

Nursing around the world: a perspective on growing concerns and the shortage of care

David E Vance

The University of Alabama School of Nursing, University of Alabama at Birmingham, Birmingham, AL, USA

Global and country specific problems

The nursing shortage, population aging, HIV (and the limited resources in which to provide patient care), and keeping up with the exponential knowledge growth represent some of the major and obvious nursing challenges (see Figure 1). For some countries, such challenges are more acute and dire than in others. As such, countries are confronting these problems in unique ways in tandem with their cultural values and endemic resources.

Nursing shortage

Worldwide, the shortage of nurses is well documented on every continent.¹⁻⁴ In Saudi Arabia, the nursing shortage is quite severe; as a result, there is heavy dependence on overseas qualified nurses to go there and work. In fact, Saudi nurses comprise only 29.1% of the nursing workforce.⁵ Many other countries such as the United States are adapting to this shortage by also recruiting from other countries such as Australia and New Zealand; but in turn, this creates a vacuum of qualified nurses in these countries so that they also adapt by recruiting overseas qualified nurses.^{6,7} In turn this creates even more problems for other countries, such as South Africa, that do not have the resources to recruit such nurses while their own nurses migrate to other countries seeking better pay and quality of life.¹

In response to this nursing shortage, several strategies are being sought, including: (1) reducing burnout and turnover, (2) changing the work conditions and culture of nursing, and (3) increasing the number of nurses through accelerated programs and more doctoral-level prepared nurses to train new nurses. Unfortunately, each of these potential solutions creates their own set of challenges. In South Africa, Delobelle et al surveyed 143 rural nurses and found that job satisfaction was significantly related to turnover intent.¹ Furthermore, turnover intent was higher in younger nurses and those with more education; such results are found in other studies of burnout and turnover intent.^{8,9} After controlling for years of nursing, age, education, and unit tenure, satisfaction with supervision was the only variable related to turnover intent; this suggests that improving the leadership climate under which nurses work may help reduce such turnover and thus mitigate the nursing shortage.

To confront the nursing shortage in Japan, Nakata and Miyazaki developed a database on the nurse labor market and derived three solutions that clinics and hospitals can implement to address this problem.¹⁰ First, a reorientation program could be implemented to recruit those nurses not currently in the labor force. Second,

Correspondence: David E Vance
The University of Alabama School of Nursing, Room 456, 1701 University Boulevard, University of Alabama at Birmingham (UAB), Birmingham, AL 35294-1210, USA
Tel +1 205 934 7589
Fax +1 205 996 7183
Email devance@uab.edu

Nursing shortage

- Nursing shortages are universal.
- Many countries compensate by recruiting nurses from other countries; this in turn depletes nurses in other countries.
- Strategies to increase the number of nurses are:
 - Reduce burnout and turnover;
 - Change working conditions and culture; and,
 - Increase more doctorally-prepared nurses.

HIV and limited resources

- 33 million are infected with HIV; 25 million have already died from it.
- Between 6% to 16% of patients possess an HIV-drug-resistant strain of the virus which complicates their treatment.
- Not all countries are equally affected by the HIV pandemic.
- HIV medications can reduce the spread of this disease; however, with the downturn in the global economy, cutting back on such medication programs will increase the rate of transmission.



Population aging

- There are 756 million older adults (60+); this will double by 2030.
- Worldwide, those 60+ years comprise 75% of all chronic disease deaths; these chronic diseases require more health care resources.
- Life expectancy varies dramatically between countries (ie, 80 years in the richest countries and 57 years in the poorest countries).
- Cancer survival rates are poorer in developing countries due to later stage diagnosis and limited access to health care.

Exponential knowledge growth

- With the exponential growth in knowledge that nurses must negotiate, this represents an enormous challenge on their time.
- For a 1-year period, a simple search on PubMed with the key term "evidence-based practice" resulted in 6251 articles.
- Nurses will need strategies to sift through this overwhelming amount of information.

Figure 1 Global concerns for nursing.

clinics and hospitals could introduce more flexible working arrangements for those providing care to family members. This point is an especially important consideration given the aging of the population; with the majority of nurses being women, the caregiving responsibility of elderly family members most likely rests upon them. So by providing flexible working arrangements, this allows many with the opportunity to still work and meet familial obligations instead of having to choose family over work. Third, clinics and hospitals must continually reassess the wage system for nurses; however, this can be a struggle with the downturn in the global economy. Yet with the current recession, especially in the United States, nurses may be staying in the workforce longer as they have become the primary "breadwinners" in families where the other spouse may be laid off, unemployed, and/or unable to find work. Given these unique economic circumstances, the nursing shortage is somewhat dampened, but may become exacerbated once the economy eventually rebounds.¹¹

With many doctorally-prepared nursing faculty approaching retirement age, this leaves a gap in the educational system to train qualified nurses.¹² This loss of doctorally-prepared nurses becomes particularly daunting considering

the recommendation of the Institute of Medicine's Future of Nursing report that the number of doctorally-prepared nurses should be doubled by 2020 to keep up with demand.¹³ To address this issue, accelerated doctoral programs are being developed which may help some;⁴ however, given the rushed nature of such programs, the quality of such education may be compromised.

Instead of focusing on accelerated programs, some schools of nursing have taken innovative steps by recruiting and inviting doctorally-prepared professionals in related disciplines such as psychology, statistics, epidemiology, and public health onto the nursing faculty to enhance teaching, research, and service programs. Clearly, this has the potential to provide a richer knowledge base for nursing, especially for training masters and doctoral nursing students. Unfortunately, such professionals cannot participate in training nurses in the basic competencies required in clinical settings.

The development of a new clinical doctoral degree in the United States may provide a solution. In 2004, the American Association of Colleges of Nursing proposed a resolution to develop the Doctor of Nursing Practice degree;¹⁴ this new accelerated clinical doctorate will assist with this Institute of

Medicine's goal and hopefully provide more teaching faculty to train future nurses. But with the introduction of this new degree, new issues emerge. First, resources needed to staff a Doctor of Nursing Practice degree may take resources from bachelorate programs which may, at least in the short term, produce fewer qualified nurses. And second, while a Doctor of Philosophy degree (ie, PhD) is well accepted and universally understood, a Doctor of Nursing Practice degree (ie, DNP) may be misunderstood by many who consider it a research degree. Also, it is not clear whether universities in the United States and in other countries will accept those with this new degree as part of their normal nursing faculty.¹⁴ This new degree clearly has potential in providing more teaching faculty, but its place in university and clinical settings around the world is not clearly defined.

Aging population

Never in the history of humankind has there been such a dramatic increase in both the lifespan and the number of older adults. Currently, there are 756 million older adults (60+ years); this will increase to 1400 million by 2030 and to 2 billion by 2050.^{15–17} Along with this, in 2009 the average global life expectancy was 68 years; this represents an increase of 4 years since 1990.¹⁸ Although these increases are welcome and serve as a testament to the improvements in public health, medicine, pharmacology, and of course, nursing, this changing demography represents a challenge for nursing and nations.

Age is the single largest risk factor for developing chronic disease (ie, diabetes, cancer, heart disease). Worldwide, those 60 years and older comprise 75% of all chronic disease deaths.¹⁶ Since there are more older adults with concomitant chronic diseases requiring more medical attention, this deluge of patients possesses the capacity to overwhelm many countries' health care and social programs. Along with the nursing shortage, concerns emerge that older adults needing care will not receive it.¹⁹

Since the speed of aging and the composition of aging varies from country to country, the severity of aging places differential demand on health care resources in each country.²⁰ Life expectancy varies dramatically between the richest and poorest countries; life expectancy is 80 years in the 50 richest countries (for example Japan and San Marino) and 57 years in the 40 poorest countries (such as Afghanistan, Chad, Lesotho, and Zambia).¹⁸ Patterns of chronic disease also vary from country to country due to population size and resources. The World Health Organisation predicts that between 2005–2015, high income countries will experience 75 million deaths due

to chronic diseases while lower middle-income countries including India and China will experience 144 million of such deaths.¹⁶ This disparity is particularly observed in global cancer statistics. Surprisingly, in developed countries overall cancer incidence rates are double compared to developing countries. Regardless, cancer survival rates are poorer in developing countries due to diagnosis at a later stage of the illness and limited access to medical treatment.²¹ These aging issues, accompanied with limited resources in many countries, represent an enormous challenge, especially in lower middle-income developing countries where nurses may be recruited away to more resource-rich countries.

HIV and limited resources

Over 33 million adults and children are living with HIV and 25 million have already died from this disease.²² Approximately 2.5 million adults and children are diagnosed each year.²³ Despite these overwhelming demographics, much progress has been made. First, the rate of new infections has decreased by 30% from the peak in 1996.²² And second, thanks to highly active antiretroviral therapy (HAART), the lifespan of those infected has increased dramatically. From this, the United Nations estimated that 11.7 million life-years have been added worldwide due to HAART. In fact, the study of aging with HIV is taking on new interest as clinicians and governments are addressing how to facilitate successful aging for those living with this disease.²⁴

Regardless of this optimism, several challenges remain including viral resistance and mutation, comorbidities, disparities between rich and poor countries, and the downturn in the global economy, which may limit resources to treat and prevent transmission. Viral resistance to HAART and mutation of HIV are two co-occurring phenomena that are of major concern for health care providers. Between 6% and 16% of HAART-naïve patients have an HIV drug-resistant strain of the virus; when resistance occurs, this means that the virus has mutated such that it is no longer responsive (or controlled) by certain medications. This resistance occurs for a variety of reasons (eg, suboptimal pharmacokinetics, suboptimal potency); however, toxicity and poor medication adherence account for 25%–40% of such resistance.²⁵ Although, it is important to mention that some patients have been infected from someone who was taking medication and had viral resistance as well.²⁶ Such viral mutation and resistance makes HIV much more difficult to treat and places extra demands on the health care system of countries.

Although HAART is largely effective in helping people survive with HIV, in many patients the medications themselves can produce metabolic syndromes such as high cholesterol, heart disease, diabetes, and possible osteoporosis, which may complicate treatment.²⁴ Given these toxic side effects, the medications may be switched for others which further complicate treatment. As a result, additional medical attention is required, thus placing additional demands on the health care system of countries.²⁷

Not all countries are equally affected by HIV. Although the rate of HIV infection has stabilized in some developed countries, rates of infection continue to grow in eastern Europe, southeast Asia, and especially Africa.²⁸ While the incidence of HIV is less than 1% in developed countries, in countries such as Swaziland and South Africa the incidence of HIV is well over 10% of the population.²² In fact, although life expectancy has increased for most countries, countries ravaged by HIV such as South Africa have actually experienced a decrease in average life expectancy compared to 10 years ago.¹⁸ This situation is compounded by high rates of malaria and tuberculosis, which are common in such regions.²² Despite herculean efforts from foundations and governments to provide assistance to such areas devastated by HIV, only one-third of those who need HAART will receive it.²⁷

The lack of HIV medications is not only unfortunate for those who do not receive treatment, it means the epidemic will continue to grow. Studies now indicate that those adults with HIV who have adequate treatment to and adherence with HAART are less likely to transmit it to others.^{29,30} By reducing the viral load (amount of HIV in bodily fluids) to undetectable levels, this has been shown to reduce transmission between partners and lower the prevalence of new infections within communities.^{30,31} Unfortunately, with the downturn in the global economy, many government organizations are cutting back on health care programs to provide HAART to those with HIV; in doing so, this will undoubtedly lead to greater transmission of HIV. All of these factors will obviously deplete resources for health care, and likewise impact the quality of nursing as well.

Exponential knowledge growth

The nursing profession must embrace lifelong learning to continue to provide current evidence-based practice to patients.³² Given the exponential growth in knowledge that nurses must negotiate, this represents an enormous challenge given their time demands.³³ On August 22, 2011, a simple search on PubMed with just “evidence-based practice” used

as the key search term resulted in a yield of 63,157 articles. When the same search parameter was limited to the last year, a yield of 6251 articles resulted. Clearly, this amount of information is overwhelming. Assimilating such information becomes even more convoluted when one considers that many articles on a particular topic on how to provide the best evidence-based practice may conflict with other reports and recommendations. Clearly, nurses as consumers of medical information need proficiency in how to find the most accurate and timely information as well as master the computer and search skills required to access it while avoiding information overload.³⁴ Despite these obstacles, the exponential knowledge growth that is made accessible by the internet represents an astounding resource for nurses, especially those in resource-limited countries. The globalization of such information places such evidence-based data in reach of those nurses who need it.³⁵

***Nursing: Research and Reviews* will serve as a platform to address such global concerns**

Despite the current worries and woes of the global economy, people still need nurses to take care of them in their time of need. We also need nurses who know what the challenges are facing the profession as well as possess potential solutions to address them; however, all of this occurs within local, national, and global contexts. Likewise, with the exponential growth of information, well reasoned, current literature reviews are needed to help nurses stay abreast of the most recent research and breakthroughs as well as navigate through topic areas to make sense of contradictory findings. In this new international “open-access” journal, *Nursing: Research and Reviews* will serve as a timely forum to discuss such challenges and disseminate such solutions. Being an “open-access” journal allows such knowledge to be made freely available globally to nursing students, nurse practitioners, nurse researchers, nurse leaders, and friends of nursing; yet, the authors retain the copyright. This “open-access” status is particularly important for nurses in developing countries where educational resources are limited.

As such, *Nursing: Research and Reviews* publishes original research and systematic and integrative literature reviews in any area of nursing; case studies, evidence-based practices, editorials, and commentaries are also encouraged. Our editorial board is comprised of distinguished nurses and scientists from around the world who will provide thoughtful and objective reviews on the variety of articles submitted, so that the final scholarly product will be the best it can be.

The editorial board and journal staff are dedicated to a rapid turnaround on submissions in order to provide current knowledge and expertise to those who will benefit from it. Finally, it is my pleasure to work with you, the reader, authors, the editorial board, and Dove Medical Press with this inaugural volume of *Nursing: Research and Reviews* as we continue to promote excellence in the science, service, and practice of nursing.

Disclosure

No conflicts of interest were declared in relation to this paper.

References

- Delobelle P, Rawlinson JL, Ntuli S, Malatsi I, Decock R, Depoorter AM. Job satisfaction and turnover intent of primary healthcare nurses in rural South Africa: A questionnaire study. *J Adv Nurs*. 2011;67(2):371–383.
- Hawthorne L. The globalization of the nursing workforce: Barriers confronting overseas qualified nurses in Australia. *Nurs Inq*. 2001;8(4):213–229.
- Jose MM. Lived experiences of internationally educated nurses in hospitals in the United States of America. *Int Nurs Rev*. 2011;58(1):123–129.
- Scherzer T, Stotts NA, Fontaine D. Meeting the nursing faculty shortage challenge: An accelerated doctoral program in nursing. *J Prof Nurs*. 2010;26(6):366–370.
- Almalki M, Fitzgerald G, Clark M. The nursing profession in Saudi Arabia: An overview. *Int Nurs Rev*. 2011;58(3):304–311.
- North N. Can New Zealand achieve self-sufficiency in its nursing workforce? *J Clin Nurs*. 2011;20(1–2):40–49.
- Smith CD, Fisher C, Mercer A. Rediscovering nursing: A study of overseas nurses working in Western Australia. *Nurs Health Sci*. 2011;13(3):289–295.
- De Gieter S, Hofmans J, Pepermans R. Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis. *Int J Nurs Stud*. 2011. [Epub ahead of print.]
- Neff DF, Cimiotti JP, Heusinger AS, Aiken LH. Nurse reports from the frontline: Analysis of a statewide nurse survey. *Nurs Forum*. 2011;46(1):4–10.
- Nakata Y, Miyazaki S. Nurses' pay in Japan: Market forces vs institutional constraints. *J Clin Nurs*. 2011;20(1–2):4–11.
- Carlson J. Nursing shortage eases ... but only while the recession lasts, experts warn. *Mod Healthc*. 2009;39(20):8–9.
- Stockhausen L, Turale S. An explorative study of Australian nursing scholars and contemporary scholarship. *J Nurs Scholarsh*. 2011;43(1):89–96.
- Institute of Medicine. *The future of Nursing: Leading Change, Advancing Health*. Washington, DC: National Academies Press; 2010.
- Cronenwett L, Dracup K, Grey M, McCauley L, Meleis A, Salmon M. The Doctor of Nursing Practice: A national workforce perspective. *Nurs Outlook*. 2011;59(1):9–17.
- De Luca d'Alessandro E, Bonacci S, Giraldo G. Aging populations: The health and quality of life of the elderly. *Clin Ter*. 2011;162(1):e13–e18.
- Farrelly C. Global aging, well-ordered science, and prospection. *Rejuvenation Res*. 2010;13(5):607–612.
- United Nations. *Population Ageing and Development 2009*. Available at: <http://www.un.org/esa/population/publications/ageing/ageing2009chart.pdf>. Accessed October 25, 2011.
- Zarocostas J. People in richest countries live 23 years longer than those in poorest, finds WHO. *BMJ*. 2011;342:d3061.
- Bohman DM, van Wyk NC, Ekman SL. South Africans' experiences of being old and of care and caring in a transitional period. *Int J Older People Nurs*. 2011;6(3):187–195.
- Kapteyn A. What can we learn from (and about) global aging? *Demography*. 2010;47 Suppl:S191–S209.
- Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. *CA Cancer J Clin*. 2011;61(2):69–90.
- UNAIDS. *AIDS Epidemic Update: November 2009*. Geneva, Switzerland: World Health Organization; 2009. Available at: http://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/report/2009/jc1700_epi_update_2009_en.pdf. Accessed October 6, 2011.
- Mofenson LM. Prevention in neglected subpopulations: Prevention of mother-to-child transmission of HIV infection. *Clin Infect Dis*. 2010;50 Suppl 3:S130–S148.
- Vance DE. Aging with HIV: Clinical considerations on an emerging population. *Am J Nurs*. 2010;110(3):42–47.
- d'Arminio Monforte A, Lepri AC, Rezza G, et al. Insights into the reasons for discontinuation of the first highly active antiretroviral therapy (HAART) regimen in a cohort of antiretroviral naïve patient. ICONA Study Group. Italian Cohort of Antiretroviral-Naïve Patients. *AIDS*. 2000;14(5):499–507.
- Huaman MA, Aguilar J, Baxa D, Golembieski A, Brar I, Markowitz N. Late presentation and transmitted drug resistance mutations in new HIV-1 diagnoses in Detroit. *Int J Infect Dis*. 2011. [Epub ahead of print.]
- Dieffenbach CW, Fauci AS. Thirty years of HIV and AIDS: Future challenges and opportunities. *Ann Intern Med*. 2011;154(11):766–771.
- Quinn TC. HIV epidemiology and the effects of antiviral therapy on long-term consequences. *AIDS*. 2008;22 Suppl 3:S7–S12.
- Chibwesha CJ, Giganti MJ, Putta N, et al. Optimal time on HAART for prevention of mother-to-child transmission of HIV. *J Acquir Immune Defic Syndr*. 2011;58(2):224–228.
- Montaner JS. Treatment as prevention – a double hat-trick. *Lancet*. 2011;378(9787):208–209.
- Charlebois ED, Das M, Porco TC, Havlir DV. The effect of expanded antiretroviral treatment strategies on the HIV epidemic among men who have sex with men in San Francisco. *Clin Infect Dis*. 2011;52(8):1046–1049.
- Eason T. Lifelong learning: Fostering a culture of curiosity. *Creat Nurs*. 2010;16(4):155–159.
- Burns HK, Dudjak L, Greenhouse PK. Building an evidence-based practice infrastructure and culture: A model for rural and community hospitals. *J Nurs Adm*. 2009;39(7–8):321–325.
- Patterson R, Carter-Templeton H, Russell C. Information literacy: Using LISTEN project strategies to equip nurses worldwide. *Stud Health Technol Inform*. 2009;146:652–656.
- Abbott PA, Coenen A. Globalization and advances in information and communication technologies: The impact on nursing and health. *Nurs Outlook*. 2008;56(5):238–246e2.

Nursing: Research and Reviews

Publish your work in this journal

Nursing: Research and Reviews is an international, peer-reviewed, open access journal publishing original research, reports, reviews and commentaries on all aspects of nursing and patient care. These include patient education and counselling, ethics, management and organizational issues, diagnostics and prescribing, economics and

Submit your manuscript here: <http://www.dovepress.com/nursing-research-and-reviews-journal>

Dovepress

resource management, health outcomes, and improving patient safety in all settings. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.