sustainability. For example, there is a possible disadvantage to any subsequent reduction in in-migration as a result of decreased employment opportunities for foreign workers. Globalisation and migration in general are leading countries to become more multicultural. Health systems are enriched by migrant nurses who may share similar cultures and beliefs with the country’s diverse patient population. These nurses may have a greater understanding of the patients’ health expectations or share a common language, both important aspects to providing safe, culturally appropriate care. Decreased reliance on foreign workers may create a disconnect between the patient and nurse populations,

potentially leading to patient dissatisfaction and jeopardizing patient safety through language barriers. Having a nursing workforce that reflects the diversity of the population it serves is healthy for a health system. In addition, immigration of nurses can bring what is often termed 'brain gain'. Migrant nurses may bring with them new ideas and 'best practices'. Self sufficiency/sustainability may stifle such innovation and thus limit the competitiveness of a country in the global market. The degree of negative impact of self sufficiency/sustainability on health systems will depend on the approach taken by countries and at what level 'self sufficiency/sustainability' is calibrated. Setting a goal of 72% of the workforce being domestic workers, such as in the case of Oman, may lead to very different outcomes than eliminating reliance on migrant workers as in the example of Iran.

On the other hand, achieving self sufficiency/sustainability may strengthen health systems if, by enhancing a country's capacity for health human resources planning and fostering enhanced collaboration amongst stakeholders, there is a reduced reliance on "easy" short term international recruitment and more focus on improving internal planning, recruitment and retention. The examples above illustrate that achieving a goal of self sufficiency/sustainability requires long term, or at least multiyear, planning. Currently many countries do not have national strategic health workforce plans and those that do exist are often ineffective and short term in nature. The notion of "self sufficiency/sustainability" could foster the development of long term strategic health human resource plans that consider a number of recruitment and retention policy levers that go beyond the current political cycle that affects much of HRH planning and investment. The examples above were also successful in bringing together stakeholders to work together toward a common goal. For example, in the case of Malawi, it is reported that it reinvigorated their Human Resources for Health Advisory Committee which had been previously dormant.

It is not uncommon in human resource planning for health policy to be operating in isolation of education, finance, immigration, labour or professional policies. Engaging leaders and stakeholders, and planning human investments are two of the five key dimensions of effective national health human resource strategies as outlined in the JLI report (2004). "National experiences show that adopting such a strategic approach to workforce development can generate large health payoffs, both improving the performance of the national health system and generating better health results...these payoffs to a strategic approach to workforce development are available to all countries..." (JLI 2004 p. 65-66).

C. Impact on Nurses

A move to self sufficiency/sustainability by nations can impact individual nurses both positively and negatively. From a negative perspective, it may reduce temporary and permanent employment opportunities for immigrant workers, thus limiting professional and personal opportunities. For many nurses migration serves as a vehicle to enhance their professional development through improved access to continuing or formal education often not available in their own country. Limited professional development often equates to limited career advancement. For the mobile nurse self sufficiency/sustainability may limit

their opportunity to experience new political, professional and cultural realities (Kingma 2006 and Buchan 2002). The economic migrant is probably the largest category of intentional nurse migrant. Reduced opportunities for foreign employment will suppress the economic advancement of these nurses who are attracted by a better standard of living or by the possibility that she or he can provide additional income for family members who remain in the source country (Kingma 2006). Furthermore, self sufficiency/sustainability of developed countries may limit the ability of nurses from developing countries to secure safety and well being in more stable and well resourced countries. Developing countries often present with high crime rates, unsafe or unsanitary living conditions and civil strife. “In South Africa more than 95 percent of emigrants cited high crime rates as their reason for emigrating” (Padarath et al. in Kingma 2006 p. 15).

Alternatively, the move to self sufficiency/sustainability may result in the creation of better working conditions for nurses. If countries go beyond the traditional increase in domestic production to also address retention factors, nurses may experience positive gains – both monetary and non-monetary. There is a growing body of evidence linking positive or healthy work environments with job satisfaction and intent to stay (Lowe 2006, Baumann et al 2001, O’Brien-Pallas 2006). The Malawi and Caribbean examples above illustrate this potential. Gains to the nurses may be more visible in developing countries where nurses are currently working under impoverished and often extreme conditions.

In conclusion, self sufficiency/sustainability is a commonly used term which is in search of an agreed upon definition. Some definitions, such as that of Australia, use the term ‘sustainable’, while others like the US use the term ‘core’. While the various examples provided share some common characteristics, there is no single definition or agreed upon implementation of self sufficiency. The impact of “self sufficiency/sustainability” on both health systems and on nurses will vary depending on the nature of the model. Models that are comprehensive, addressing recruitment, retention and management policies that respect the right to migrate seem to be those most effective. Certainly the notion of sealed borders cuts across notions of individual freedom, and is unrealistic. However, a perverse incentive exists for developed countries to be less than self sufficient/sustainable in terms of meeting their own nursing workforce needs as they can rely on international recruitment – displacing the production costs to other countries, and setting aside the need to wait the three or four year lag time that home-based production entails.

Within the context of nursing resource planning, this paper proposes a definition of self sufficiency/sustainability as ‘a sustainable stock of domestic nurses to meet service requirements. The term ‘sustainable’ is one that emerges in several other definitions, suggesting that a substantial proportion of the stock of nurses be domestic. It also acknowledges the right of individuals to migrate and that a certain level of migration will always occur, as history shows. The term, if implemented as policy, would direct countries to develop a stock of nurses responsive to the need for nursing services which should ultimately reduce shortages, their impact on health systems, and the dependency on immigration to meet service requirements.

4. Enablers and Barriers to Implementing Models of 'Self Sufficiency/Sustainability'

A. Desirability

There are those who will find self sufficiency/sustainability a desirable state and those that may not. As previously noted, many health professional organisations including ICN, WMA, BMA and HEAL have supported the term "self sufficiency" though acknowledging the right of individuals to migrate. While they have not explicitly defined the term, their support appears to stem from foundational principles of social justice and access for all.

Developing countries are also likely to support the concept of self-sufficiency/sustainability of presently importing countries given that developing countries have suffered the loss of valuable nurses to other countries which are often wealthier and which employ immigration as a short term solution to address their own resource imbalances.

"In 2000 over five hundred nurses left Ghana for employment in the industrialized countries. That number was more than twice the number of new graduates from nursing programmes in the country that year. In Malawi, between 1999 and 2001 over 60 percent of the entire staff of registered nurses in a single tertiary hospital (114 nurses) left for employment in other countries. In Jamaica, 95 percent of the training output of nurses between 1978 and 1985 was lost to international migration, most of which involved employment in industrial countries" (Kingma 2006 p. 12-13).

Domestic nurses themselves may find self sufficiency/sustainability for their country desirable. "Many homegrown nurses feel that employers are exercising a kind of reverse discrimination in their dealings with loyal staff" (Kingma 2006, p. 75). They see employers luring international recruits with bonuses, subsidies and working conditions not available to them. Domestic nurses see this preferential treatment given to foreign nurses as a form of discrimination. Furthermore, once hired, internationally recruited nurses often are deemed a burden by domestic nurses who are required to orient them to their new surroundings. Language and ethnic differences can exacerbate this situation even further. This can lead to increased pressure and workload for nurses already stressed because of the staff shortage (Kingma 2006). Foreign-educated nurses, in particular new recruits, are often less militant and pose a potential threat to the acquired rights of domestic nurses by accepting lower salaries and poor working conditions.

On the other hand, there are a number of stakeholders who may not find the concept of self sufficiency/sustainability desirable. These include developed countries heavily dependent on a migrant workforce, countries that export or intend to export nurses, recruitment agencies and foreign nurses. Countries that regularly import nurses to meet their healthcare labour shortages may be reluctant to adopt the concept of self sufficiency as it limits their short term policy options for rapidly increasing the supply of health

professionals. It would focus their efforts on the mix of health professionals and productivity which can be more politically charged policy interventions. It would also force them to rely increasingly on accurate long term planning, including the domestic production of new nurses. This in turn would translate into significant financial resources for governments who fund or partially fund post secondary education. In the short term at least, it is likely that they would perceive it to be much more cost effective to implement policy levers to increase immigration to meet their needs.

The notion of self sufficiency/sustainability, depending on the model, may not be supported by countries such as the Philippines and India which benefit from the export of nurses and their remittances.

“Remittances sent through formal banks, post offices, or financial institutions total an estimated 75-200 billion dollars per year. In some countries, this represents a substantial percentage of their gross domestic product...In Africa, with the exception of Nigeria and Cameroon, remittances account for considerably more than foreign direct investment and are thus an essential contribution to the national economy” (Kingma 2006 p. 6).

Nurse recruitment agencies heavily dependent on foreign professionals as recruits are another group that may be negatively impacted by the concept of national self sufficiency/sustainability. It is anticipated that a major consequence of this policy goal would be reduced migration of nurses, although some level of migration will always exist. This would equate to a significant loss of income for these companies unless they were able to shift their recruitment pool to domestic professionals. “The evolving migration infrastructure of agents and brokers that moves workers over borders takes a significant share of the earnings gap that motivates people to migrate, often 20 to 30% of migrant earnings...” (Martin in Kingma 2006 p. 110).

Foreign nurses wanting to emigrate to other countries may not find self sufficiency/sustainability attractive. Emigration to other more advantaged countries is often a means for nurses to better their employment opportunities, economic status, personal safety and quality of life for them and their families. The more countries that implement a self sufficiency/sustainability policy could mean less opportunity for them. On the other hand, adoption of self sufficiency/sustainability by their own country may address the push factors that encouraged them to emigrate initially.

B. Feasibility

While some definitions of self sufficiency/sustainability might be deemed desirable by some stakeholders and countries, the question still remains as to whether it is feasible. Arguments can be made on both sides of the issue. Proponents of the concept will argue it is possible from several dimensions: interest in the nursing profession; creation of positive practice environments; increased productivity through changes in skill mix and employment status, introduction of new roles and technology; and the wealth of countries.

Increasing the domestic production of nurses from the perspective of interest in a career in nursing is possible in the case of several developed countries. After seven years of declining nursing baccalaureate enrolments, the USA saw a dramatic reversal of interest in the profession. This can likely be attributed to multiple factors including media coverage regarding the growing demand for registered nurses, economic recession with changes in national labour markets and the high profile Johnson and Johnson media campaign. Suddenly the demand far exceeded availability. In 2004, 125,000 applicants to nursing programmes were not accepted (National League for Nursing, 2004). A similar example exists in Canada with the Canadian Association of Schools of Nursing estimating the number of qualified applicants to available education seats to be 3:1 (personal communiqué with Pat Griffin 2006). There has also been recent significant growth in applications for, and numbers of funded places in, nurse education in the United Kingdom (Buchan and Seccombe 2006)

As previously noted, the stock of nurses is a function of inflow, outflow and productivity of the current supply. Self sufficiency/sustainability may be more feasible if countries look beyond the traditional production of new domestic nurses to include increasing productivity. According to the World Health Report 2006, studies of productivity in the health sector have been conducted in both rich and poor countries. “A recent study estimated the potential gains in productivity of existing staff in two African countries could be as much as 35% and 26% respectively” (WHO 2006 p. 69). Currently many countries are not maximizing the potential of their nursing workforce. Many do not have the appropriate support and resources to carry out their work effectively, others are not located where they can have the best impact, and others are underpaid, or not paid.

It is not uncommon for developed countries to have full time employment rates in the range of 40 to 60% and to have significant numbers licensed but not employed in nursing. For example 43% of nurses employed in Norway have full time employment, less than 52% in Canada, 47% in Denmark, 50% in New Zealand, and 56% in Sweden (ICN 2005). In many cases, nurses are looking for full-time employment but employers offer part-time jobs in order to increase the flexibility of the workforce and lower the payroll bill. The casualisation of the nursing workforce leads to job insecurities and dissatisfaction. Increasing the full-time employment rate to a level of 70% could significantly increase the productivity of the workforce and reduce the absolute number of nurses needed. Similarly, productivity can be improved by increasing the participation rate of nurses in the workforce. Kenya and Nigeria report 30,000 unemployed nurses and South Africa reports 32,000 with Uganda indicating this is its most serious human resource problem (Oulton 2005). In Ireland a study by Egan and Moynihan (2003) indicated that an estimated 15,000 qualified nurses and midwives were living in Ireland but opting not to work in the profession. When asked why they left the nursing profession, almost 40% said that their decision to leave was affected by conditions in their working environment, such as under-staffing, working hours, management problems and poor resources. When asked if they would consider returning to nursing if more attention was paid to their individual roster requests, 53% said they would. Finally, implementation of nurse-patient ratios in Australia brought 5,000 nurses back to the workforce who had previously chosen not to work because of unmanageable workloads (Tomblin Murphy 2005). Creating positive

working conditions could bring a substantial number of nurses back to the workforce, helping countries to achieve self sufficiency and reduce their reliance on migrant nurses.

From an economic perspective, it has been argued by the World Health Organization that the “world community has sufficient financial resources and technologies to tackle most of these challenges” (WHO 2006 p. xv). For example, in the USA, Bill Gates has a foundation endowed with about US\$29 billion, which donated in excess of US\$100 million in 2005 to combat AIDS, tuberculosis, malaria and other global health problems (Villeneuve M and MacDonald J 2006). Significant sums are being made available for dealing with disease but health human resources to deliver the proposed care and treatments have often been neglected and underfinanced.

On the other hand, self sufficiency/sustainability may be unachievable due to the fact that increasing domestic production takes several years to provide the additional nurses and is constrained by educational capacity issues such as limited clinical placement opportunities and a projected shortage of faculty. Interestingly, the American example used above can also be used to illustrate why self sufficiency/sustainability may not currently be feasible. The major reason why qualified applicants were not accepted to baccalaureate nursing programmes was an insufficient number of faculty, as well as inadequate infrastructure in the form of insufficient space and clinical placement options. The average age of doctorally prepared faculty in the USA is 53. 5 with 200-300 retirements expected within the next 10 years. In addition, 220-280 masters' prepared nurse faculty will be eligible for retirement between 2012 and 2018 (Bednash 2006). The Canadian Association of Schools of Nursing cites similar reasons as barriers to increasing domestic production (2004). Schools of nursing across Canada reported needing to recruit 500 faculty in 2005 (Canadian Nurses Association [CNA] 2006). An ICN report notes that a shortage of nursing faculty is a critical issue facing many countries which is serving to intensify nursing shortages by reducing the ability of education providers to increase their intake to meet demand (ICN 2006).

Capacity of countries to perform effective health human resources planning is another factor limiting the feasibility of self sufficiency/sustainability. Achieving self sufficiency/sustainability will require technical expertise and quality, accessible data to support accurate projections of the supply and demand for nurses. According to the International Council of Nurses, the capacity of most countries to plan for human resource requirements is weak due primarily to the limited or unreliable data and poor human resource management skills available, thus making effective planning and policy virtually impossible (ICN 2006). They go on to add that, where plans are in existence, they are often poorly executed or not implemented at all.

Decreasing populations may be another limiting factor in the ability of some developed countries to achieve self sufficiency/sustainability. For example, Statistics Canada projects that Canadian deaths will exceed births by 2030. Therefore, net international migration will be the only source of Canadian population growth. In fact, in 2005/06, immigration already accounted for two thirds of population increase. Comparatively, immigration accounted for 46% of Canada's growth in the 1990s and for 35% in the 1980s (Statistics Canada 2006). This trend is also shared by other OECD countries. “By 2025, the number of people aged

15-64 is projected to fall by 7% in Germany, 9% in Italy and 14% in Japan” (The Economist 2006 p. 11). Statistics of this nature suggest that increased domestic production will become increasingly unachievable. Countries with similar decreasing birth rates and aging populations will have no choice but to turn to immigration for labour force growth. Decreasing populations will not be a concern for the world’s less developed nations. “Ninety-six percent of world population increase now occurs in the developing regions of Africa, Asia, and Latin America and this percentage will rise over the course of the next quarter century” (Villeneuve and MacDonald 2006 p. 65). Unfortunately, these increases will only serve to increase the burden on the health system of already impoverished countries such as those of Africa.

C. Relevance

The world must address the global nursing shortage in order to meet the health needs of the population. This includes reducing global health disparities by achieving the Millennium Development Goals set out by world leaders at a special United Nations assembly in September 2000. Globalization has turned national health crises such as HIV/AIDS, TB and SARS into international concerns. It is in the best interest of all countries to help those affected by such diseases to effectively manage them so as to prevent global spread. “It is now widely acknowledged that the health MDGs, and development in general, are jeopardized by inadequate investments in human resources for health and ineffective actions to develop and sustain an appropriately prepared, equitably deployed, well-motivated and well supported health workforce” (ICN 2006 p. 5). This is especially true for developing countries. To delivery priority MDG interventions, countries such as Tanzania would have to triple their worker numbers by 2015 with Chad having to quadruple theirs. Applying a “baseline of 2. 5 workers per 1,000 population, sub-Saharan countries would immediately require an additional 1 million doctors, nurses, and midwives. Ethiopia would require an additional 150,000 workers...” (JLI 2004 p. 72-73).

Most countries are struggling with how to address the shortages, regardless of the contributing factors. They are being influenced by several key international policy documents. The first, as previously noted, is the Joint Learning Initiative report which explicitly recommended self sufficiency as the way forward. The World Health Report 2006 is another that implicitly recommends self sufficiency through recommendations directed at increased domestic production, improved recruitment and retention, and enhanced political and technical workforce strategic planning. Finally, the 59th World Health Assembly (WHA), in May 2006, recognising the importance of achieving the goals of self sufficiency in health workforce development, passed a resolution for the rapid scaling up of health workforce production (WHA 2006). All of these documents speak to the need for countries to view and treat their human resources for health as an investment and not a cost item. It speaks to the need for countries to explicitly value their nurses for their contribution to the health system.

5. Measuring Self Sufficiency/Sustainability

Self sufficiency/sustainability is a complex concept with various implications for the health system and nurses themselves. It is particularly relevant in this time of a global nursing shortage and global health crises. The feasibility and desirability of this concept as a health human resource policy can be positive providing it respects the right of individuals to migrate, and takes as a starting point the definition outlined in this paper. The ideal approach to developing a sustainable stock of domestic nurses to meet service requirements includes comprehensive recruitment, retention and management strategies. While increasing the domestic production of nurses is one strategy, it must be accompanied by effective retention strategies, as well as those aimed at increasing the productivity of the nursing workforce.

This comprehensive approach to self sufficiency/sustainability suggests that its measurement requires the collective examination of several indicators trended over time. To implement such a policy requires that countries individually and collectively set targets for each of these indicators, along with timeframes to reach these targets. Possible indicators are included in Table 1.

Numbers only tell part of the story. These indicators and others must be viewed in context. That context may be a regional self sufficiency/sustainability model, as in the example of the Caribbean, or that of a bilateral agreement between countries as a temporary means of meeting service requirements while the importing country strives to develop a core of domestic nurses. It may also reflect the temporary movement of nurses to another country to further their professional development or credentials with the agreement to bring these skills and knowledge back to their originating country. Governments may also take steps to achieve a sustainable stock of nurses to meet service requirements by implementing illness prevention and health promotion programmes to reduce the need or demand for health services in the future. This in turn will decrease the need to replace those who leave. All measures of self sufficiency/sustainability must be interpreted within the health human resource planning context of each reporting country.

Table 1	
Indicator	Comment
1. Proportion of the stock of international and educated nurses in a country at any one point in time.	This indicator has limitations in that it is a crude macro measure that does not necessarily capture the dynamic factors that comprise it.
2. Proportion of the annual nurse inflow that is internationally educated.	This indicator represents the proportion of new nurses entering the workforce each year that are internationally educated. A measure of the annual inflow can take many forms, depending on the availability and accessibility of data.*
3. Number of qualified nurse applicants that are turned away from schools of nursing each year.	This indicator represents a country's potential pool of new nurses that could enable it to reach its target for the percentage of annual inflow that is domestically educated.
4. Number of funded educational nursing seats as compared to the number required.	This indicates a country's willingness to incorporate as many domestically educated nurses as are interested to achieve a sustainable stock and decrease reliance on foreign nurses.
5. Percentage of nurses who are licensed but not employed in nursing, as compared to other countries.	This represents a potential stock of domestic nurses that could be integrated back into the workforce, thus reducing the reliance on international recruitment.
6. Annual outflow of nurses from employed in nursing to employed in non-nursing within a country.	This indicator represents a country's ability to effectively retain nurses in the nursing workforce.
7. Percentage of nurses who are of working age that let their license expire.	Retention of is a key strategy in maintaining a sustainable stock of domestic nurses. A country with a high percentage of eligible nurses who let their license expire reflects a lack of effective incentives to retain nurses.
<p>*For example, many countries either have a national nurse licensing examination, or some type of professional registration. In Canada, the Canadian Registered Nurses Examination (CRNE) is the final step in the licensure process and passing it is required for all domestic and foreign applicants (with the exception of Quebec). For example, in 2005, 13% of the CRNE first time writers were internationally educated or 12% of those who passed the CRNE (CNA 2006). The measurement of this may be different in other countries such as the UK where foreign nurses are not required to write a licensing examination, but where they are assessed for registration. In this case the indicator is quantified by the number of new foreign nurses added to the UKCC/NMC register. In 2002, that value was 53%; by 2005 it had reduced to 33% - suggesting that in recent years the UK has become less dependent on recruiting international nurses (Buchan and Secombe 2006) or that the number of positions has relatively decreased.</p>	

6. Next Steps / Moving Forward

Global calls for self sufficiency/sustainability in the context of health human resources have brought this concept to the forefront of international and national health policy agendas. However to move forward on such a policy requires a closer examination of this concept within the context of health systems and health human resource planning. For purposes of this paper, self sufficiency/sustainability is defined as 'a sustainable stock of domestic nurses to meet service requirements' where stock incorporates broader elements such as distribution, mix, quality, productivity, and retention. This paper has attempted to examine models of existing or intended self sufficiency, to analyze the various impacts of such a policy, and to provide a working definition and possible indicators of this concept within nursing. Next steps could include:

- Distribute paper to national nursing associations (NNAs), health human resource planners, and national and international policy makers to encourage dialogue on the issue of self sufficiency/sustainability;
- Seek international policy consensus on definition and indicators for self sufficiency/sustainability, including health professionals, planners and policy makers;
- Develop technical guidelines for the measurement of agreed upon indicators;
- Establish international mechanisms to monitor national self sufficiency/sustainability goals and indicator measurements.

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