

A stylized graphic in shades of blue and white. On the left, a person is walking towards the right. On the right, a signpost with four directional arrows is visible. The background is a solid light blue.

MIGRATION OF HEALTH WORKERS IN THE ASIA-PACIFIC REGION

John Connell



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Suggested citation:

Connell, J 2010, *Migration of health workers in the Asia-Pacific region*, Human Resources for Health Knowledge Hub, University of New South Wales, Sydney.

National Library of Australia Cataloguing-in-Publication entry

Connell, John, 1946-

Migration of health workers in the Asia-Pacific region / by John Connell.
9780733429323 (pbk.)

Medical personnel--Supply and demand--Oceania.

Medical personnel--Supply and demand--Asia.

Medical care--Oceania--Employees--Emigration and immigration.

Medical care--Asia--Employees--Emigration and immigration.

Economic assistance, Australian--Oceania.

Economic assistance, Australian--Asia.

Oceania--Foreign economic relations--Australia.

Asia--Foreign economic relations--Australia.

University of New South Wales. Human Resources for Health Hub.

304.810995

Published by the Human Resources for Health Knowledge Hub of the School of Public Health and Community Medicine at the University of New South Wales.

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Design by Gigglemedia, Sydney, Australia.

CONTENTS

- 2 Acronyms
- 3 Executive summary
- 4 Introduction
- 5 A geography of need
- 6 The scope of migration
- 9 Recruitment and fiscal space
- 10 Migration
- 14 The consequences of migration
- 18 Issues and policy directions
- 23 Conclusion: the future health care chain
- 25 References

LIST OF TABLES

- 8 Table 1. The structure of international migration

ACRONYMS

| | |
|--------------|--|
| AIDS | Acquired Immune Deficiency Syndrome |
| APEC | Asia-Pacific Economic Cooperation |
| ASEAN | Association of Southeast Asian Nations |
| FSM | Federated States of Micronesia |
| HIV | Human Immunodeficiency Virus |
| MoU | memorandum of understanding |
| OECD | Organisation for Economic Co-operation and Development |
| PNG | Papua New Guinea |
| SHW | skilled health workers |
| UAE | United Arab Emirates |
| UK | United Kingdom |
| US | United States |
| WHO | World Health Organization |

A note about the use of acronyms in this publication

Acronyms are used in both the singular and the plural, e.g. SHW (singular) and SHWs (plural).

Acronyms are also used throughout the references and citations to shorten some organisations with long names.

EXECUTIVE SUMMARY

This report examines the growing phenomenon of the international migration of skilled health workers (nurses, doctors and more specialised workers, such as pharmacists, radiologists and lab technicians) in the Asia-Pacific region.

Since the 1960s, there has been significant international migration of skilled health workers (SHWs), particularly from countries such as the Philippines and later India. In the past decade, migration has become more complex, more pan-regional and of growing concern to countries that lose workers from fragile health systems.

Women, especially nurses, are an increasing proportion of the skilled migration flows. Few parts of the region are now unaffected by the consequences of the migration of health workers, either as sources, destinations or both. China has recently become a source and Japan a destination.

Most migration of SHWs from the region is to developed OECD¹ countries in Europe, North America and Australasia. Countries most affected by emigration are relatively poorly performing economies, notably the small Pacific island states (though numbers have been greatest from larger Asian countries such as India and the Philippines), but not the poorest countries in the region. Developing and developed countries are increasingly linked through migration in a now global health care chain.

Privatisation of health care, which in parts of Asia is sometimes linked to health tourism, has increased the extent of regional migration. Migration of health workers usually occurs in a context where other forms of migration are common, often culturally established and which effectively legitimise the migration of health workers.

Migration has been at some economic cost, has depleted workforces, diminished the effectiveness of health care delivery and reduced the morale of the remaining workforce. Weak funding for health services has exacerbated or contributed to these issues.

Return migration is limited and remittances flow to the private sector. The costs of training health care workers in developing countries are considerable, hence migration has been perceived as perverse and as a subsidy from the poor to the rich. Social costs have followed. Countries have sought to implement national policies on wage rates, incentives and working conditions, but these have usually been cancelled out by global uneven development, national economic development problems and intensified recruitment. Even rare integrated policies have been unsuccessful.

Countries have sought to implement national policies on wage rates, incentives and working conditions, but these have usually been **cancelled out by global uneven development, national economic development problems and intensified recruitment.**

Access to the internet enables health workers to effectively recruit themselves and enables instantaneous communication. Most recipient countries have been reluctant to establish effective ethical codes of recruitment practice, or other forms of compensation or technology transfer, hence migration may increase further, diminishing the possibility of achieving Millennium Development Goals, challenging workforces to manage HIV/AIDS and exacerbating existing inequalities in access to adequate health care.

Migration of health workers remains a critical issue. There are no magic bullets on policies, but integrated packages may point the way forward and developed countries must develop national workforces.

¹ Organisation for Economic Co-operation and Development

INTRODUCTION

The international migration of skilled health workers (nurses, doctors and more specialised workers, such as pharmacists, radiologists and lab technicians) is growing in the Asia-Pacific region. Since the 1960s, there has been significant international migration of SHWs, notably from larger developing countries like the Philippines, rather later from India and elsewhere in South Asia, and from some small island states. In this century, migration has become more complex, more pan-regional and of growing concern to countries that lose workers from fragile health systems. As health care has become more commercialised so too has migration. Few parts of the region are now unaffected by the consequences of the migration of health workers, either as sources, destinations or both. In this century, China has recently become a significant source for the United States, and Japan an emerging destination. Most migration of SHWs from the region is to developed OECD countries, in Europe, North America and Australasia, while those most affected by emigration are the relatively poorly performing economies, notably the small Pacific island states (though numbers have been greatest from such Asian countries as India and the Philippines). Most migration of SHWs in the Asia-Pacific region can also be seen as part of an increasingly normal structure of migration rather than as a distinct phenomenon. Developing and developed countries are increasingly linked through migration in a now global health care chain.

The international migration of SHWs parallels somewhat similar migrations of other professionals, such as IT workers, engineers and teachers. This reflects the growth and accelerated internationalisation of the service sector in the last two decades, rising demand for skilled workers in developed countries (where training is increasingly costly) and their supply in countries where once they were absent: a growing globalisation of flows of goods and services, of people, information and capital. Skilled professionals constitute a growing proportion of migrants, as new technologies enable and promote a global labour market, and production of skilled workers is inadequate in many developed countries which therefore seek to hire, regulate and recruit skilled migrants. Many countries, including Australia (and most recently the UK), have introduced points systems where skills facilitate entry, and migration has become more demand-driven, with the growing global integration of health care markets. Thirty years ago, doctors – mostly men – were the main migrant group, but nurses – mostly women – have become more numerous, and migration has taken on a new gendered structure. There are both new pressures and opportunities for women to work. Demographic, economic, political, social

Relative declines in public sector funding have **enhanced the perception** that working in that sector is less desirable.

and, of course, health transformations have had significant impacts on regional, and also local, migration flows.

Significantly, the health sector is rather different from other skilled sectors since most employment remains in the public sector, but conditions have tended to worsen and there has been movement into the private sector. There is now a greater range of jobs for women, outside a sector that is seen by some as dirty and dangerous (and unrewarding), sometimes difficult and demanding, and perhaps degrading. Restructuring, often externally imposed, has similarly affected health systems of developing countries, notably in some small island states, contributing to concerns over wages, working conditions, training and other issues, all of which have stimulated migration.

Accelerated recruitment by developed countries, where populations are ageing, expectations of health care increasing, recruitment of health workers (especially nurses) is poor and attrition considerable, has increased the volume of migration and the number of states that are involved, raising complex ethical, financial and health questions. Technology cannot easily replace workers, despite telemedicine and the emerging role of robots, while the rise of HIV/AIDS, greater longevity, more chronic diseases and the global ageing of populations have put new demands on diminishing health workforces. In contexts where there are existing health staff shortages, as in several Asia-Pacific states, migration has further weakened fragile health systems. Relative declines in public sector funding have enhanced the perception that working in that sector is less desirable. Migration issues are not only linked to financial issues, serious though these are, but are critical for the delivery of health care.

Good data on migration flows and structures is largely absent and entirely absent for many countries, even those where migration is of some significance. It is particularly significant that less visible health workers, such as pharmacists and radiologists, whose migration may be as critical as that of better documented nurses and doctors, have largely escaped consideration and analysis. Without more adequate data, evidence-based policy formation is difficult.

A GEOGRAPHY OF NEED

Human resources are central to health care systems and have long been unevenly distributed. The need for health care is at least as uneven. Though definitions and measurement of needs and shortages are complex, and the competence and effectiveness of workers hard to assess, demand for health care is greatest in some of the countries that are most tropical, including Papua New Guinea (PNG), Timor-Leste and Myanmar.

The disease burden is especially great in the more tropical and least developed states, while several of these countries in the Asia-Pacific region are also classified as least developed countries. Infant mortality rates are highest in Melanesia (Solomon Islands, Vanuatu and PNG) and also in Cambodia and Laos, while life expectancies are least in more or less the same group of countries. In an almost perfect example of the 'inverse health care law' (Tudor Hart 1971) these needs are less well served by SHWs than those in more developed countries.

Information on the distribution of disease burdens and mortality rates within most states is absent, hence it is impossible to determine where regional needs for medical care are greatest. However, 'modern' non-communicable diseases, and also HIV/AIDS, tend to be concentrated in urban areas, and some epidemics (including cholera in two Micronesian urban areas, and several PNG urban areas, in the past two decades) are more common there because of poor environmental health. By contrast, higher infant and adult mortality rates usually occur in many outlying areas, emphasising the presence of national 'inverse care laws', and the lack of access to SHWs in some outlying areas.

In developing countries distance (and transport facilities), lower incomes (and work commitments) and sometimes cultural differences discourage attendance at urban facilities. Thus, in Bangladesh access to maternal health services varies according to household income levels, distance to hospital and the educational status of women and their husbands, with the poorest households being least likely to access private sector facilities (Anwar et al. 2008), and skilled human resources are in any case heavily concentrated in urban areas (Zurn et al. 2004).

Such conclusions typify many similar contexts, as in Cambodia (*Save Cambodia's Wildlife* 2006), Laos and Mongolia. In the Pacific, health care is similarly uneven while, because of small size, the institutional structure is different from that in larger, less fragmented Asian nations, so that 'reverse economies of scale' are not unusual. Particular

Transport in circumstances where infrastructure is particularly poor can be **detrimental to health**, especially with belated resort to distant facilities.

problems relate to the delivery of health services beyond urban centres, especially in Melanesia, where funding and infrastructure are least adequate but also in very fragmented states, such as the Marshall Islands and Cook Islands, and by default where budgets are urban-biased. Because of centralisation, people who are not too far from hospitals choose to bypass primary facilities to secure high quality facilities, as in urban Kiribati (World Bank 2007, p. 55).

Consequently, urban hospitals tend to serve primarily urban patients; in Vanuatu some 98% of all hospital inpatients come from the towns where the hospitals are located because residents of distant islands incur high costs in travelling into towns (and consequently may also see hospitals as a place of last resort and even, as in parts of PNG, a place of death).

Transport in circumstances where infrastructure is particularly poor can be detrimental to health, especially with belated resort to distant facilities. Transport costs in the Marshall Islands, Fiji, Tonga and Vanuatu are a major deterrent to using urban services (World Bank 2007, p. 64; Asian Development Bank 1996, p. 119-120). This unequal access emphasises urban bias and inequity in service provision, both exacerbated by migration.

The relatively poor tend to be located in rural areas in most countries, and again especially in the developing countries, and a range of inadequate health status situations are correlated with some incidence of poverty (which in turn may reflect inadequate housing status, access to clean water, ability to pay for services etc.). There is therefore a very clear relationship between malnutrition and poverty (van de Poel et al. 2008), and by extension between poor health and poverty.

The rise of HIV/AIDS has increased demands for health workers, especially in Thailand and more recently PNG (Connell and Negin 2010). The well-known link between 'health workforce density' and health outcomes has been clearly demonstrated: lack of health workers contributes to poor health status and provision of such basic functions as adequate coverage of immunisation or attendance at births (Anand and Barninghausen 2004).

THE SCOPE OF MIGRATION

Globally, some 57 countries have critical shortages of SHWs, which equates to a growing deficit of 2.4 million doctors, nurses and midwives (WHO 2006, pp. 26-27), let alone pharmacists, dentists and others. Nine Asia-Pacific countries, including India and Indonesia, fall short of the minimum WHO standard of 20 doctors and 500 nurses per 100 000 people. Excluding Japan, New Zealand and Australia, and consistent with their much higher incomes, Singapore and Brunei have the best ratios of health workers to people. The worst ratios are in Cambodia, Laos and Vietnam, and probably also in Timor-Leste. Low numbers disguise a situation where the quality of supply of both human and physical resources varied in a similar way (Arunamondchai and Fink 2007).

Moreover, most SHWs are concentrated, and usually increasingly concentrated, in urban areas and usually in the capital city, as rural and regional areas are neglected. Outmigration has emphasised this situation. While it has often been argued that officially the production of doctors in South Asia (Bangladesh, India, Nepal, Pakistan, Sri Lanka) is in excess of official requirements, their urban concentration means that there is a gross inequality in health provision, and that this is exacerbated by socio-economic status and gender biases (Adkoli 2006; Bhutta et al. 2004; WHO 2006). In India, for example, there has long been urban bias in the distribution of health workers. As long ago as 1969, in a *Times of India* newspaper article, 'Brain Drain in Medicine', one of the first references to the brain drain in developing countries, one overseas-trained and returned doctor wrote:

“ While there may be one doctor for a thousand persons in the towns, there is often less than one doctor to a hundred thousand villagers in the remote parts of the country ... but can one seriously expect a highly-trained specialist or surgeon to go and settle down in a rural hospital? He [*sic*] has been trained at great expense to himself and the country, to perform a specialised task and his talents and skills would be completely wasted in a rural dispensary (Pandya 1969).

While there was some truth to this, what might have been seen as a plea for more intermediate skills in rural areas effectively went unheard. At that time, urban bias was particularly evident in countries where private sector health care tended to prevail, such as Thailand, Indonesia and the Philippines, rather than where government employment was the norm. However, urban bias has continued and often been exacerbated by the rise of private medical care.

The first international migration of SHWs in the region in the 1960s was of doctors, from the larger Asian states of Philippines, India and Pakistan, usually to the United States. Already, with training oriented to overseas needs, the Philippines had contributed the largest number of overseas doctors in the US. Doctors and nurses from there and South Asia were beginning to go to the Gulf and the United Kingdom (Mejia et al. 1979). Over time, what were then relatively simple migration flows, reflecting linguistic, colonial and post-colonial ties, became steadily more complex, more obviously perverse (being away from areas of greatest need), and stimulated by active recruitment.

After a period of quiescence, demand for SHWs in developed countries again increased in the mid-1990s, resulting from ageing populations, growing demand and ability to pay, inadequate training programs and high attrition rates, as jobs in the health sector were seen in many developed countries as too demanding, poorly paid and lowly regarded. Reduced recruitment of health workers also followed declining birth rates in developed countries: there were fewer young people and more diverse employment opportunities for women, many with superior wages and working conditions, and greater prestige and respect. Significantly, these influences are similar to the reasons for attrition and migration in various Asia-Pacific source countries.

Contemporary international recruitment of health workers is increasingly global. China has not just tentatively entered the market as a supplier of nurses (Xu 2003), but within four years had become one of the most significant suppliers to the US (Brush 2008), and also to Singapore and Saudi Arabia (Zhiwu 2007). China's interest in greater involvement could profoundly influence the future global care chain. India has grown dramatically as a global supplier in the present century, especially for nurses, and it is highly likely that other parts of South Asia – especially Sri Lanka, Bangladesh and Pakistan – will soon follow. Pakistan currently exports about half of its annual production of 4000 medical graduates, two-thirds of newly graduated Bangladeshi doctors seek to move overseas and a quarter of newly graduated Sri Lankan doctors move overseas (Adkoli 2006, p. 52).

Over the past 30 years, the key receiving countries have remained remarkably similar, dominated by the UK and the US, but also by Australasia. Outside the Gulf, New Zealand has one of the highest proportions of overseas health workers in the world. While demand in the Gulf has stabilised, other European and global destinations (including Canada and Australasia) have grown in importance. The proportion of

foreign-trained medical workers in developed country health workforces has usually also risen in the present century. Rising global demands have necessitated supplies.

Increased global demand is typified by the situation in Japan. Japan, virtually alone of countries that have experienced substantial post-war economic growth, has largely managed its health services (and other services) without resorting to overseas workers. It now seems certain to become a new and important importer. Hitherto Japan has always been unwilling to accept immigration, and has tended to export industry and other services (such as recreation) and develop mechanisation and the use of robots. Neither of these policies to reduce the demand for labour has obvious applicability in the health sector. In recent years, therefore, the Japanese health care system has come under considerable pressure, especially as the population ages and demand increases, without access to migrant health workers, as in most other developed countries. Consequently Japan, more than most other countries, has taken particular advantage of medical tourism, with movement offshore for medical care (Connell 2011).

At least one Bangkok hospital has an exclusively Japanese wing, and there are some Japanese nursing homes in Bangkok. Demand on Japanese health services is reduced, and health costs similarly reduced, but with some social costs. However, within the last three years Japan has negotiated the immigration of health workers from the Philippines, suggesting that there are real limits to the possibilities of mechanisation and the outsourcing of medical services. In May 2008, Japan signed an accord with Indonesia to accept 1000 nurses and nurse specialists over the following two years. Both Filipinos and Indonesians were officially trainees, and work in either rural areas or nursing homes for the elderly.

Throughout this time, the Philippines and India remained the main regional sources of SHWs for almost every part of the world. One of the major global source countries for nurses is the Philippines. Filipino nurses migrate to more than a hundred countries, including Saudi Arabia, Canada, Ireland, the UK, and in particular the US where it is estimated that their numbers are approaching 40 000. India is rapidly moving into a similar position. Relatively recently other Asian states have become sources of SHWs, as have some of the Pacific island states. Five of the twenty countries with the greatest emigration factors (the ratio of emigrant to resident doctors) are Philippines, India, Pakistan, Sri Lanka and Myanmar (Mullan 2005). Pacific island states were

not included in that analysis; otherwise Fiji, Tonga, Samoa, Tokelau and the Cook Islands would also have been there. Significantly, these Asian states especially include some of those where the need for health care is greatest.

The greater complexity of migration is evident in the increasingly complex chains of recruitment and supply, within and beyond the Asia-Pacific region. In the Pacific, complex systems exist within and beyond the region. Fijians move to the Marshall Islands and Palau, while emigrant Fijians are replaced by Burmese, Filipinos and others. Something of a hierarchy of global migration – the global care chain – links the poorest Asian and island states, to the developed world, culminating in the US. The initial overseas destination may not be the intended final destination, especially for health workers in the Gulf, who seek to move on to the United States, and for many Filipinos in the UK who also seek to move on to the US, while Filipinos in Ireland seek to move to the UK. Kerala nurses used their stay in the Middle East to save money and take advanced courses ‘to reach the much prized west’, with the Gulf merely the first step in ‘the “true” emigration’ (Percot and Rajan 2007, pp. 321, 323). And migration is not just for SHWs; for Filipino nurses ‘nursing is seen as a way to move the whole family from the Philippines to the United States’ (Ong and Azores 1994, p. 173). The same is true in the Pacific. As in so many other contexts, the United States is the alluring, ultimate – and actually realistic – destination of step migration. This points to both accelerated migration and the frustrations of trying to develop an effective national workforce, when growing proportions of those being trained are intent on migration.

Migrants themselves choose different destinations, and migration is constantly in flux depending on labour markets, domestic pressures, evolving global legislation and codes of practice, and individual perceptions of amenable destinations. Migration ranges from fixed-term contract migration (typified by that from the Philippines to the Middle East), usually negotiated between governments, and more personal, individual migration that may last a lifetime.

Within the Asia-Pacific region there is enormous diversity between those countries that are primarily exporters of SHWs (e.g. India, Philippines and Pakistan), those that are primarily importers (e.g. Marshall Islands, Brunei and Singapore), those where there is some balance or at least both immigration and emigration (e.g. Fiji and Malaysia) and those where migration is currently of no great importance (e.g. Cambodia, Laos, Mongolia). These distinctions are crudely summarised in Table 1 (that takes no note of internal migration).

TABLE 1. THE STRUCTURE OF INTERNATIONAL MIGRATION

(This table excludes the French territories of New Caledonia, Wallis and Futuna and French Polynesia, and also Hong Kong.)

| MAINLY EMIGRATION | MINIMAL MIGRATION | MAINLY IMMIGRATION |
|-------------------|-------------------|---------------------------|
| American Samoa | Bhutan | Australia |
| Bangladesh | Cambodia | Brunei |
| China | Kiribati | FSM |
| Cook Islands | Laos | Guam |
| Fiji | Maldives | Japan |
| India | Mongolia | Malaysia |
| Indonesia | North Korea | Marshall Islands |
| Myanmar | PNG | Nauru |
| Nepal | Solomon Islands | New Zealand |
| Niue | Thailand | Northern Marianas Islands |
| Pakistan | Timor-Leste | Palau |
| Philippines | Tuvalu | |
| Samoa | Vanuatu | |
| Sri Lanka | Vietnam | |
| Tonga | | |

Key to acronyms in Table 1

FSM Federated States of Micronesia
 PNG Papua New Guinea

A significant number of states are only recently beginning to experience the emigration of health workers. Thus Bangladesh has begun to move from a situation of largely unskilled migration to one where skilled workers are becoming of much greater significance numerically; although between 1991 and 2004, female migrant nurses and doctors were just 5% of all migrant workers, this proportion is entirely new and numbers are quite large numbers. Almost all were in the Gulf (Aminuzamman 2007). Bangladesh is one of a smaller group of countries, including Nepal and Indonesia, where outmigration of health workers is relatively new, and may become significant, and local health service needs are substantial. Thus Indonesia has experienced migration of nurses since 1996, mainly to the Gulf (Saudi Arabia and Kuwait), and most recently to Japan, with numbers limited only by language issues and inadequate training levels (Suwandono et al. 2005). China, too, has faced the same constraints to international supply.

Collecting data on the migration of health workers is challenging, since the lack of systematic, comprehensive

and comparable data means relying on various sources, with different classifications and measurements, including government reports and censuses, professional associations and regulatory bodies that maintain registries of health workers authorised to practise.

These sometimes lack comparability between countries, let alone within them. Registries can provide detailed information on stocks and flows of migrant health workers in the host country, though not on whether the people have actually entered the country, or taken a position in the health sector. This may overestimate numbers of overseas health workers within the health sectors, but it does measure losses elsewhere. Alternatively, some registries may fail to capture all health workers practising in the country, sometimes because qualifications are unrecognised, or include those who have left or retired. Other data sources, including censuses and labour force surveys, are limited because of their infrequency, sample size or classification systems of limited relevance to health. A crucial global and regional need is systematic, comparable data.

RECRUITMENT AND FISCAL SPACE

While migration is an issue in most countries, the actual recruitment and training of adequate numbers of health workers is more critical in many parts of the region (Table 1). Several countries have inadequate resources to devote to training enough health workers. For one reason or another – an absolute lack of resources, a failure to give priority to health spending, a decline in overseas aid etc. – finance has often been limited, and though aid donors have usually given priority to health, this has not necessarily enabled adequate ‘fiscal space’ – budgetary support – for the health sector, especially in the least developed countries. Once again, there is considerable variation in the actual amounts and the proportions of national budgets that are devoted to health care across the region.

In many states, basic funding for health care is limited, wage bills are already a large part of budgets (even if the wages are limited relative to others that can be earned) and employment as a health worker, especially as a nurse, is less obviously attractive (despite the possibility of migration) in the face of competing possibilities. With low budgets, the recruitment of health workers is particularly difficult. Moreover, workloads may have increased irrespective of funding or migration, as in much of sub-Saharan Africa, Thailand or PNG, where the rise of HIV/AIDS has placed new demands on already busy staff. Systemic problems of low budgets, limited recurrent funding (for salaries, equipment and supplies), weak education and management systems, deliver health services that are not always adequate. Migration simply emphasises this.

In several countries, such as Vanuatu and the Cook Islands, economic restructuring, sometimes imposed from outside the region by international agencies, has led to reductions in the size of the public sector workforce and restrictions on the hiring of new workers. Changes in the health sector take place in a wider context where negative balances of payments and high levels of debt servicing place huge resource constraints on many developing countries. This has sometimes meant the deterioration of working conditions rather than the greater efficiency it was intended to encourage, or the inability to train enough SHWs or the impossibility of finding jobs for new trainees. In several countries, lack of resources, or alternative priorities, has resulted in low wages and poor conditions, with simultaneous vacancies, unemployment and migration.

Where funding is inadequate, too few SHWs are produced; low wages and limited prestige result in low morale, poor performance/productivity and a propensity for attrition or movement into the private sector (where that is feasible).

Workloads may have **increased irrespective of funding or migration**, as in much of sub-Saharan Africa, Thailand or PNG, where the rise of HIV/AIDS has placed new demands on already busy staff.

This may be a prelude to international migration if national skills are recognised elsewhere. The new ASEAN agreement (see below) indicates that this may be one outcome and results in new moves from poorer countries such as Laos and Cambodia to richer ones such as Singapore and Thailand.

In relatively poor Asian countries, such as Laos, Mongolia and Cambodia, and in the least developed (and most fragmented) Pacific island states such as Vanuatu and Kiribati, there is a very strong urban bias in the distribution of the most skilled health workers, and notably doctors (in part, because of the shortage in supply).

Rural violence in both Nepal and Sri Lanka (and probably Pakistan) has recently accentuated misdistribution at a time of growing rural needs. At the same time, low pay, lack of motivation, and inadequate training, mentoring and supervision have resulted in low-quality, high staff turnover, in both rural and urban areas, and, at least in Asia, a very significant loss to the private sector, which has an even greater urban bias (e.g. *Save Cambodia's Wildlife* 2006, p. 114). Many Asia-Pacific health services experience some basic problems that at least initially have little to do with migration.

MIGRATION

Migration of SHWs occurs for many reasons, despite remarkable uniformity across quite different parts of the Asia-Pacific region. Such reasons include incomes, job satisfaction and career opportunities, alongside social, political and family reasons. The last of these factors is particularly important since few migrants make decisions as individuals but are linked into extended families and wider kinship groups.

Migration links languages, training institutions, educational regimes, often in the context of other migration flows, sometimes characterised as household chain migration in the context of a 'transnational corporation of kin' (Marcus 1981). The migration of SHWs often exists within the context of wider migration flows, evidently so in India, the Philippines and most island states, where there have been steady and diverse migration streams for several decades. In such circumstances, there is effectively a strengthening 'culture of migration' where most individuals at least contemplate migration at some time in their lives.

By the end of the 1980s, a medical degree at the Fiji School of Medicine was being widely seen as a 'passport to prosperity', and in Kerala (India) 'a nursing diploma is now considered as an actual passport for emigration where "nursing for emigration" is common'. Indeed, in India, nursing has moved from being something of a reviled and impure profession for poor people, to a preferred one as migration became possible: a migration opportunity 'has become an actual strategy' (Percot and Rajan 2007, p. 320; Thomas 2006). Nursing is simply a 'portable profession' (Kingma 2006).

In some contexts, especially in Pacific island states, international migration is viewed in different dimensions as a kind of 'safety-valve', reducing pressures on national governments to provide employment opportunities and welfare services, and on households to be self-reliant.

The ensuing paradox is well illustrated in the observations of Kuini Lutua, the General-Secretary of the Fiji Nursing Association:

“ Global economic changes and the law of supply and demand for skilled health professions is [*sic*] affecting the retention of skilled health workers in countries that can ill afford losing such category of health personnel. For Fiji and other small Pacific island countries in the region sending off a relative for a job overseas is considered a great privilege because of the returns that relatives back home would get from such moves (Lutua, 2002, p. 1).

... in Pakistan and the Philippines male doctors have retrained as nurses, and **fewer now choose a medical career**, since nurses have superior migration opportunities.

This 'safety valve' effect, and even 'privilege', has resulted in steady and domestically unimpeded outmigration. Developing migration-related policies for one particular group of skilled workers is therefore difficult.

Moreover, intentions to migrate may occur even before entry into the health system. In the Philippines, for more than 20 years at least, some people have sought to become nurses, partly and sometimes primarily, because that provided an obvious means of international migration (e.g. Ball 1996; Choy 2003). In Tonga at least, where there is no problem recruiting nurses, people do not enter for the profession but simply because, as one nurse phrased it, 'it is a job opportunity, where they can go [overseas] on scholarship, and not come back [hence] their hearts are not in it' (Connell 2009, p. 71).

As many as a third of all health workers in Tonga, Samoa and Fiji had the aim of eventual migration in mind at the time that they entered the profession (Connell 2009). More recently, similar situations have become evident in India, Pakistan, Hong Kong, China and elsewhere. Becoming a health worker may be a means to migration at least as much as an end in itself. Moreover, specific careers may be chosen that optimise migration opportunities; in Pakistan and the Philippines male doctors have retrained as nurses, and fewer now choose a medical career, since nurses have superior migration opportunities (Brush and Sochalski 2007).

Migration is primarily a response to global uneven development, but usually explained in terms of such factors as low wages, few incentives, or poor social and working conditions. Broadly the same factors also account for attrition. Poor promotion possibilities, inadequate management support, heavy workloads, limited access to good technology, including medicines and other supplies, have all been regularly cited as 'push factors' (Buchan et al. 2004; Bach 2003; Kingma 2006). Such problems are intensified in rural areas, where health workers feel they and their institutions

are too often ignored, victims of institutionalised urban bias in development policy (Dussault and Franceschini 2006). They have been more or less similarly documented for 30 years (Mejia et al. 1979), once again indicating the problems attached to effectively developing and implementing retention policies. Declining investment in health sectors has subsequently worsened working conditions in both origins and destinations (Stilwell et al. 2004; Pond and McPake 2006). Cultural factors and political crises have emphasised some migration flows: Tamil doctors have been more likely than majority Sinhalese to migrate from Sri Lanka for over 30 years, Indo-Fijians have left Fiji. Recruitment has increasingly played a critical facilitating role. However, all these various, specific factors are embedded in a broader context of social and economic life, family structures and histories, and broader cultural and political contexts.

In some areas, such as Kerala (India), several parts of the Philippines and the smaller Polynesian states, migration has occurred for more than one generation, and the migration of SHWs is embedded in a context where it has become pervasive, based on established historical precedent and widely accepted as an appropriate means towards economic and social wellbeing, and thus nurtured and enhanced by the presence of overseas kin, social expectations over moving and the incomes and/or prestige attached to that, to the extent that migration has become a normal and expected phenomenon. In such circumstances a 'culture of migration' exists (e.g. Connell 2008), which now extends equally to skilled workers, so that policies that discourage migration are scarcely feasible.

Income and employment conditions

Income differentials are invariably key factors in migration, as they are in decisions to join or later leave the health profession. Income differences between countries are vividly evident. Nurses from the Philippines are reported to earn about \$4000 per month in the US, about \$180 in urban areas at home and about \$100 in rural areas, while doctors earn between \$300 and \$800 per month. A Nepalese anaesthetist in New York, anticipating a starting salary of between \$225 000 and \$250 000, compared with the \$100 a month she earned at a government hospital in Kathmandu, observed 'you have the answer to why thousands of doctors from the Indian subcontinent end up here' (Upadhyay 2003).

Broadly similar differentials are widespread, well known and widely reported as a major reason for migration whether for the personal benefit of the migrants or, more usually, their families

In such circumstances a **'culture of migration' exists**, which now extends equally to skilled workers, so that policies that discourage migration are scarcely feasible.

(e.g. Awases et al. 2004; Connell 2009). Even where surveys do not exist, anecdotal information, the rationale for strikes, attrition and movement into the private sector all point to the significance of income factors (alongside working conditions).

The ability to work at least part-time in the private sector provides a significant boost to income levels, and is especially prized in Asia. Where such opportunities are non-existent, for example in Kiribati and in rural Vietnam, there are strong disincentives to remain in such locations (Dieleman et al. 2003, p. 4).

Income, its material rewards (and the ability to educate children and support kin) may be combined with status and prestige. Indian nurses from Kerala migrated because their ability to earn and retain significant incomes gave them high status and the consequent ability to find high-status partners in the 'matrimonial market' (Percot and Rajan 2007, p. 321). Bangladeshis had similar aspirations (Aminuzamman 2007). Success in the United States gave Indian and Filipino nurses even higher status, downplaying the former relatively high status of their husbands, sometimes pejoratively called 'nurse-husbands' in India, while households became more egalitarian (George 2005; Espiritu 2005). Subsequently and more recently, many Kerala, Filipino and Pakistani men have taken up nursing careers as means of emigration. In many contexts gender relations have been restructured following migration.

Health workers have not usually entered the profession solely for the income, but also out of some desire to serve and be of value in the community: some sense of altruism and duty. However, such feelings do not sustain a career, as workers become frustrated by low pay, poor (or biased) promotion prospects, especially in remote areas. In other words, they find themselves unable to adequately meet the needs of the people they sought to help. One consequence is the re-evaluation of nursing (and other work) as a career, and consequent attrition or migration, though it is notions of duty and national need that have contributed to the retention

of many SHWs. In some contexts, including many regional areas of the Pacific, it is primarily family connections, a sense of duty, partners' employment, lack of alternative sources of employment and inertia (often through age) that enable there to be even basic regional health services.

The conditions of employment influence migration. Migrants, and potential migrants, almost universally complain about the work environment in terms of insufficient support, whether directly through inadequate management (lack of team work, poor leadership and motivation, limited autonomy and support, and little recognition and access to promotion and training opportunities) or through the outcome of poor 'housekeeping' (limited access to functioning equipment and supplies).

SHWs have been strongly critical of the absence of an evident and transparent career structure, and even more so of nepotism, preferring to move to a meritocracy where skills and accomplishments will be rewarded. Where health workers are stationed outside the main urban centre(s), the perception that they are being ignored for promotion is even stronger as many consider themselves to be 'out of sight and out of mind'. Reasonable and equitable opportunities for promotion are not always in place, so constituting not only an incentive to migration but a constraint to productivity and innovation in the health system.

Long hours of overtime, double shifts, working on the early-morning 'graveyard' shift or on weekends, especially when these do not receive proper income supplementation, influence migration. Shift work is a universal source of complaint, and particularly so in more remote places, where fewer staff are available and pressures on those remaining are greater. Nursing particularly is both physically and mentally demanding, with long working hours especially in emergency and intensive care units. Inadequate working conditions may also entail the risk of contracting disease.

The rise of HIV/AIDS has made the nursing profession especially much less attractive than hitherto and, notably in Thailand, PNG and probably elsewhere, has created a working climate that has become more difficult, as the workload has increased. Hence it is not always, or even usually, the 'pull factors' that are attracting Asia-Pacific SHWs to developed countries, but rather 'push' factors are discouraging them remaining. While this may overestimate the 'push', even without recruitment and overseas blandishments, nurses and others are anxious to leave health sectors where their needs are unsatisfied.

SHWs, like other professionals in developing countries, often feel and are isolated from trends in their professions and in the wider world, and are conscious that they may miss out on skills that will enable their professional development (and perhaps migration in the future). The desire to acquire further training and gain extra experience is one of the most significant factors influencing migration, as in Fiji (Connell 2009) and Pakistan (Syed et al. 2008).

In many contexts, there is a widespread assumption that to be the best possible health worker, access to the most modern knowledge, equipment, training and experience in a sophisticated health care system is required, and this therefore necessitates at least some time overseas in a developed country. This version of a 'diploma disease' can create a medical 'culture of migration'. In certain places, alongside an existing 'culture of migration', a dual culture of migration thus exists (Connell 2009).

Almost all the factors that contribute to migration and attrition are multiplied in rural and regional areas. Wages are usually lower in rural areas, but costs of living may not be, especially where professionals have certain expectations, and rural wages, as in Vietnam, are a disincentive to SHWs going to or remaining there: transport costs, lack of information, heavy work loads, lack of support and continued education and training (Dieleman et al. 2003, p. 4), a lack of technology and supplies, and inadequate support for partners' and children's aspirations are all disincentives.

Political instability and insecurity, as in Pakistan (Adkoli 2006), discourage migration. Access to modern computer technology and telemedicine, even in rich world countries, has barely changed that situation and it has certainly not done so other than in a very few parts of the Asia-Pacific region. As the evidence from Vietnam and also China indicates, even avowedly socialist states have found it difficult to encourage or direct SHWs to rural areas, despite a range of policies seeking to do just that (Lehmann et al. 2008).

This broad combination of factors – dominated by low incomes and challenging working conditions – has been recorded for almost all the Asia-Pacific region, and accounts for attrition, shifts into the private sector and rural-urban migration, as well as international migration. Incomes, long hours, inadequate supplies and equipment etc. were clearly a significant problem in Sri Lanka (van Eyck 2004), Thailand (*Bangkok Post* 2008), Korea (Chung 2007), and in the main Pacific island countries, notably Fiji, Samoa and Tonga. Where international migration is not the norm, as for example

Reasonable and equitable opportunities for promotion are not always in place, so constituting not only an incentive to migration but a **constraint to productivity and innovation** in the health system.

in Cambodia and Vanuatu, attrition, privatisation and rural-urban migration are the outcomes.

It is usually the most educated who migrate first, and many migrants have left rural areas and Asia-Pacific countries (especially the island states) to take advantage of superior urban and international educational, social and employment opportunities. These factors reinforce each other, especially in the health sector. The widespread education bias enables young and skilled migrants, with fewer local ties, to more easily migrate. Most nurses, and many other SHWs, are women and face particular constraints related to partners' careers and family obligations, which may make remote postings and overseas migration more difficult. In Pacific island states, doctors are almost twice as likely to migrate as nurses, partly because wage differentials are greater but also because men tend to be the decision makers and most nurses are women (Connell 2009). The most likely migrants are therefore young single workers followed by married workers without children.

Social ties may result in pressure to migrate, notably to support the extended family, but may sometimes make migration more difficult to achieve. Social factors also emphasise that many decisions over migration are taken in a context much broader than that of the health care system, or even working careers, hence approaches to slowing migration, reducing attrition, increasing recruitment etc. must also exist within a wider context.

Recruitment

Little information exists on the operations of recruitment agencies. There is no real evidence on whether they exaggerate the potential of overseas employment but they certainly boost migration. Most recruitment is from South Asia and the Philippines to the Gulf and, more recently, to the United States and parts of Europe, including Ireland and the UK (Connell and Stilwell 2006; Khadria 2007). In this century,

migration and recruitment have gone beyond these almost 'traditional' routes to take Chinese nurses to the US and the Gulf, and Korean nurses (once perceived to have a 'language problem') to the US (Brush 2008). On a smaller numerical scale, in this century there has been active recruitment of Fijian nurses for the United Arab Emirates (UAE), a country that few in Fiji would have had any knowledge of until now (Connell 2009).

Alongside such long-distance international flows, there are also intra-regional flows, such as of Filipino nurses to Brunei, and Chinese and Filipino nurses to Singapore and Malaysia. The most significant emerging recruitment flow is from the Philippines and Indonesia to Japan. In the Pacific, there are similar complex but smaller-scale flows such as from Fiji to Palau and the Marshall Islands (Rokoduru 2008). Because international flows are highly regulated, selective and competitive, even when flows are quite small, as from Fiji to the UAE, they take the very best local workers, such as Intensive Care Unit nurses.

Similarly, in South Asia recruitment has recently intensified (and several states now promote migration) to the extent that, at least in India, 'there is a serious risk of selective depletion of the most qualified nurses in the country' (Khadria 2007, p. 1434), a situation which is probably already occurring (Thomas 2006). Indeed, recruitment necessarily emphasises selectivity as the very best workers are the most likely to migrate (e.g. Kaushik et al. 2008). Beyond this, in recruiting Filipino health workers for the UK, many agencies engaged in some forms of exploitation (Buchan et al. 2005).

Relatively little is known of the operations of recruitment agencies, codes of practice (see below) have tended to result in them moving the geographical focus of operations rather than modifying practices, and as migration tends to increase, more monitoring of their activities will be valuable. Both in source and recipient countries' agencies operate beyond the extent of effective regulation.

THE CONSEQUENCES OF MIGRATION

Migration of skilled health workers has diverse impacts, from obvious effects on the delivery of health services and the economic consequences of the loss of locally trained skilled workers, to more subtle social, political and cultural impacts. Migrants tend to be relatively young and recently trained, compared with those who stay. Many leave after relatively short periods of work, but long enough to gain important practical experience. They often include the best and the brightest. Since migrants move to improve their own and their families' livelihoods, they are usually the key beneficiaries of migration. Recipient countries benefit from having workers who fill shortages in the health care system, despite some resistance from existing health workers. Conversely, sending countries and their populations, especially in remote areas, lose valuable skills unless those skills are an 'overflow' or are otherwise compensated for, or there is significant return migration.

Health care provision

Migration affects the provision of health care both in quality and quantity. Logic and vast amounts of anecdotal data suggest strong links between migration and the reduced performance of health care systems, though actual correlations between emigration and malfunctioning health care systems are difficult to make, since it is impossible to quantify what is not there (Clemens 2007).

However, India and the Philippines, both long-term providers of migratory health workers in circumstances initially described as an overflow (Oommen 1989), now appear to have become negatively affected, in terms of inadequate and declining nurse-to-patient ratios, the loss of more experienced nurses, the retraining of doctors and the closure of many hospitals (Kline 2003; Brush and Sochalski 2007; Lorenzo et al. 2007; Perrin et al. 2007). In 2006, the recruitment of nurses from the Philippines went up 65% 'destroying the core of qualified experienced nurses in many of its hospitals' (Aminuzamman 2007, p. 9). At much the same time, the loss of nurses from Taiwan was argued to have reduced ability to care for the elderly (Brush 2008, p. 21). Each of these states has experienced problems in the national health care system because of consistently high levels of migration and quite limited return migration (Connell 2010). Other states experience critical problems, but not simply or even primarily because of migration.

The quantitative outcome of migration is sometimes obvious, and this is reasonably well documented across sub-Saharan Africa (partly because of the great extent of migration), where there have been hospital and ward closures, inadequate

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training and monitoring, longer waiting times etc. (Connell et al. 2007), but only partially documented in Fiji (Connell 2009) and weakly elsewhere in the Asia-Pacific region. Fragmentary data indicate that the recruitment of several nurses from a cardiovascular unit in a provincial Filipino hospital effectively meant that the unit had to be closed down (Alkire and Chen 2004). While such data are often anecdotal and usually depict worst-case scenarios, they point to difficult circumstances.

Reduced staff numbers mean that the workloads of those remaining become higher and less likely to be accomplished successfully. Longer waiting times raise the opportunity costs of medical care and may also result in medical attention coming too late. Waiting times were problems in four African countries, and some health facilities had reduced opening times, especially in rural areas (Awases et al. 2004, pp. 50, 58), and again anecdotally similar issues are evident in the Asia-Pacific region. Health workers themselves stress the decline in circumstances that had followed migration, in terms of such qualitative factors as respect for patients and care givers, attention given to patients and general communication between health workers and clients, in part as a result of their own worsened morale.

Reduction in the numbers of SHWs has meant that in some places patients have turned to alternative care systems. In India, the reduction in numbers of formal medical practitioners has meant that poorer patients especially have turned to the informal sector and resorted more to traditional medical practitioners and to 'amateur doctors' (Mullan 2006). The impact of this on health outcomes appears to have been a greater number of deaths that might have been prevented and high costs to patients. While similar situations undoubtedly occur elsewhere, a more usual outcome is simply the lack of resort to health care, sometimes until it is too late.

A further and contrasting consequence of health worker migration is that of some patients travelling overseas for health care. Where such referrals are paid by the state, the

cost is considerable. Even where they are not, as is usually the case in Asia if not the Pacific, resources are nevertheless transferred overseas. In much of the Asia-Pacific region referrals are of elites (who might in any case go overseas) but at considerable cost to national budgets and to equity. Even in countries that are relatively well supplied with health personnel, the cost of referrals is considerable, making the task of financing local health systems and organising more labour-intensive preventative health care more difficult.

Rural and regional issues

The impact of emigration (and of rural-urban migration, sometimes as replacement migration) is usually most evident in remote regions, where losses tend to be greater (and where resources were initially least adequate), and has therefore fallen particularly on the rural poor (and sometimes therefore cultural minorities) who are most dependent on public health systems, further emphasising the 'inverse care law'.

Human resource shortages have meant that centralisation has been particularly pronounced in several Pacific island states. While there are clear economies of scale, the outcome has been absolutely declining health services in many rural and regional areas, and either a reluctance of patients to attend hospitals and clinics or the need to bypass them at some cost (both real and opportunity costs).

Equity has been further reduced, complicated and compounded by ubiquitous internal migration, and an inadequate fiscal space. Chinese nurses are uninterested in moving to rural areas where needs are unsatisfied though they cannot get jobs in what are regarded as 'oversupplied' urban centres (Xu 2003). Internal migration exhibits a similar rationale to international migration. Rural and regional areas are additionally also often unattractive because of insecurity, housing, social facilities, employment for partners, education for children and limited access to continuing professional development that all contribute to an acute sense of being 'out of sight and out of mind'. Rural-urban migration poses distinct problems where that internal migration is of those with particular skills, such as radiologists or pharmacists, where few are required, hence the loss of even a small number may be crucial. There is remarkably little information on this.

Internal migration tends to be greatest in countries that are particularly fragmented and where the existence of services of various kinds, including health services, is particularly poor in peripheral areas. Skilled workers seek adequate services for themselves and their families, such as education, and this is less accessible in remote areas. This is particularly true of

island states where remote islands have limited and irregular service provision, well evidenced in Indonesia and the Pacific (Chomitz et al. 1998; Connell 2009). It also poses problems where the most skilled are the most likely to migrate. Consequently, in the smallest states, such as Niue, having any specialists is something of a luxury, hence referrals can be very costly.

Private sector growth

In most countries, alongside rural-urban and international migration, there is a parallel movement from the public sector into the private sector (and in each context very little return migration). Where there are considerable income and other differentials (notably access to superior technology and superior working conditions), there may be substantial movement from the public sector thus disadvantaging its ability to provide services. Migration into the public sector has been greatest in Asian states, such as Thailand, Malaysia and Cambodia, and is increasing in the Pacific, notably in Fiji, because of superior salaries and working conditions, including better supplies of drugs and equipment, shorter hours and fewer patients.

Migration to the private sector has been particularly substantial where health tourism has developed, notably in Thailand, India and Singapore (Connell 2011). While health tourism has been partly a response to the lack of SHWs in some Asia-Pacific source countries; for example, as in the movement of patients from Indonesia to Singapore, it is largely independent of that. It has contributed to a dual health care system where rich migrant patients can secure better care than local people, and disproportionately more SHWs respond to their needs. A number of Indian doctors have returned to India because of opportunities for earning the salaries that come from practising in the elite private sector hospitals that cater to medical tourists. There, and also in Thailand, many doctors have moved away from rural areas to provide more lucrative services for health tourists resulting in an 'internal brain drain' (Wibulpolprasert et al. 2004; Pachanee and Wibulpolprasert 2006). Even in countries that are relatively well supplied with health personnel, the cost of referrals is considerable, making the task of financing local health systems and organising more labour-intensive preventive health care more difficult.

The movement of SHWs to the private sector has disadvantaged the poor, most of whom cannot afford higher private sector costs, despite less adequate public sector services. In Thailand, for example, the growth of private hospitals in the early 1990s, almost all in Bangkok (and

most of which operated considerably below capacity), led to a significant rural-urban migration of doctors, resulting in the ratio of doctors to people in Bangkok and the poorest north-east region increasing from 9 to 14 between 1986 and 1997, despite Bangkok's own rapid expansion. Over roughly the same time period the bed-to-doctor ratio in rural district hospitals increased from 7 to 15. Before the Asian economic crisis of 1997 some 21 rural hospitals functioned without a single doctor and this number increased further after the crisis (Wibulpolprasert et al. 2004).

Although medical tourism has aggravated the internal drain of SHWs from rural public to urban private facilities 'the bigger causes are the increasing demand for health care among the richer urban Thai population who have higher purchasing power, the social and wealth inequity and the education systems of the qualified health professionals' (Wibulpolprasert and Pachanee 2008, p. 14). Where middle classes are similarly emerging in much of Asia, notably in Taiwan and Malaysia, a similar situation of privatisation, migration and inequity is also occurring.

Though the private sector remains relatively small, it is growing even in the poorest states, resulting in a unidirectional movement of workers from the public sector into a sector that supports a very small proportion of the local population, dominated by expatriates, and provides a model where health care is accessible to the relatively affluent, and preventative care is absent.

The economics of migration

Training SHWs is costly because of the long duration and high costs and is a burden on relatively poor states, whether directly or through scholarship provision. When trained workers migrate and the process is repeated, costs mount further. However, there have been few estimates of the costs of the ensuing brain drain, or the possible gain in skills through return migration, and a variety of methodologies and conclusions. Though one of the earliest studies of the economics of the migration of SHWs was for the Philippines (Joyce and Hunt 1982), almost all economic studies of the 'brain drain' have been concentrated in Africa. These reveal that there are significant economic losses to sending countries, and considerable cost savings for recipient countries in hiring overseas-trained SHWs rather than training locally, to the extent that the international migration of SHWs has been described as an inequitable, perverse and unjust subsidy from a relatively poor country to a relatively rich one (e.g. Mackintosh et al. 2006; Connell 2010). These estimates

have usually been based solely on the costs of training rather than additional costs based on foregone health care, lost productivity, the under-use of medical facilities etc. They also ignore possible remittances (see below).

Return migration

Where there is return migration of SHWs, the relationship between income losses, return and the acquisition of human capital becomes unusually complex (Brown and Connell 2006; Connell and Brown 2004). Little good information exists on return migration, partly because the return of health workers is relatively limited in many countries. If migrants return from overseas, with enhanced skills, knowledge, experience and enthusiasm (and perhaps also some capital), there might be major gains from migration. However, significant return migration often fails to occur for the same reason that migration occurs; indeed, migrants are less likely to be tempted back by a system they left because of its perceived failings but often return for reasons that have nothing to do with health.

If health systems improve, then return migration occurs. Indian doctors have returned to India after new technology was introduced, and medical tourism took off (Connell 2006), but they work in private hospitals with high salaries. But the overall number of return migrant doctors is modest and they tend to return to senior positions in medical education or private practice. For Indian nurses from Kerala, working again as a nurse is 'understood as a sign of failure' and only those who can get a superior position as a matron or a teacher work again after return (Percot and Rajan 2007, p. 322). Most nurses who return to the Philippines work in the private sector, usually starting small businesses, rather than returning to nursing (Ball 1996). Similarly, health workers return to Pacific island states mainly because of perceived benefits – such as the ability to open a store – outside the health care system, which becomes at best mere supplementary employment (Brown and Connell 2006). Migrants thus rarely return because of conditions in the health sector or out of a desire to return to work there. The benefits to the health sector from return migration are limited.

Remittances

The flow of remittances from SHWs is often considerable, but very poorly documented in the Asia-Pacific region or elsewhere, as SHWs are rarely differentiated from other migrant workers. Most remittances supported the extended families of migrants, resulted in improved welfare (for example, through house extension and construction), the

creation of additional human capital (through education expenditure) and some investment in small-scale business. The overall but limited evidence from a single study of nurses from Tonga and Samoa in Australia a decade ago suggests that the remittances of SHWs substantially exceed training costs, benefit the private sector and do not contribute to greater equity, new training or improved health care provision (Connell and Brown 2004). Remittances tend to go to kin and thus the private sector, not directly to governments, hence do not directly compensate for the loss of skills that have mainly been produced in the public sector. This therefore emphasises some of the national costs of the brain drain.

Skill loss/brain waste

A further outcome of migration can be a 'skill loss' when migrants with specific skills do not subsequently use them. This may result from failure to recognise qualifications, discrimination or a preference for jobs with better wages and conditions. Filipina nurses in Vancouver had routinely become nannies and care-givers to secure migration opportunities, and had limited chance of regaining their old status (Pratt 1999). Many Tongan nurses in Sydney switched occupations, but partly to take care of family responsibilities (Fusitu'a 2000).

The most significant skill loss comes where nurses are employed as care-givers in nursing homes rather than working in hospitals, a situation reported in many places, including Filipinas in Vancouver and Fijians in the United States. Expensive training is largely wasted and neither health systems, the migrants, nor their kin at home, who wait for remittances, make real gains. A skill drain becomes a brain waste.

Social costs

Few studies have examined the social costs attached to the migration of skilled health workers, despite the fact that this is often of women moving as individuals and, in many cases, leaving families at home. Many migrant workers, especially women within and outside the health sector, experience deprivation and discrimination. A significant proportion drop out of the health sector (see above). Recruitment agencies may impose unforeseen costs, and SHWs experience difficult circumstances, especially where cultures differ from those at home. Numerous examples exist of their experiencing racism in developed countries, and being ignored or experiencing reprisals when complaining of such problems, alongside being denied parity with local workers, promotion or wage gains. With some exceptions for Korean and Indian migrants (e.g. DiCicco-Bloom 2004; Robinson and Carey 2000), these tend to refer to the experiences of African migrants. In some

cases this has led to attrition, and return, and emphasises that this is emotional labour.

Many migrants receive minimal cultural orientation in their new countries and may be disappointed in their goal of working there at a higher level, appropriate to their education, experience and training. Health workers are often recruited for, and directed into, positions and geographical locations that are unattractive to local health workers. Compared with local health workers, as in the case of Fijian nurses in the Marshall Islands, they are much less likely to be unionised and organised and be in a position to know and maintain their rights (Rokoduru 2008). Many have reduced autonomy and authority.

There may also be stresses for the families of migrants. Children may be without one or more parents or have to make multiple adjustments to new homes, hence there is considerable stress on them, and potentially negative effects on child development and adolescent behaviour, through what in the Philippines has been called a 'care deficit' (Parrenas 2002). However, in other contexts, as for Kerala nurses in the Gulf, the women and their families all gain in status through migration and its economic benefits without evident social cost (Percot and Rajan 2007). Social costs are probably less in the Pacific, where family migration is more likely to be the norm. The outcome of balancing economic benefits with social costs varies considerably over place and time.

Replacement

Migration of professionals has made it necessary for less or non-qualified people, such as nurses aides, to perform tasks that were once seen to be beyond their ability. Alternatively, patients have reverted to the informal sector or experienced referral, with sometimes costly, uncertain and ineffective outcomes.

Where skilled workers leave relatively poor countries and are replaced, the cost may be very great, when the costs of both recruitment and salaries are substantially more than those of local doctors. Moreover, replacements may be less effective because of language and cultural differences, which restrict their ability to provide health services, contribute to training and enable sustainability. In some Pacific island states, such as Vanuatu, Fiji and the Cook Islands, local workers have been replaced by Bulgarians, Filipinos and Burmese, and most recently by Cubans and Taiwanese (Connell 2008; de Vos et al. 2007), as part of the cascading global care chain.

ISSUES AND POLICY DIRECTIONS

It is frequently emphasised that mobility is a basic human right and thus should not be constrained, particularly for professionals with scarce skills. An open international market is said to offer efficiency and economic gains. However, gains in economic efficiency tend to be localised in receiving countries and, as the evidence of costs to national health, economic and social systems has mounted, there has been a greater interest in developing policies to diminish and mitigate the impacts of migration. Not all countries have sought to prevent migration, and some such as India, China and the Philippines, purposefully export workers, including SHWs. Bangladesh, Pakistan and the Solomon Islands have begun to develop similar perspectives. In such circumstances policies that may be effective for one country may have little resonance in another – or even in a different region of a country.

In several countries, such as the Philippines, there may even be tensions between government departments, where migration is perceived as a valuable economic policy but an inappropriate health policy. In many more countries migration may be perceived to be a right, and intervening in that process is therefore unethical. Nonetheless, even in these countries there is concern about what may be perceived as excessive migration and interest in developing programs to mitigate or compensate for this.

Many policy recommendations made by Gish (1971, pp. 122-128) nearly four decades ago, on the need for adequate, flexible, transparent and more rapid promotion opportunities, medical auxiliaries, adequate infrastructure and better access to training courses for those undertaking rural work, bonding, and even a bar on foreign recruiters have both remarkable contemporary resilience, and indicate the considerable challenge in developing effective policies.

Nonetheless, various possibilities exist for more effective production and retention of SHWs, ranging from diverse financial incentives (inside and outside the health system), strengthening work autonomy and improving the status of health workers, increasing recruitment capacity, introducing intermediate categories of workers such as nurse practitioners and ensuring an effective budgetary support for health services, but only rarely have these been effectively implemented in a concerted manner. Many of these policies have been reviewed for the Asia-Pacific region (Henderson and Tulloch 2008; Connell 2010).

Given the pressures on public sectors in less developed countries and the very limited room for manoeuvre that exists where national economies are weak, the onus for a more equitable distribution of SHWs has gradually shifted

towards recipient countries, where demand occurs. Few recipient countries have taken effective measures to increase recruitment and reduce attrition of SHWs, at a time of greater demand, either by increasing the number of training places or improving wages and working conditions. Continued migration has thus led to renewed calls for ethical recruitment guidelines, adequate codes of practice binding countries and/or compensation for countries experiencing losses, yet compensation is inherently implausible and impractical, while ethical arguments confront political realities.

Options for sending countries

Indicative of the problems of policy implementation (rather more than policy formulation) is that recommendations made by Gish in 1971 to reduce the extent of the brain drain largely remain valid and appropriate. His detailed recommendations on rural health services stressed now-familiar themes: the need for medical auxiliaries, proper rural infrastructure, more rapid promotion, adequate and transparent promotion opportunities, better access to training courses for those undertaking rural work, more flexible salary scales, bonding and a bar on foreign recruiters (Gish 1971, pp. 122-128). Similar recommendations then stressed the need for a focus on paramedics rather than expensively trained doctors, the construction of health posts rather than expensive hospitals, a more appropriate locally based training program, tighter bonding and bonuses for those working in remote areas (Sharpston 1972). Since then, such conclusions have been debated, and sometimes even implemented, but their essence has barely changed.

Most of those seeking policy formation (e.g. Wibulprasert and Pengpaibon 2003; Henderson and Tulloch 2008; Connell 2010) have stressed the need for an integrated package of policies that span economic and social issues and that extend beyond the confines of the health sector itself. In many countries, particular measures have been taken, some with a degree of success, but there has rarely been a concerted or integrated approach to the implementation and monitoring of a policy package that might multiply single-issue benefits. Such implementation demands effective management, yet these skills may also have been lost through migration.

Creating a fiscal space for the health sector

Different national priorities and limitations on public health spending have been a constraint to the development of adequate workforces and human resource policies. Economic restructuring, usually externally imposed, has sometimes meant the deterioration of conditions rather than the intended

greater efficiency. In some countries, funding for the public health sector is shrinking in real and relative terms. Due to low budgetary allocations, public service institutions are experiencing shortages of protective clothing, basic equipment and drugs, and uncompetitive salaries, since governments have been put under pressure to reduce public expenditure and especially wages. That has sometimes led to simultaneous high unemployment and high vacancy rates (most evident in sub-Saharan Africa): real incentives to migration. Because most national economies in the Asia-Pacific region strongly depend on the rural sector, effective decentralisation and infrastructural support for rural and regional development is at the neglected core of national development.

Adequate finance is crucial for recruitment in the public sector, where demand is greatest and equity best served. That is largely dependent on international agencies, aid donors and governments recognising that health constitutes a 'special case', central to the Millennium Development Goals, and nations require a productive workforce. In itself, that would provide a positive climate, strengthen morale and enable greater likelihood of improved structures of governance and management. As has been pointed out for Africa, at the very core of providing an effective health care system is quite simply an 'improved economic performance, a stable political situation and a peaceful working environment' (Awases et al. 2004, p. 54). This is true both globally and at the regional level.

Retaining existing workforces

Some health care systems have suffered from years of under-investment, resulting in low wages, poor working conditions and few employment incentives of any kind. Both financial and non-financial incentives are important motivators for health workers, both to do a good job and to continue working in the public sector. Such incentives include training opportunities, study leave, working in a team, and support and feedback from supervisors.

Monetary incentives are the most common approaches to improved recruitment and retention. Financial incentives include wages and salaries, bonuses, pensions, insurance, allowances, fellowships, loans and tuition reimbursement. Providing adequate and timely remuneration is important to retain motivated and qualified staff. However, most Asia-Pacific countries cannot make wages (of SHWs or other skilled workers) comparable with those of rich world states without a fiscal crisis or national concerns over equity. Even doubling local salaries has not reduced migration, since the income gap remains considerable between developed

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and developing countries (Vujcic et al. 2004; Vujcic and Zurn 2006) and other factors are involved, such as ongoing training. Indeed, within the Asia-Pacific region there are significant national income variations and flows of SHWs between countries. Whilst health workers usually argue that the single strongest influence on them remaining would be better wages (e.g. Awases et al. 2004, p. 58), improved wages alone will not meet needs.

Non-monetary incentives such as strengthening work autonomy, encouraging career development, providing opportunities for training, adapting working time and shift work (for nurses), reducing violence in the workplace, open leadership, transparent promotion and training opportunities, would all shift career structures and workplace activities from nepotism to ability. Issues beyond the working environment, such as adequate housing and transport, all potentially reduce migration. For more than half of Ghanaian health workers even something as seemingly straightforward as better day care for their children was a priority (Awases et al. 2004).

Increasing recruitment capacity

Assuming that some health workers migrate, additional recruitment is critical, but school leavers now have more options than in the past, and several countries lack the capacity to train substantially larger numbers. In Vanuatu, for example, there are simply inadequate resources or training capacity to train and employ the increasing numbers of nurses, and others (notably those who require scholarships), required to meet the needs of a growing population. Countries must give higher priority, and greater finance, to the education of health workers, alongside related accommodation, facilities and faculty.

Almost everywhere, within and beyond the Asia-Pacific region, fewer people are being attracted to health careers. Wages and conditions in the public health sector are increasingly seen as deterrents to entry, and other sectors appear more attractive (Kingma 2006, pp. 33-34). Potential employees witness long

periods of training, the frustrations of health workers and the fact that there is a wider range of alternative job options. A career in health is now seen as not having the prestige and salary it once had, and nursing may be seen as a dirty, dangerous and difficult job, whereas 'business' is the place of income generation, progress and action.

It is no accident that poorly paid, low-status nurses are more likely to migrate than doctors. Introducing the role of nurse practitioners, intermediate between nurses and doctors, may offer nurses new status, fresh challenges and better salaries, as has been the case in more developed countries where nurse practitioners are cost-effective and safe. In resource-constrained settings, nurse practitioners can effectively bridge gaps in primary care services. It may also be possible to raise the status of such people as traditional birth attendants. Mexico, for example, has raised their status, by giving them additional training and bringing them into formal medical settings to work with doctors, which has proved invaluable in poorer provinces such as Chiapas and Oaxaca, and reduces demands on doctors (Braine 2008). Cambodia has similarly sought to increase the number of midwives.

In the same way, towards the other end of the scale, a category of nursing auxiliaries could be developed to support nurses, as has been done in Malawi, with preference given to 'those already employed as hospital attendants, cleaners, and people who can demonstrate that, after their training, they will remain in the same district' (Muula and Maseko 2006, p. 435). This offers opportunities for those who might not otherwise contemplate semi-skilled employment, and without recognised international qualifications are unlikely to migrate. All of these strategies also effectively boost primary and preventative health care and can more effectively meet the needs of rural and regional areas.

Recruiting more men, and mid-life women, who are more likely to remain in the country, offers further options, especially if the nursing salary becomes the primary household income source. Moreover, in an employment context dominated by women, in societies where such gender imbalances suggest low status, opening up opportunities to men might also increase the status of the profession. This has certainly worked in Vanuatu.

Rural and regional areas

Attempts to bond recent graduates to work in rural and regional areas have had a long and frustrating history. As long ago as the 1960s, the West Bengal government made promotion easier for those who served longest in rural areas,

and also banned private practice in the capital, Calcutta, while Indonesia required new medical graduates to serve three years in a rural area before they were permitted a posting in Jakarta (Gish 1971, pp. 77, 97). The most obvious consequence of this was that rural employment was seen as 'some form of forced labour ... as a preliminary to a "proper" medical career in the city' (Gish 1971, p. 122), akin to China's rustification program during the cultural revolution, hence the impact on rural health care was slight. Kiribati, Mongolia and Thailand have sought to bond doctors to work in rural areas but there has been massive reluctance; Thai doctors have bought themselves out of schemes reasonably cheaply, but Mongolians have gone because they would otherwise be unable to graduate.

It is in rural areas as much as anywhere else that an integrated package of reforms is required to attract and retain new (or indeed any) SHWs. Many developed countries, like Australia, have established special scholarship schemes for those who wish to work in rural and remote areas (many of whom originated from these areas), and this kind of model has a wider viability. Bonding and scholarships retain policy potential.

Options for receiving countries

Given the pressures on public sectors in Asia-Pacific countries, and the very limited room for policy implementation that exists, the onus for a more equitable distribution of skilled health workers has gradually shifted towards the recruiting countries, where demand is created. Indeed, without that demand, only a fraction of the contemporary migration of SHWs would remain.

Raising recruitment and reducing attrition

Few recipient countries have taken effective measures to increase recruitment and reduce attrition of SHWs, at a time of greater demand, either by increasing the number of training places or improving wages and working conditions, despite the recent shift in the United Kingdom towards national recruitment of nurses (Buchan and Seccombe 2005) and the gradual shift of Gulf states towards national self-sufficiency. Without expanded national training capacity in developed countries, demand will continue to exceed supply, but in most receiving countries there is little prospect of domestic supply increasing significantly, and the gap between supply and demand has tended to widen rather than contract. At the same time, the age of nationals recruited into nursing in developed countries has risen considerably. Similarly, the same kind of package of policies suggested for the Asia-Pacific region (above) is required in most

destination countries to reduce attrition rates. Continued migration has resulted in new calls for ethical recruitment guidelines, adequate codes of practice binding countries and/or compensation to countries experiencing losses.

Compensation

The economic costs to sending countries and the recognition that recruitment is accelerating have renewed interest in compensation for the loss of investment in training and of human capital. During the 1970s there was considerable discussion of the possibility of compensating sending countries (Gish and Godfrey 1979) but no action was taken and the issue then faded. Even the most simple formulation raises obvious questions of whether there should be compensation from countries that benefit from migrant health workers but do not actively recruit, what is the situation of migrant health workers in private sector employment (as is common) and who should pay whom.

Recipient countries have no great interest in putting in place compensatory mechanisms to countries supplying skilled labour, arguing that migration is freely chosen, markets operate in this way and there is no means of knowing how long migrants will stay, despite strong ethical arguments in favour of restitution (Mackintosh et al. 2006; Connell et al. 2007). For similar reasons, the possibility of financial compensation to source countries for losses of workers has proved impossible to implement because of rejection of the specificity of health worker migration, the impossibility of estimating costs, shifts of workers between the private and public sectors, uncertainty over the duration of employment and the migration of health workers between several countries and within countries (in federal systems). Compensation is inherently implausible, as long as ethical arguments confront political realities.

Return migration

The growing extent of international migration in recent years, and especially the loss of skilled workers, has resulted in particular attention being given to the potential for utilising the skills of overseas migrants, even on a temporary basis, and encouraging return migration. International institutions and several developing countries, notably India, are putting new emphasis on the potential role of overseas migrants in assisting their home countries in ways that go beyond remittances and include the transfer of skills, knowledge and technology. One example of an expatriate program in the health sector is the Ghana-Netherlands Healthcare Project, managed by the International Organization for Migration, whose objectives are

to transfer knowledge, skills and experiences through short-term assignments and projects; to facilitate short practical internships for Ghanaian medical residents and specialists in the Netherlands; and to develop a centre for the maintenance of medical equipment in Ghana. Ghanaian health workers in the Netherlands can thus play a key role in the development of the health sector in Ghana. Other recipient countries might stimulate such cooperative projects.

Many countries, even those where the migration of skilled workers has been significant, have no strategies or policies for benefiting from such migrants, though almost all the evidence on overseas workers and migrants suggest that they are rhetorically anxious to support, at least conditionally, their home countries. Many countries also have no obvious data even on how to contact overseas migrants. At the same time, a number of countries have in some respects dissociated themselves from overseas migrants, on the grounds that they have abandoned their home countries (even if they send remittances), and national policies should be directed towards benefiting those who remain. This is not uncommon in small Pacific island states where there has been considerable migration. Yet addressing the interests of migrants and residents is not incompatible.

Various countries have been reported to have adopted policies to encourage return migration, on either a short- or long-term basis, but in most contexts there is little indication of either the nature of the policies or their success, hence little on which to develop future policies. More evaluation of such schemes is needed to understand their impact on health worker migrants and their long- and short-term benefits.

Many of those who do return are dissatisfied with wages and conditions in the health sector, compared with those they have experienced overseas and hence seek to develop business or other income-generating opportunities to supplement health incomes. This is certainly so in the Philippines and various Pacific countries (Ball 1996; Connell 2009). Most countries are unlikely to be able to provide adequate opportunities in the health sector alone to attract back skilled migrants, but they may be able to encourage investment opportunities to encourage return migration.

Codes of practice

Complaints from developing countries, mainly in Africa, regarding increasingly aggressive international recruitment campaigns have resulted in a movement towards 'ethical international recruitment' (Scott et al. 2004). From 1999 onwards, legal instruments have been developed to guide

different health sector stakeholders in the process of international recruitment. The Commonwealth Code of Practice applied principles of transparency, fairness and mutuality of benefits, among Commonwealth countries, and between recruits and recruiters. The Pacific also adopted a regional code early in 2007, and the WHO gained support for a global code in May 2010. Very few countries, such as Norway, have developed ethical practices without a code. The UK adopted a code of practice in 2001, later revised, to limit government recruitment of health professionals from developing countries, but the code did not apply to private recruitment agencies or prevent the UK's national health service from hiring nurses who applied independently. Codes are not legally binding. However, some nurses who would otherwise have chosen to migrate to the UK, went elsewhere, where codes were absent. Without multilateral codes, migrants remain free to move, the role of private recruiters has been enhanced and recruitment driven underground. More collective action on codes of practice is necessary but seems presently improbable.

However, within the context of overall codes, bilateral agreements and Memorandums Of Understanding (MoUs) offer some hope for more effective managed migration, such as that between Spain and the UK, and between the Philippines and UK, that established set numbers and fixed time periods. Limited numbers of SHWs move from countries where a surplus is perceived, work for established periods under appropriate and monitored conditions, and should return with enhanced skills, experience and capital. In 2007, ASEAN set out a Mutual Recognition Agreement which is more like the structure of bilateral MoUs in formulating goals for regional cooperation through the exchange of services, but has no built-in controls and therefore will probably lead to the migration of nurses from poorer to richer states. Such intra-Asian movement is likely to later extend into movement within the wider APEC community (Manning and Sidorenko 2007).

More effective regulation, and more ethical recruitment, alongside more effective bilateral relationships suggest some partial solutions, despite growing concern over the ethics of recruitment (Connell and Stilwell 2006; Rogerson and Crush 2008). Several Caribbean states have recognised the extreme difficulty of unilateral change, the futility of Canute-like attempts to stem migration or to significantly change the international context of recruitment, but have argued for a form of 'managed migration' that involves both regional activities – including the standardisation of nurse certification across the region, creating new marketing strategies that aggressively sell nursing as a valuable profession, providing

Nonetheless, high migration rates have contributed to **low productivity, poor morale and frustration.**

more effective salary structures – and special incentive schemes to encourage skilled workers to return at least on a temporary basis (and share their skills and expertise). This might also be structured within the context of 'human capital replenishment', where recipient countries invest in the training programs, and so on, of source countries as is beginning to happen in parts of the Caribbean. A key component has been the negotiation of new linkages with recruiting countries; in this case the US, where nurses are trained within the region but the cost of that training is reimbursed by the US. Such programs are in their infancy and have yet to be evaluated.

CONCLUSION: THE FUTURE HEALTH CARE CHAIN

Shortages of SHWs exist in most countries in the world and in almost all parts of the Asia-Pacific region. In developed countries these have been remedied mainly by migration rather than by strategies for improved retention and recruitment, hence in the foreseeable future migration may well increase. Countries such as India and the Philippines, that previously exported an 'overspill', are now experiencing adverse effects from their 'export policies', including inappropriate skill mixes. Nonetheless, in other countries such as Indonesia and China migration has been advocated as a valuable policy despite the recognition of significant human resource shortages in regional areas (Suwandono et al. 2005; Zhiwu 2007). Migration has tended to be problematic for the relatively poor countries of the Asia-Pacific region as the costs of mobility are unevenly shared, while the care chain becomes more global and hierarchical. Migration has been selective, especially with recruitment, so that mere numbers disguise the impact on the quality of care. Greater complexity increases the challenge of achieving more equitable outcomes.

Sending countries have not always been able to discourage migration, which is widely perceived as a human right. Indeed, several remittance-dependent countries, such as Samoa and the Philippines, have not challenged migration because of its economic role. Unions (like the Fiji Nursing Association) have supported the rights of members to better their circumstances by migration while also pressing governments to act locally to improve working conditions. Individual voices in some states have even called for the greater export of health workers – in pursuit of the 'Philippines model' – to generate remittances. Migration is increasingly embedded in national and international political economies. There is little sign of any presently recipient country taking realistic steps to increase national market supply and any solution requires multilateral consensus rather than a national or bilateral approach. Migration, and its often critical consequences, will surely continue.

Nonetheless, high migration rates have contributed to low productivity, poor morale and frustration. Migration is usually not an overspill, but a definite loss, with negative social, economic and health outcomes. The lack of skilled health workers has contributed to the less effective delivery of health services, especially in poor and remote areas. This is evident in frequent references in the press and elsewhere to overcrowded waiting rooms, unavailable health personnel, delays in attending to emergency cases, lengthy waits and cursory examination and treatment – a situation that demonstrates inequitable access to health care. This

A small number of more affluent states, such as Brunei, Singapore and Malaysia, and those where there are few local trainees (such as the Marshall Islands, Palau and the Federated States of Micronesia) are **continuing to import SHWs from elsewhere**.

further emphasises the challenge of meeting the Millennium Development Goals. In a number of countries where the stocks of health workers are not increasing, life expectancies too are no longer increasing and may even be falling.

Relative shortages of health workers in rural areas emphasise that urban areas are better serviced. In many countries, rural and remote areas are effectively 'out of sight and out of mind' and those who work and live there are marginalised, hence prefer not to stay for long. Policy decisions rarely favour them and failures of 'housekeeping' and governance limit the effective delivery of goods and services. There is little evidence that this will change in the near future, and rising costs of transport, and of oil, suggest the potential for a deterioration of rural services (as is presently occurring in a number of developing countries from Cambodia to PNG).

There has been increasing pressure for migration in most parts of the region, evident in the situation in China, Bangladesh and India, but also evident in the new 'outward urge' in most of the independent Pacific island states that incorporates a range of 'departure strategies' (Connell 2009). Cultures of migration have been enhanced. At the same time, a small number of more affluent states, such as Brunei, Singapore and Malaysia, and those where there are few local trainees (such as the Marshall Islands, Palau and the Federated States of Micronesia) are continuing to import SHWs from elsewhere. Indeed, the complex structure of movement in Thailand, where there is movement away from rural areas, and into the private sector, some of which occurs within a context of medical tourism, alongside some international migration, represents a cross-section of emerging issues in several parts of the region. There is, however, considerable regional diversity, and that is unlikely change.

The principal occupational flows of SHWs are primarily of nurses, where the evidence of losses within the Asia-Pacific

region is substantial. The international migration of SHWs has increased because perceptions of inadequate local conditions have grown, migrant 'host' populations are generally increasing in metropolitan states, demand has increased and recruitment intensified, and because health skills are now valuable commodities in international migration. Yet, paradoxically, almost everywhere fewer people are being attracted to health careers. Potential employees witness the frustrations of health workers and there is a wider range of job options.

The widespread health care crisis in the Asia-Pacific region, extended and intensified by the accelerated migration of health workers, requires an immediate and integrated approach to mitigate the negative effects of migration and reinforce its positive effects. Measures have been all too often 'reactive, piecemeal and non-integrated' (Wibulpolprasert and Pachanee 2008, p. 14) and integrated packages that span issues inside and outside the health sector are crucial. Inertia, language differences and notions of duty prevent systems worsening further.

There is relatively little information on the migration of many groups of SHWs within or beyond the region, notably radiologists, pharmacists and dentists, though anecdotal information indicates that there is significant migration. Given that the loss of even small numbers of such workers can be critical, especially in island states, more data are urgently required. Developing adequate means of monitoring migration, and attrition, is a priority in several places. Greater focus needs to be given to the situation in some of the least developed countries where there is both under production of SHWs and the potential for increased migration of SHWs. Such countries include Vietnam, Cambodia, Timor-Leste and particularly Indonesia. Nonetheless, thirty years ago Meija et al. (1979) argued, firstly, that the lack of good data should not be used to justify inaction, and, secondly, that the failure of workforce planning could be attributed to a lack of political will to deal with the critical problems. Sadly, thirty years later, both conclusions remain valid in a context of even greater need, where the brain drain has flourished. Policy options exist to mitigate negative impacts of migration in both sending countries and receiving countries.

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THE KNOWLEDGE HUBS FOR HEALTH INITIATIVE

The Human Resources for Health Knowledge Hub is one of four hubs established by AusAID in 2008 as part of the Australian Government's commitment to meeting the Millennium Development Goals and improving health in the Asia and Pacific regions.

All four Hubs share the common goal of expanding the expertise and knowledge base in order to help inform and guide health policy.

Human Resource for Health Knowledge Hub, *University of New South Wales*

Some of the key thematic areas for this Hub include governance, leadership and management; maternal, neonatal and reproductive health workforce; public health emergencies; and migration.

www.hrhub.unsw.edu.au

Health Information Systems Knowledge Hub, *University of Queensland*

Aims to facilitate the development and integration of health information systems in the broader health system strengthening agenda as well as increase local capacity to ensure that cost-effective, timely, reliable and relevant information is available, and used, to better inform health development policies.

www.uq.edu.au/hishub

Health Finance and Health Policy Knowledge Hub, *The Nossal Institute for Global Health (University of Melbourne)*

Aims to support regional, national and international partners to develop effective evidence-informed national policy-making, particularly in the field of health finance and health systems. Key thematic areas for this Hub include comparative analysis of health finance interventions and health system outcomes; the role of non-state providers of health care; and health policy development in the Pacific.

www.ni.unimelb.edu.au

Compass: Women's and Children's Health Knowledge Hub, *Compass is a partnership between the Centre for International Child Health, University of Melbourne, Menzies School of Health Research and Burnet Institute's Centre for International Health.*

Aims to enhance the quality and effectiveness of WCH interventions and focuses on supporting the Millennium Development Goals 4 and 5 – improved maternal and child health and universal access to reproductive health. Key thematic areas for this Hub include regional strategies for child survival; strengthening health systems for maternal and newborn health; adolescent reproductive health; and nutrition.

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