

# MIGRATION AND MOBILITY OF SKILLED HEALTH WORKERS FROM SELECTED PACIFIC ISLAND COUNTRIES

Jennifer Doyle and Graham Roberts



Human Resources for  
Health Knowledge Hub

[www.hrhub.unsw.edu.au](http://www.hrhub.unsw.edu.au)

An AusAID funded initiative

---

## ACKNOWLEDGEMENTS

John Dewdney, University of New South Wales, Human Resources for Health Knowledge Hub.

---

### The Human Resources for Health Knowledge Hub

This report has been produced by the Human Resources for Health Knowledge Hub of the School of Public Health and Community Medicine at the University of New South Wales.

Hub publications report on a number of significant issues in human resources for health (HRH), currently under the following themes:

- leadership and management issues, especially at district level
- maternal, newborn and child health workforce at the community level
- intranational and international mobility of health workers
- HRH issues in public health emergencies.

The HRH Hub welcomes your feedback and any questions you may have for its research staff. For further information on these topics as well as a list of the latest reports, summaries and contact details of our researchers, please visit [www.hrhub.unsw.edu.au](http://www.hrhub.unsw.edu.au) or email [hrhub@unsw.edu.au](mailto:hrhub@unsw.edu.au)

---

*This research has been funded by AusAID. The views represented are not necessarily those of AusAID or the Australian Government.*

---

© Human Resources for Health Knowledge Hub 2013

#### Suggested citation:

Doyle, J and Roberts, G 2013, *Migration and mobility of skilled health workers from selected Pacific Island countries*, Human Resources for Health Knowledge Hub, Sydney, Australia.

National Library of Australia Cataloguing-in-Publication entry

Doyle, Jennifer

Migration and mobility of skilled health workers from selected Pacific Island countries / Jennifer Doyle and Graham Roberts

9780733432170 (pbk.)

Medical personnel—Oceania

Labour mobility—Oceania

Incentives in industry—Oceania

Oceania—Emigration and immigration—Social aspects

Roberts, Graham.

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

362.10995

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.

Level 2, Samuels Building,  
School of Public Health and Community Medicine,  
Faculty of Medicine, The University of New South Wales,  
Sydney, NSW, 2052,  
Australia

Telephone: +61 2 9385 8464

Facsimile: +61 2 9385 1104

**Web:** [www.hrhub.unsw.edu.au](http://www.hrhub.unsw.edu.au)

**Email:** [hrhub@unsw.edu.au](mailto:hrhub@unsw.edu.au)

**Twitter:** <http://twitter.com/HRHHub>

Please send us your email address and be the first to receive copies of our latest publications in Adobe Acrobat PDF.

# CONTENTS

- 2 Acronyms
- 3 Executive summary
- 4 Introduction
- 6 Migration of skilled health workers
- 9 Motivations to emigrate or to return
- 12 Vocational losses and financial gains from emigration – The bigger picture of skilled migration
- 14 Shortages of health workers within PICs
- 16 International migration of skilled PIC health workers – Global perspective
- 20 Key messages
- 22 References

## LIST OF TABLES

- 11 Table 1. Summary of push and pull factors affecting emigration of SHWs from Pacific Island countries
- 13 Table 2. Remittances as percentage of GDP, selected PICs
- 18 Table 3. Numbers of employed professional health workers in selected overseas countries by Pacific Island country of birth, c. 2000
- 19 Table 4. Overseas employed SHWs as proportion of total employed skilled health workforce of home country, selected PICs, c. 2000

# ACRONYMS

<b>GDP</b>	gross domestic product
<b>ISCO</b>	International Standard Classification of Occupations
<b>MoH</b>	Ministry of Health
<b>NSW</b>	New South Wales, Australia
<b>NZ</b>	New Zealand
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PHRHA</b>	Pacific Human Resources for Health Alliance
<b>PIC</b>	Pacific Island Country
<b>PNG</b>	Papua New Guinea
<b>SHW</b>	skilled health worker
<b>SCMS</b>	Six-Country Migration Study
<b>UAE</b>	United Arab Emirates
<b>UK</b>	United Kingdom
<b>US</b>	United States
<b>USD</b>	United States dollar
<b>WHO</b>	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. NGO (singular) and NGOs (plural).

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

# EXECUTIVE SUMMARY

This report examines international and internal migration of skilled health workers (SHWs) from six Pacific Island countries (PICs) – Cook Islands, Fiji, Papua New Guinea (PNG), Samoa, Solomon Islands and Vanuatu (referred to here as ‘selected PICs’).

The purpose of the paper is twofold: first, to review recent data and research concerned with migration of SHWs from the sample of PICs; and second, to present estimates of the numbers of SHWs from the selected PICs who were working within the health sector of an overseas country around the year 2000. Results are based on selected census data contained within the *Database of Immigrants in OECD and non-OECD Countries* [DIOC-E, Release 3].

## International migration of skilled PIC health workers – A global perspective

Analysis of data from DIOC-E indicates that around the year 2000 approximately 3,282 professional health workers from the selected PICs were working in an overseas country. Around two thirds of this total came from Fiji, followed by just over 22% and 10% from PNG and Samoa respectively. Australia was the destination for more than half of the total, followed by New Zealand (NZ) and the United States (US). Close to three quarters of the total number of SHWs from the selected PICs who were working overseas were female.

Emigration rates (reflecting stocks rather than flows of SHWs) were calculated for each of the selected PICs. They indicate that c. 2000 more than half of all employed Fijian SHWs, and around 40% of all employed Samoan and Cook Islander SHWs, were working outside their home country.

This study also found that of the selected PICs, skilled health workers from PNG were the second largest group working overseas c. 2000 (729 SHWs representing just over 22% of the total stock). Although its SHW emigration rate of around 19% is less than rates for the Cook Islands, Fiji and Samoa, it is nevertheless higher than one might expect for a country whose volume of emigration has been described as minimal (see section on *International SHW migration patterns*, page 6).

## Key messages

A small number of empirical studies of migration amongst Pacific Island health personnel has advanced our understanding of many of the factors which motivate people to emigrate. Results from our examination of DIOC-E census data indicate larger than expected numbers of SHWs emigrating from PNG. Our analysis also supports anecdotal evidence suggesting significant levels of migration and brain drain amongst Pacific Island health workers.

Although these results imply substantial financial and intellectual gains for destination countries such as Australia, New Zealand and the US, further research, which takes account of where tertiary qualifications were gained, is required before definitive statements can be made about financial losses incurred by Pacific Island countries.

Shortages of SHWs have been reported in each of the selected PICs. It is not currently known to what extent international and internal migration contributes to these shortages. Also unknown is the contribution of other factors (for example insufficient numbers being trained, vacancies remaining unfilled due to lack of funding or insufficient numbers available with appropriate training) to the development of SHW shortages.

The central message emerging from this review is the need for current and reliable data. The absence of up-to-date and systematically collected health workforce migration data is a much repeated comment in this review, and one which can be found in most Pacific-based literature concerned with the health workforce.

# INTRODUCTION

International emigration of SHWs from PICs impacts on the quality and delivery of Pacific Island health services and reduces the benefits which would otherwise accrue from national investment in SHW education and training [WPRO 2004]. Emigration of Pacific Island SHWs occurs at all occupational levels, and especially among those with postgraduate and specialist qualifications.

The purpose of the paper is twofold: first, to review recent data and research concerned with the migration of SHWs in a sample of Pacific Island countries – Cook Islands, Fiji, PNG, Samoa, Solomon Islands and Vanuatu (referred to here as ‘selected PICs’); and second, to present estimates of the numbers of SHWs from the selected PICs who were working within the health sector of an overseas country around the year 2000. Results are based on selected census data contained within the *Database of Immigrants in OECD and non-OECD Countries* [DIOC-E, Release 3].

The section on *Migration of skilled health workers* (page 6) provides an overview of emigration among health workers from the selected PICs, while the section on *Motivations to emigrate and return* (page 9) focuses on health worker motives to leave and to return. The next section, on *Vocational losses and financial gains* (page 12) presents an overview of some of the losses and benefits associated with international migration, followed by a section on *Shortages of health workers within PICs* (page 14) which outlines current shortages and vacancies which have been reported for each health system. Results from examination of the DIOC-E are presented in the section on *International migration of skilled PIC health workers* (page 16), followed by a discussion of key issues emerging from this review (page 20).

## Background

This paper is one of two HRH Knowledge Hub publications produced in 2013 which focus on the migration and mobility of professional health workers from selected Pacific Island countries. The second paper presents detailed results of the *Six-Country Migration Study* (SCMS) currently under review.

The backstory to both papers is that in 2011 the HRH Knowledge Hub contracted the Fiji School of Medicine to collect information on a range of topics,

including data about emigrating and returning SHWs from the selected PICs.

Although the principal aim of the SCMS was to compile comprehensive datasets for each of the PICs, this could not be accomplished as there were no formal processes in place designed to collect relevant data. Given that the selected PICs were unable to provide current and reliable data, in this paper we have sought to use alternative sources of information to describe the movement of SHWs from these countries.

Drawing on revised and updated data made publically available by the OECD in 2011, we identify stocks<sup>1</sup> of Pacific SHWs working within overseas countries c. 2000. Previous research, including the calculation of expatriation rates for health professionals from Pacific Island countries (e.g. Dumont & Zurn 2007), have been conducted utilising earlier versions of the DIOC dataset. However, the most recent dataset (DIOC-E) which includes data from an additional 68 non-OECD destination countries remains largely unexplored in regard to Pacific Island countries. While census data has several limitations (discussed in more detail on page 16 under *Methodology* in *International migration of skilled PIC health workers*), it nevertheless provides a ‘snapshot’ of SHW movement and much-needed input to the discussion of the issue of SHW migration in the Pacific.

## Some definitions

We use the term migration to refer to the movement of people (in this paper SHWs) from one place to another [Calhoun 2002], regardless of whether of a temporary or permanent nature. *Internal migration* refers to the movement of SHWs within a country, and *international migration* to the movement across national borders. Two forms of migration are *emigration*, referring to the movement of SHWs out of a country, and *immigration*, referring to the movement into a country.

---

<sup>1</sup> *Stocks* refer to the population of health workers at a point in time and are usually expressed as rates, while *flows* refer to additions and subtractions (inflows and outflows) of health workers to existing stock during a period of time and are usually expressed as proportions or ratios.

Closely related to the concept of migration is that of mobility. We use the term to refer to labour mobility, that is, the ability to change jobs or move between sectors, regions and countries [Black, Hashimzade & Myles 2009]. Issues which impact on the ability and willingness of health workers to change employer, occupation, or location include employment prospects, education opportunities, wages and working conditions, and migration policies.

In this paper the focus is on SHWs where the primary purpose of migration is to secure or take up health-related employment within another country. Reference will also be made to internal migration and aspects of SHW mobility.

---

In this paper the focus is on SHWs **where the primary purpose of migration is to secure or take up health-related employment** within another country.

---

# MIGRATION OF SKILLED HEALTH WORKERS

In order to ease pressure within their health systems developed countries such as Australia, NZ, the US, Canada and the United Kingdom (UK) have traditionally drawn on the pool of professional health workers from developing countries [WHO 2010a]. While the health systems of destination countries greatly benefit from this migratory flow, the same cannot be said for those within source countries. For example, one recent international study [Mills et al. 2011] estimated that the flow of doctors from developing countries (Ethiopia, Kenya, Malawi, Nigeria, South Africa, Uganda, Tanzania, Zambia and Zimbabwe) to developed countries (Australia, Canada, UK and US) represented a loss of more than USD2bn in total for the former and a savings of at least USD4.55bn in total for the latter.

Developing countries with a small health workforce are especially vulnerable to the effects of SHW emigration [Buchan, Connell & Rumsey 2011]. It is not surprising then that concerns have been expressed about the volume of SHWs leaving PICs and its impact on the provision and delivery of health services.

Identifying and tracing the various migration destinations and routes of SHWs is, however, a complicated task. Global patterns of migration coexist with intraregional and internal migration patterns to form various levels or tiers of migratory movements. In addition, while the migration of professional health workers remains primarily that of movement from poor to affluent countries, it has also become more complex as new flows within groups of less affluent countries and within groups of richer countries have emerged [Clark, Stewart & Clark 2006].

Examination of the ways in which these different patterns intersect is beyond the scope of this paper. However, one thing on which there is agreement is that significant numbers of skilled workers 'on the move' are fast becoming a characteristic of many developing countries, including those within the Pacific region.

The remainder of this section reviews recent literature on the migration of SHWs from Cook Islands, Fiji, PNG, Samoa, Solomon Islands and Vanuatu. These countries have been chosen because they provide a reasonable cross section of broad patterns of SHW migration in the Pacific region.

The review was conducted through desk review of recently published and 'grey' literature.

## International SHW migration patterns<sup>2</sup>

### Cook Islands, Fiji and Samoa

Within the overall structure of international migration of the Cook Islands, Fiji and Samoa, emigration patterns predominate over immigration patterns [Connell 2010], with the Cook Islands and Samoa recently expressing concern about the numbers of SHWs leaving [Doyle, Asante & Roberts 2011].

In the case of the Cook Islands, SHW mobility has been enhanced by having dual citizenship with NZ and a strong cultural tradition of migration to NZ. In Samoa a 'slow but steady' emigration of health professionals has been reported. However, with an estimated 50% of all Samoan doctors working overseas, the shortage of doctors rather than of nurses is believed to be having a greater impact on Samoan health services.

While Fiji has experienced some immigration of health professionals, this has been outweighed by larger numbers of emigrating SHWs, especially following the coups of 1987 and 2000 when many doctors left the country [Oman 2007]. Informal estimates place 25% of Fijian doctors working overseas. The main destinations for emigrating SHWs are Australia, NZ, the US, the UK and the United Arab Emirates (UAE).

### PNG, Solomon Islands and Vanuatu

With minimal patterns of both emigration and immigration, international SHW migration for PNG, Solomon Islands and Vanuatu has been described as of 'no great importance' [Connell 2010 p.7-8]. That said, elsewhere Connell [2009c] notes that Vanuatu has experienced a consistent (albeit small) emigration of doctors and a reliance on the presence of expatriate doctors. In the Solomon Islands, periodic insecurity has also resulted in relatively large numbers of health workers emigrating, with around 25% of its doctors estimated to be working overseas.

---

<sup>2</sup> This section draws on Connell [2009c] unless otherwise indicated.

While the volume of SHWs emigrating from PNG is regarded as quite small in comparison to Fiji, data will be presented in *International migration of skilled PIC health workers* (page 16) which indicate that SHWs from PNG may have been emigrating in greater numbers than previously believed.

Our understanding of SHW migration has been furthered by Negin's exploration of professional health migration from the perspective of two key destination countries [Negin 2008]. His examination of Australian and NZ 2006 census data shows that of the selected PICs employed Fijian-born professional health workers predominate numerically in both destination countries, followed by PNG- and Samoan-born in Australia, and Samoan-born in NZ.

### **Codes of practice and international migration of SHWs**

Concerns about international recruitment practices and campaigns, the protection of rights of migrating health workers, and the impact of loss of health personnel on health systems in source countries, have all contributed in one way or another to the development of codes of practice. Of particular relevance to PICs, Australia and NZ have been the Commonwealth Code of Practice for the International Recruitment of Health Workers (2003) and the more recent Pacific Code of Practice for Recruitment of Health Workers (2007), both of which were designed to guide countries in the ethical recruitment of SHWs.

Although many of the negative impacts of international recruitment and the migration of SHWs on source countries were acknowledged within these codes, their coverage was geographically limited. As a consequence it was difficult to engage destination countries which were not part of the Commonwealth or located within the Pacific region. In contrast, the current code, the WHO Global Code of Practice on the International Recruitment of Health Personnel [WHO 2010b], is more far reaching having been endorsed by all countries represented at the World Health Assembly.

While the WHO Code is geographically more comprehensive, it nevertheless shares a number of characteristics with earlier codes which have the potential to constrain its effectiveness. Frameworks of 'guiding principles', voluntary practices, as well as

---

While intraregional migration amongst the general populations of PICs is believed to be limited, the *Human Mobility Report* notes that **much of what does occur is often related to education and training...**

---

difficulties associated with the monitoring of impact and effectiveness, are just some issues pertaining to the WHO Code (and its predecessors) which have been identified as problematic [Connell & Buchan 2011].

The WHO Code is still relatively new and little can be said about its effectiveness thus far in regard to PICs or other source countries. Although member countries are currently in the process of providing reports of their implementation of the Code and the extent to which principles have been observed and objectives met, it will be some time before results will be available.

### **Migration of SHWs within the Pacific Region**

Intraregional migration refers to the movement of SHWs from one PIC to another PIC to secure or take up employment within the health sector. Under this heading can be counted the flow of Fijian nurses to the Marshall Islands, Palau and Nauru, the small but steady flow of nurses from Vanuatu to the Cook Islands, and the flow of SHWs, including doctors, from the Solomon Islands to the Cook Islands. Other examples include nurses from the Solomon Islands working in the Marshall Islands and Vanuatu and the relocation of health personnel following extensive recruitment by American Samoa throughout the PICs (especially from Fiji and Samoa).

While intraregional migration amongst the general populations of PICs is believed to be limited, the *Human Mobility Report* notes that much of what does occur is often related to education and training [Gallina 2010], with sizable flows from a number of PICs (including Cook Islands, Samoa, Solomon Islands and Vanuatu) to the University of the South

Pacific. To this can be added the movement of staff and students to and from the College of Medicine, Nursing and Health Sciences at the Fiji National University and more recently to the University of Fiji.

Minimal literature and data on intraregional migration prevents indepth discussion of regional flows [Esau 2005], with information and estimates forced to rely on anecdotal evidence. Despite this handicap, Connell [2009c] has noted that increasing SHW shortages within PICs have encouraged intraregional movement, with those countries offering higher wages and better working conditions becoming destination countries.

### Rural to urban flows

Internal migration, including the movement of SHWs from rural to urban centres, has been described as ‘ubiquitous’ throughout countries within the Asia Pacific region [Connell 2010 p. 15]. Difficult working and living conditions in rural and remote areas, as well as geographic and professional isolation, make retention of staff in outlying areas a serious challenge for many PIC health systems. Within the Solomon Islands, for example, the movement of health workers from rural to urban areas, difficulties in posting health workers to the outer areas, and attraction ‘to the bright lights’ amongst rural health workers, have all been identified as key challenges currently being faced [Doyle, Asante & Roberts 2011].

Processes of centralisation and urban development bias have resulted in outer areas of each of the selected PICs becoming less well serviced and the delivery of services becoming a critical issue for many. However, while the role of internal migration in the uneven provision of healthcare services within countries and regions is well recognised, internal migration of this kind within the PICs remains largely undocumented, with discussion and estimates of its size relying on anecdotal and personal evidence.

### Movement to the private sector

Another form of internal migration is the movement of SHWs from the public to private sector. Although each of the selected PICs has only a relatively small private health sector (for example, the Cook Islands has a pool of private health practitioners consisting of 3 medical practitioners, 1 dentist and 1 pharmacist

[Cook Islands MoH n.d.b]), flows of health workers to the private sector have been in evidence.

While shifts of doctors and nurses to the Samoan private sector have also been reported [WPRO 2004], it is in Fiji that this trend has been most apparent with a ‘substantial’ proportion of Fijian doctors and nurses having entered private health practice [Connell 2010]. Although still quite small in size by global standards, Fiji’s private health sector consists of two private hospitals in Suva, several day clinics and 130 private general practitioners [Asia Pacific Observatory on Health Systems and Policies 2011]. The attractions of employment within this sector (higher wages and better working conditions) make the retention of professionals within public health services increasingly difficult; to the extent that it has been described as ‘one of the most significant issues facing Fiji’s health workforce’ [PHRHA 2012].

### Other forms of migration

Exiting the health care labour force (for example through resignation, termination, retirement, illness, career change and so on) is an additional form of internal migration. As noted earlier, one of the findings of the SCMS was that none of the selected PICs had formal processes in place to collect information on professional migration and mobility, relying instead on personal knowledge and recall.

National level data on the number of health workers who have withdrawn from the health care labour market is not readily available, nor is information in regard to motives for exit, unemployment amongst health workers, or the extent of the discouraged worker effect<sup>3</sup> and its impact on decisions to emigrate. That said, alternative sources, such as pension data on retirees, may be able to provide some information about SHWs who exit the health care labour market.

---

<sup>3</sup>The *discouraged worker effect* refers to a worker’s departure from the labour market following a period of unemployment and unsuccessful job seeking [Black, Hashimzade & Myles 2009].

# MOTIVATIONS TO EMIGRATE OR TO RETURN

One feature on which there is agreement is that both international and internal migration of health workers can exacerbate many of the circumstances and conditions which motivate migration in the first place.

## Deciding to leave

A number of small-sample studies of motivations and migration patterns of Pacific Island SHWs have been conducted. Factors taken into account in the decision-making process are usually conceptualised in terms of 'push' and 'pull' factors. Drawing on recent literature and research, a summary of disincentives to stay and incentives to leave ('push' and 'pull' factors respectively) is presented in Table 1<sup>4</sup> (page 11).

As this table shows, many of the push factors are concerned with the working environment, professional development and conditions of employment. That said, decision making is not straightforward as Oman, Moulds & Usher [2009] note in regard to their study of specialist emigration from Fiji. Regardless of whether one ends up choosing to stay, to leave, or to move into the private sector, the decision-making process is a complex one involving numerous personal, social and professional considerations.

Rutten [2009] has sought to capture some of this complexity by incorporating the dynamic context in which motivating factors may develop and operate at different stages in individual migration trajectories (e.g. the influence of growing transnational social and familial networks). Factors influencing health workforce mobility are separated into 'direct drivers' and 'indirect drivers'. Direct drivers include working and living conditions as well as the cost of moving, and indirect drivers include a variety of country-specific characteristics.

In the final analysis, however, and regardless of how conceptualised, the motives of SHWs to emigrate from PICs have proved to be remarkably similar to those of SHWs in other developing countries [WPRO 2004].

---

<sup>4</sup> Table 1 draws on the following literature: Connell [2009c]; Henderson & Tulloch [2008]; Oman [2007]; Oman, Moulds & Usher [2009]; Pak & Tukuitonga [2006]; Rokoduru [2006 & 2008], WPRO [2004].

---

Gibson & McKenzie's [2011] study found that **return was more likely when a parent was living in the home country**, where there was an appreciation of lifestyle of the home country and when the individual did not have a PhD.

---

There have been few formal studies of the flow of health professionals from rural and remote areas to urban areas, or their movement from the public sector to the private health sector. Nevertheless, many of the factors listed in Table 1 (in particular professional factors) are believed to contribute to health worker motivation and retention [Connell 2010], and can be major considerations in decisions to leave or remain in rural areas, or to leave or stay within the health workforce [Henderson & Tulloch 2008].

## Deciding to return

With only a handful of small-sample studies, little is known about patterns and numbers of returning SHWs. Commenting on return migration in Samoa, Macpherson & Macpherson [2009] note that there are many more opportunities available which have the potential to attract returnees. Whereas in the past significant proportions of professionals who returned to Samoa eventually left again for a metropolitan country, they believe retention in present-day Samoa to be much more likely given improved quality of life [Macpherson 1983 & 1985 cited in Macpherson & Macpherson 2009].

The important role professional factors can play in encouraging return were indicated in Gibson & McKenzie's [2011] study of international migration patterns of 'the best and the brightest' from PNG, Tonga and NZ. Examining the movements of high-achieving secondary students graduating high school between 1976 and 2004, they found that return was more likely when a parent was living in the home country, where there was an appreciation of lifestyle of the home country and when the individual did not have a PhD.

Income gains and other economic factors were not significant considerations in decisions to either emigrate or return. Importantly, close to one third of return migration to PNG was due to fulfilment of bonding requirements. It is significant that participants also felt that if career opportunities within the home country were improved (as opposed to raising income levels) high achievers would be more likely to be attracted back to their home country [Gibson & McKenzie 2011].

Results such as these are consistent with Connell's study of patterns of SHW return to Fiji, Samoa or Tonga [2009a] which found that many returnees had been bonded. Motives among those who returned voluntarily were rarely associated with economics or the attractiveness of employment within the health sector; rather, working conditions within the health sector were mostly perceived to be unsatisfactory.

Elsewhere Connell [2009b] raises the question of length of stay of returnees, suggesting the possibility that return to one's home country may be simply a temporary pause in continuing international migration. For health workers the likelihood of permanent return is especially problematic given that returnees usually have enhanced skills and experience, but are returning to employment within systems often perceived to be inferior in terms of professional opportunities and prospects.

It is reasonable to conclude that without significant improvements within the workplace there will be only minimal return of SHWs. Without such changes permanent return migration of SHWs is unlikely for exactly the same reasons which originally motivated emigration.

Also worthy of investigation are the relationships between age of returnees, retirement intentions, and career and labour force outcomes for older returnees. However, until reliable data regarding return of Pacific SHWs to their home country are available, little can be said about these kinds of relationships or more general trends and patterns of return migration amongst Pacific Island SHWs.

**TABLE 1: SUMMARY OF PUSH AND PULL FACTORS AFFECTING EMIGRATION OF SHWS FROM PACIFIC ISLAND COUNTRIES**

<b>PUSH FACTORS</b>	<b>PULL FACTORS</b>
<b>POLITICAL</b>	
Instability Coup d'etat	Safety and security for self and family
<b>ECONOMIC</b>	
Inadequate health funding Low salary levels Lack of/inadequate allowances	Attractive salary levels/packages Improved economic opportunities Potential to remit to home country
<b>SOCIAL/PERSONAL</b>	
Few opportunities to improve quality of life Racial discrimination Stress-related health problems Feeling undervalued	Family members residing overseas Improved living conditions for self and family Better education opportunities for children Family-related matters Better quality of life Opportunity for new living environment Travel/adventure
<b>PROFESSIONAL</b>	
Declining health service Poor working conditions Heavy workload/long hours Mismatch in skills and tasks Weak support, supervision, management and administration Absence of career structure Unreliable/frustrating career progression Problematic promotion process Lack of promotion prospects Lack of training Lack of recognition of training Limited scope to upgrade qualifications Limited opportunities for professional development Difficulties in completing training Inadequate living conditions Risk of violence/lack of safety Lack of basic supplies and equipment Lack of facilities Lack of perceived link between hard work and rewards	Better job overseas Better promotion and training opportunities Able to upgrade qualifications Improved career options Able to pursue further studies Exposure to new techniques and skills Opportunity for new working environment Opportunity to gain experience

# VOCATIONAL LOSSES AND FINANCIAL GAINS FROM EMIGRATION – THE BIGGER PICTURE OF SKILLED MIGRATION

## Brain Drain

Brain drain is a term describing the loss of qualified individuals in the home country following international emigration. While destination countries make substantial gains from investments by source countries in education and training, source countries experience significant losses of both vocational and financial resources. Although there are currently no estimates of the amount of brain drain from PIC health systems, estimates of losses from the more general category of 'skilled workers' (i.e. those with tertiary education) have been calculated.

Using census and other data from OECD countries, Docquier & Marfouk [2005] calculated brain drain<sup>5</sup> of 32%, 44% and 75% for Micronesia, Melanesia and Polynesia respectively. Taking Micronesia as an example, this means that at the time of the census (c. 2000) 32% of Micronesia's total skilled labour force were residing in an OECD country. In a more recent study, again largely based on census data, Docquier & Schiff [2009] calculate average rates for four of the selected PICs as follows: Fiji 45%, Samoa 61%, Solomon Islands 4% and Vanuatu 5%<sup>6</sup>. This means that at the time of the census (c. 2000) at least 45% of Fiji's total skilled workforce were employed overseas, that is, for every 100 skilled Fijians, 45 had emigrated and 55 had remained at home.

It should be noted that these estimates refer to all skilled workers. As calculations for each occupational category were not carried out we have no way of knowing whether, and if so, to what extent, brain drain and emigration rates for SHWs differ from these averages. Nevertheless, with rates such as these it is not surprising that the magnitude of brain drain for many small low resource developing states has been described as a 'haemorrhage' which is unlikely to stop anytime soon [Docquier & Schiff 2009, p30].

The possibility of deriving positives from brain drain and the potential for migration to 'deliver development dividends' for source countries [Hugo 2010 p. 9] are issues which have recently emerged within the development discourse. With financial losses in Fiji due to international migration estimated to be at least \$F44.5 million p.a. [Reddy, Mohanty & Naidu 2004], and with only a modest amount of return migration, it is difficult to imagine how a

---

The possibility of deriving positives from brain drain and the potential for migration to 'deliver development dividends' for source countries are issues which have recently emerged within the development discourse.

---

sufficient amount of brain gain could be generated to counter this estimated financial loss.

In summary, emigration of 'the best and the brightest' from PICs continues to be regarded as a critical drain on resources. It is noteworthy that debate about costs being borne by Pacific Island source countries has been and continues to be moderated by the significant economic role played by the in-flow of remittances [Voigt-Graf 2007].

## Remittances

Trends in remittance receipts as a proportion of GDP for the years 2001 to 2010 for each of the selected PICs are presented in Table 2 (page 13). This table shows that remittance income accounts for increasing proportions of gross national income in Samoa and Fiji<sup>7</sup>. The importance of these contributions cannot be

---

<sup>5</sup> Brain drain or emigration rates of the highly skilled are calculated as the stock of individuals aged 25 and over, tertiary educated, from a specified country or region, living in an overseas OECD country, as a percentage of the total tertiary educated labour force (domestic and emigrant) of the home country.

<sup>6</sup> For ease of reading rates have been rounded. These are brain drain estimates for individuals who left their home country after age 22. Consequently, those who emigrated as children and were educated within the destination country are excluded. Previous estimates of brain drain for each of the selected PICs from the 2005 study (which did not take age into account) were as follows: Fiji 62%, PNG 29%, Samoa 76%, Solomon Islands 6%, and Vanuatu 8% (rounded) [Docquier & Marfouk 2005].

<sup>7</sup> Official estimates of remittance flows for the Cook Islands are not available [Brown, Leevas & Praya, 2012 p.24].

overestimated. When remittance receipts are ranked (highest to lowest) as a percentage of GDP, Samoa is placed second highest amongst the countries of East Asia and the Pacific region, third amongst least developed countries, and third amongst small states [World Bank 2011].

Remittance flows can also function as a regular source of income for households and individuals in the home country. Examination of household survey data has shown that remittances can make a significant contribution to family welfare and are often associated with improved educational attainment and improved standards of living [Kaitani et al. 2011]. In their recent study of remitting behaviour amongst members of Samoan, Tongan and Cook Islander communities living in NSW, Brown, Leeves & Prayaga [2012] estimate that remittances to the Cook Islands represent around 60% of its GDP; a much larger proportion than was previously believed.

Increasing reliance of some PICs on the receipt of remittances has been accompanied by growing

concern over the long-term sustainability of remittance flows [Lee 2009]. Lee's 2006 study of remitting patterns among the children of Tongan emigrants points to the loss of a sense of social responsibility towards Tongan institutions (e.g. Church of Tonga and Tongan royal family), and a decline in the numbers who remit to family members in Tonga [Lee 2006].

On the whole, however, we currently know very little about remitting patterns amongst health workers who have emigrated from PICs [Connell 2009c] or about remitting behaviour and practices among second-generation members of the Pacific Islands diaspora. Nevertheless, the central place remittances occupy in national and household economies indicates the pivotal role international job seeking (including that of professional health workers) plays in the production of remittance flows.

**TABLE 2: REMITTANCES<sup>1</sup> AS PERCENTAGE OF GDP, SELECTED PICs**

Source: <http://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?display=default>

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Fiji	5.0	5.4	5.4	6.4	6.2	6.0	4.7	3.4	5.3	5.7
PNG	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2
Samoa	18.5	17.5	14.9	23.5	26.7	23.8	22.6	23.8	25.0	25.0
Solomon Islands	1.1	1.1	1.2	2.3	1.7	0.4	0.4	0.3	0.4	0.4
Vanuatu	20.4 <sup>2</sup>	1.6	1.3	1.4	1.3	1.1	1.1	0.9	0.9	0.9

Notes:

1. Totals for each country comprise workers' remittances, compensation of employees, and migrants' transfers. Data for Cook Islands not available.
2. Vanuatu has experienced a decline in the level of remittances since 2001. In the 20-year period prior to this it had relatively high inflows of remittances.

# SHORTAGES OF HEALTH WORKERS WITHIN PICS

## Vacancies and shortages

Shortages of particular categories of health workers, difficulties with retention of health workers at both regional and national levels, and uneven distributions of SHWs within countries and sectors, have been reported for most PICS. It is generally accepted that international and internal migration contributes to these losses and difficulties.

Shortages of SHWs are perhaps most evident in PNG. Yambilafuan [2009], cited in Asante & Hall [2011], reports, for example, that an estimated 600 nurses, 600 community health workers and 100 midwives, at the very least, would be required to fill current gaps. A large number of positions are vacant in rural and remote areas, a matter of particular concern given that these areas are home for at least 80% of the population.

The Fiji Ministry of Health (MoH) reported 232 vacancies in its staff establishment for 2010, including 33 doctors and 40 nurses [Fiji MoH 2010]. An inadequate number of health professionals is regarded as a major challenge to health service provision, as is the shortage of doctors in rural areas [Asia Pacific Observatory on Health Systems and Policies 2011].

In 2009 the Cook Islands had a staff vacancy rate of 5.3% (16 full-time positions) based on a total health workforce of 301 [Human Resources for Health Knowledge Hub 2009]. In the Solomon Islands, staff shortages of doctors, medical specialists, medical laboratory staff, radiologists and other allied health professionals have also been reported as a key challenge [Asante, Roberts & Hall 2011].

Shortages of SHWs in Samoa have been reported and the Samoan MoH has identified health workforce development as a priority area [Samoa MoH n.d.]. Buchan, Connell & Rumsey [2011] refer to staff shortages when they report on recent efforts to systematically identify and quantify current staffing levels, noting that activities have been delayed as a result of lack of agreement among stakeholders about the nature and impact of health worker shortages.

In the same study, Buchan, Connell & Rumsey [2011] note that Vanuatu has major shortages of nursing staff, estimated to be around 100 vacancies. Doctors

---

... assessment of the impact of migration on health workforce numbers requires consideration of **many other factors which can also contribute to staff shortages.**

---

are also in short supply, with expatriates filling half of existing positions.

## Vacancies and shortages in context

While international emigration contributes to losses of health personnel in the source country and can exacerbate preexisting shortages, numerous issues and circumstances help determine the size and shape of a health workforce [Connell 2009c]. Consequently, assessment of the impact of migration on health workforce numbers requires consideration of many other factors which can also contribute to staff shortages.

First, shortages of health personnel are often to be found in system environments with inadequate funding of positions, insufficient numbers of scholarships, inadequate prevocational training, and limited training capacity.

Second, characteristics of small island states, such as large geographic distances and widely dispersed islands, small and scattered populations, poor working conditions and inadequate professional support, can also negatively impact on health workforce numbers, as well as on the distribution and retention of workers.

Third, professional and economic factors such as disparities in salary levels between PICS and metropolitan countries are also regarded as significant factors contributing to the difficulties experienced by many PICS in attracting and retaining skilled health workers. Median salaries for Cook Island nurses and doctors, for example, have been estimated at around 50% and 60% respectively of their New Zealand equivalents [Cook Islands MoH n.d. a]; differences which give some idea of the disadvantaged position Pacific Island health systems

are in as they compete with developed countries for SHWs.

The coexistence of factors such as these was highlighted at a Pacific Human Resources for Health Alliance (PHRHA) meeting held in 2011. More than half of the 13 Pacific Island countries attending the conference identified staff shortages as a current problem, and all 13 reported a variety of workforce, education and training, and policy, management and information challenges, amongst the top five challenges currently being faced within their respective health sectors [Doyle, Asante & Roberts 2011].

Making accurate assessments of the role of international migration in the development of staff shortages requires disentangling these multiple factors. Again the experience of the Cook Islands, a country with a strong tradition of migration, is instructive. Following extensive economic reform and restructuring in the 1990s, more than half of the qualified population was 'lost' to the health sector, with many migrating overseas.

While there is an obvious link between shortages of staff and emigration, widespread economic restructuring and reductions in levels of health expenditure also played a significant role. More recently the Cook Islands MoH has linked a 'looming shortage' of graduate nurses, declines in systematic professional development within the health workforce, significant skills gaps, and poor health outcomes with decreasing health budgets [Cook Islands MoH n.d.a].

In summary, reports of national shortages of health workers are to be found for all six countries. Migration of SHWs can result in absolute losses of health staff (to overseas countries and to other sectors, as well as through exits from the labour market) and add to pre-existing shortages. However, as noted, estimating the proportion of staff shortages attributable to migration is not a straightforward task, requiring consideration of all other factors and influences pertaining to the health sector, the health workforce and the labour market which may be impacting on workforce numbers.

---

Following extensive economic reform and restructuring in the 1990s, **more than half of the qualified population was 'lost' to the health sector**, with many migrating overseas.

---

# INTERNATIONAL MIGRATION OF SKILLED PIC HEALTH WORKERS – GLOBAL PERSPECTIVE

## DIOC-E (Release 3)

This section presents analysis and results based on data from the *Database on Immigrants in OECD and non-OECD Countries* [DIOC-E Release 3]. Designed to improve measurement of stocks of foreign-born populations in participant countries, the database is composed primarily of selected census data (c. 2000) from 32 OECD countries and 68 non-member countries<sup>8</sup>.

Two different versions of the database containing c. 2000 data are currently available – DIOC which is limited to data from OECD countries, and DIOC-E which includes additional data from non-OECD countries. Since results from the DIOC were first made available in 2008 [OECD 2008], the original dataset has been subject to a continuous process of revision and updating with the inclusion of additional data from non-OECD countries. Made available in 2010, the first release of DIOC-E included additional data from 55 non- OECD countries. This was followed by the second release at the end of 2010 with a total of 32 OECD countries and 57 non-member countries. The latest version (3.0) was released in September 2011.

Regrettably, neither DIOC nor DIOC-E contain PIC census data. Discussing analysis of DIOC-E (Release 2) and their computations of emigration rates of highly skilled workers, Dumont, Spielvogel & Widmaier [2010] note that while Australia and New Zealand are included in both databases, other countries from the Oceanic region have not been introduced in the DIOC-E because the numbers of immigrants are regarded as ‘virtually negligible’ (p. 12).

Expatriation rates for doctors and nurses (including those born in a Pacific Island country) calculated by Dumont & Zurn [2007] upon the release of DIOC (the original database) have informed many research studies. Emigration rates have also been calculated utilising DIOC-E data; however, these focus on country of origin, sex and educational attainment rather than occupation<sup>9</sup>. In short, while the original DIOC dataset has been much used, the DIOC-E remains largely unexplored in regard to the international migration of SHWs from PICs. For these reasons our analysis has drawn on this more recent dataset.

## Methodology

An advantage of databases such as these is that general migration data collected by destination countries tend to be more accurate than those collected by source countries [Docquier & Schiff 2009]. However, it must also be noted that examining data according to country of birth and occupation, as well as across a range of countries, introduces a degree of complexity which may result in some loss of accuracy. This can occur in at least four ways.

First, the database contains no information on ‘age of entry’ and therefore cannot differentiate individuals who migrated as a child or young person from their home country and those who migrated as an adult. As a consequence we cannot identify those who acquired tertiary education and qualifications within the home country, the destination country, or elsewhere.

Second, the data provides no indication of the length of time migrants have been residing in the destination country.

Third, there are compatibility issues. For example, while most countries record occupations according to the International Standard Classification of Occupations (ISCO-88), a number of countries, including the United States, use alternative classifications.

Fourth, as is evident from Table 3 (page 18), numbers in some cells are relatively small and will therefore be more sensitive to inaccuracies involved in data collection, coding and entry. It is also not clear which country data were adjusted before being provided for inclusion in the database.

Although the data are not current, this limitation is at least partially compensated for by the breadth of coverage. In our analysis data has been aggregated to provide a macro picture of the numbers of professional health workers who had emigrated

<sup>8</sup> For a more detailed discussion of the sources and coverage see DIOC-E (Release 3.0) Methodology <http://www.oecd.org/dataoecd/41/26/48431754.pdf>

<sup>9</sup> Available for download at <http://www.oecd.org/migration/databaseonimmigrantsinoecdandnon-oecdcountriesdioc-e.htm>

from the selected PICs as recorded in the censuses of the various destination countries (Table 3). SHW emigrants are defined by their country of birth, broad occupational category and level of qualification. The results presented refer to health professionals and life science professionals (ISCO category 22<sup>10</sup>) from the selected PICs, all of whom had tertiary qualifications and were employed at the time of the census.

Emigration rates were calculated for each of the selected PICs (Table 4, page 19). Again indicating stocks rather than flows of SHWs, the rates were calculated as the number of employed SHW emigrants as a proportion of the total employed skilled health workforce (domestic and emigrant). Domestic workforce data was taken from the Joint Learning Initiative [2004] to be consistent with the c. 2000 census data.

Finally, the data presented only refers to PIC expatriates who were employed in the health sector of the country in which they were living in the week of the census. The figures take no account of health workers who had migrated but had exited the health care labour market, or who were unemployed and job seeking.

To summarise, there are significant limitations associated with using census data to examine the migration of PIC health professionals. Of most importance, however, and as noted above, the database does not include information on where training was undertaken or where qualifications were obtained; nor does it indicate when emigrants left their home country or how many years they had resided in the destination country. Given that we do not know the proportion of individuals who fall into these categories, our results will inevitably overestimate the number of migrants who were trained in their country of birth.<sup>11</sup>

## Results

Table 3 shows that c. 2000 approximately 3,282 professional health workers from the selected PICs were working in an overseas country, with around two thirds of this total coming from Fiji, followed by just over 22% and 10% from PNG and Samoa respectively. Australia was the destination for more than half, followed by NZ and the US<sup>12</sup>. Close to three quarters of the total number of SHWs from

the selected PICs who were working overseas were female. Emigration rates presented in Table 4 indicate that more than half of all employed Fijian SHWs, and around 40% of all employed Samoan and Cook Islander SHWs, were working outside their home country c. 2000.

It is worthwhile noting that of the selected PICs, SHWs from PNG were the second largest group working overseas around the year 2000 (729 representing just over 22% of the total). Although its SHW emigration rate of almost 19% is less than emigration rates for the Cook Islands, Fiji and Samoa, it is nevertheless higher than one might expect for a country whose volume of emigration has been described as minimal (International SHW migration patterns, page 16). With the lowest physician and nurse densities of the selected PICs (0.05 and 0.53 respectively [Joint Learning Initiative 2004]) PNG can ill afford losses of this magnitude.

Table 3 shows that the US has also been a popular destination country. The number of SHWs from PNG employed in the US at this time exceeded those working in NZ. In the case of Fiji and Samoa the numbers are only slightly less than the NZ equivalents. These results confirm that around c. 2000 Australia, NZ and the US were important destination countries for professional health workers.

It is also evident from Table 3 that for some countries the numbers of emigrating skilled health professionals are relatively small by world standards. Nevertheless, the loss of even just a few health workers from small island states like Vanuatu and Solomon Islands can be critical to the functioning of their health care system and the delivery of services. That said, given the numbers involved are quite small, finding workable solutions and devising appropriate measures may be all the more feasible.

---

<sup>10</sup> For the US the Census Bureau Occupation code USA\_10 has been used. See DIOC-E Methodology.

<sup>11</sup> It is worth noting that using country of qualification is not without its problems, leading to an overestimation of numbers for countries with training institutions, and underestimation for those without training institutions.

<sup>12</sup> As discussed earlier, however, the absence of particular data items such as location of training, length of residency, citizenship, and so on, means that the numbers of migrants will be overestimated.

**TABLE 3: NUMBERS OF EMPLOYED PROFESSIONAL HEALTH WORKERS IN SELECTED OVERSEAS COUNTRIES BY PACIFIC ISLAND COUNTRY OF BIRTH, C. 2000**

Source: DIOC-E Release 3

COUNTRY OF BIRTH	COUNTRY OF RESIDENCE							TOTAL		
<b>Cook Islands</b>										
	Aust	NZ								
Males	-	12						12		
Females	15	24						39		
Total	15	36						51		
<b>Fiji</b>										
	Aust	NZ	Canada	Gt Brit	Ireland	US				
Males	310	135	45	22	-	94		606		
Females	647	351	100	22	3	345		1,468		
Total	957	486	145	44	3	439		2,074		
<b>PNG</b>										
	Aust	NZ	Canada	Gt Brit	Switz	US				
Males	191	6	-	14	2	4		217		
Females	452	12	15	3	-	30		512		
Total	643	18	15	17	2	34		729		
<b>Samoa</b>										
	Aust	NZ	US							
Males	7	24	35					66		
Females	53	126	105					284		
Total	60	150	140					350		
<b>Solomon Islands</b>										
	Aust	NZ	Greece							
Males	12	9	-					21		
Females	21	6	2					29		
Total	33	15	2					50		
<b>Vanuatu</b>										
	Aust	NZ	France							
Males	-	3	5					8		
Females	14	6	-					20		
Total	14	9	5					28		
<b>Total number of employed professional health workers in each destination country</b>										
	Aust	NZ	Can	Gt Bt	US	Ire	Switz	Grc	Fra	
Males	520	189	45	36	133	-	2	-	5	930
Females	1,202	525	115	25	480	3	-	2	-	2,352
Total	1,722	714	160	61	613	3	2	2	5	3,282

**TABLE 4: OVERSEAS EMPLOYED SHWS AS PROPORTION OF TOTAL EMPLOYED SKILLED HEALTH WORKFORCE OF HOME COUNTRY, SELECTED PICS, C. 2000**

Sources: Joint Learning Initiative [2004] unless otherwise indicated. Cook Islands data from WHO 2002 & WHO 2006. Numbers of emigrants (col 4) from DIOC-E 2000.

	(1) YEAR	(2) POP (THOUSANDS)	(3) EMPLOYED SKILLED HEALTH WORKFORCE <sup>1</sup>		(4) EMIGRATION RATE <sup>2</sup> (%)
			Domestic (number)	Emigrant (number)	
Cook Islands	2001	20	78	51	39.5
Fiji	1999	805	1,938	2,074	51.7
PNG	2000	5,334	3,206	729	18.5
Samoa	1999	171	504	350	41.0
Solomon Islands	1999	424	469	50	9.6
Vanuatu	1997	182	448 <sup>3</sup>	28	5.9

Notes:

1. Domestic employed skilled health workforce is the total number of physicians, nurses/midwives, dentists and pharmacists including foreign born. Emigrant employed skilled health workforce is all health professionals and life science professionals.
2. Emigration rate is defined as emigrant workforce/total employed skilled health workforce (i.e. col. 4/(col. 3+col. 4)).
3. Physicians, nurses and midwives only.

# KEY MESSAGES

Skilled migration is part of a broad cultural tradition of migration within the Pacific Islands, and is an accepted and valued part of Pacific life. It is not surprising then that the migration of SHWs is not expected to decline in the near future [Connell 2009c]. A small number of empirical studies of migration amongst Pacific Island health personnel has advanced our understanding of many of the factors which motivate people to emigrate.

Results from our examination of DIOC-E census data indicate larger than expected numbers of SHWs emigrating from PNG. Our analysis also supports anecdotal evidence suggesting significant levels of migration and brain drain amongst Pacific Island health workers. Although these results imply substantial financial and intellectual gains for destination countries such as Australia, New Zealand and the US, further research which takes account of factors such as occupation and where tertiary qualifications were gained is required before definitive statements can be made about financial losses incurred by Pacific Island countries.

International and internal migration amongst health workers from developing countries is increasingly seen as a response to difficulties experienced within health systems [Khadria 2010] and symptomatic of 'deeper problems' regarding the retention and motivation of health workers and the establishment of stable and equitable work environments [Buchan 2008]. As discussed earlier in this paper, a variety of difficulties and challenges of this kind have been reported by most PICs.

Shortages of SHWs have been reported in each of the selected PICs. It is not currently known to what extent international and internal migration contribute to these shortages. Also unknown is the contribution of other factors (for example insufficient numbers being trained, vacancies remaining unfilled due to lack of funding or insufficient numbers available with appropriate training) to the development of SHW shortages.

The central message emerging from this review is the need for current and reliable data. The absence of up-to-date and systematically collected health workforce migration data has been a much repeated comment during this review, and one which can be

---

A method commonly used within healthcare organisations, exit interviewing would enable the collection of information about health workers who resign, retire or relocate and has the potential to **provide valuable information not available from any other source.**

---

found in most Pacific-based literature concerned with the health workforce.

It has been reported recently that the migration of SHWs from the selected PICs is not well documented and that there are currently no formal processes in place specifically designed to collect migration and mobility data [Doyle et al. 2012].

Exit interviewing offers a way for PIC health systems to begin systematically collecting exit data from SHWs leaving their employment. A method commonly used within healthcare organisations, exit interviewing would enable the collection of information about health workers who resign, retire or relocate and has the potential to provide valuable information not available from any other source. (For further discussion of the use of exit interviews to document transitions within and exits from the health care labour market of PICs, see Doyle & Roberts 2012.)

Constructing an accurate statistical representation of migration is a complex task, however, with no single data source capable of providing a complete picture [Stilwell et al. 2003]. While the quality and usefulness of different sources in providing SHW migration data depends on the instrument and procedures used to collect the data and other specific features of the collection system, generally speaking, there are a number of potential sources of data from which to choose. These include population and foreign registers, records of migration visas and work permits, census data and labour force surveys.

Other sources also worthy of consideration include administrative records maintained by training institutions and professional licensing bodies which

may offer the possibility of tracking of SHW entry into and movement within the health care labour force.

Systematic and sustained collection of migration and mobility data would support and benefit PIC health systems in at least three ways.

1. It would provide the basis for accurate calculation and monitoring of the impact of migration and mobility on Pacific health workforce numbers and on the functioning of health services.
2. It would assist in identifying appropriate retention strategies for a particular country, area or service. The development of strategies designed to redress sources of dissatisfaction (e.g. working conditions, salary structures, and career development and prospects) have the potential to moderate attrition rates, improve health service delivery and strengthen health systems more generally.
3. It would provide a more detailed understanding of health worker migration and inform discussion about the extent of brain drain and the potential for brain gain in PICs. Systematic quantification would also add considerable weight to arguments for official recognition of the vocational and financial losses experienced by PICs and in making claims on destination countries for contributions to PIC health professional training budgets.

Benefits of this kind can only be realised when reliable, accurate and current workforce data about those who migrate, those who 'stay put', and those who return, as well as information about motives and destinations, are readily available.

# REFERENCES

Asante, A & Hall, J 2011, *A Review of Health Leadership and Management Capacity in Papua New Guinea*, Human Resources for Health Knowledge Hub, University of New South Wales, Sydney.

Asante, A, Roberts, G, & Hall, J 2011, *A Review of Health Leadership and Management Capacity in Solomon Islands*, Human Resources for Health Knowledge Hub, University of New South Wales, Sydney.

Asia Pacific Observatory on Health Systems and Policies 2011, 'Fiji Islands Health System Review', *Health Systems in Transition*, vol 1, no 1.

Black, J, Hashimzade, N & Myles, G 2009, *A Dictionary of Economics*, Oxford University Press, Oxford Reference Online, viewed 6 September 2012, <http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t19.e1999>

Brown, R, Leeves, G & Prayaga, P 2012, 'An analysis of recent survey data on the remittances of Pacific Island migrants in Australia', *Discussion Papers Series 457*, School of Economics, University of Queensland, Brisbane.

Buchan, J 2008, *How can the migration of health service professionals be managed so as to reduce any negative effects on supply?*, Policy Brief, written for the WHO European Ministerial Conference on Health Systems, 25-27 June, 2008, Tallinn, Estonia, WHO.

Buchan, J, Connell, J & Rumsey, M 2011, *Recruiting and Retaining Health Workers in Remote Areas: Pacific Island Case-Studies*, WHO Press, World Health Organization, Geneva, Switzerland.

Calhoun, C 2002, *Dictionary of the Social Sciences*, Oxford University Press, Oxford Reference Online, viewed 6 September 2012, <http://www.oxfordreference.com/views/ENTRY.html?subview=Main&entry=t104.e1075>

Clark, P, Stewart, J & Clark, D 2006, 'The globalization of the labour market for health-care professionals', *International Labour Review*, vol. 145, no. 1-2, pp. 37-64.

*Commonwealth Code of Practice for the International Recruitment of Health Workers [2003]*, [http://www.thecommonwealth.org/shared\\_asp\\_files/uploadedfiles/%7B7BDD970B-53AE-441D-81DB-](http://www.thecommonwealth.org/shared_asp_files/uploadedfiles/%7B7BDD970B-53AE-441D-81DB-1B64C37E992A%7D_CommonwealthCodeofPractice.pdf)

[1B64C37E992A%7D\\_CommonwealthCodeofPractice.pdf](http://www.thecommonwealth.org/shared_asp_files/uploadedfiles/%7B7BDD970B-53AE-441D-81DB-1B64C37E992A%7D_CommonwealthCodeofPractice.pdf)

Connell, J 2009a, 'Bittersweet Home? Return Migration and Health Work in Polynesia', in D. Conway & R. Potter (eds), *Return Migration of the Next Generations: 21st Century Transnational Mobility*, Ashgate, Farnham, Surrey, pp.139-160.

Connell, J. 2009b, "'I never wanted to come home": Skilled Health Workers in the South Pacific', in Helen Lee & Steve Tupai Francis (eds), *Migration and Transnationalism Pacific Perspectives*, ANU, E Press, pp. 159-177.

Connell, J 2009c, *The Global Health Care Chain: From the Pacific to the World*, Routledge, New York.

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

Connell, J & Buchan, J 2011, 'The impossible dream? Codes of Practice and the international migration of skilled health workers', *World Medical & Health Policy*, vol. 3, no. 3, article 3, pp. 1-17

Cook Islands Ministry of Health n.d.a, *Business Plan 2011- 12*, viewed May 2012, <http://www.health.gov.ck/index.php/publications/moh-documents/moh-business-plan-2011-2012>

Cook Islands Ministry of Health n.d.b, *Workforce Development Plan 2010-2020*. Unpublished.

DIOC-E Release 3, *Database on Immigrants in OECD and non-OECD Countries*, released September 2011, OECD, [www.oecd.org/migration/dioc/extended](http://www.oecd.org/migration/dioc/extended)

Docquier, F & Marfouk, A 2005, *International Migration by Educational Attainment (1990-2000) – Release 1.1.*, viewed May 2012, [http://perso.uclouvain.be/frederic.docquier/filePDF/DM\\_ozdenschiff.pdf](http://perso.uclouvain.be/frederic.docquier/filePDF/DM_ozdenschiff.pdf)

Docquier, F & Schiff, M 2009, *Measuring Skilled Migration Rates: The Case of Small States*, Policy Research Working Paper 4827, Development Research Group, The World Bank.

Doyle, J, Asante, A & Roberts, G 2011, *Human Resources for Health Issues and Challenges in 13 Pacific Island Countries*, Human Resources for Health

- Knowledge Hub, University of New South Wales, Sydney.
- Doyle, J & Roberts, G 2012, *Exit Interviews – Determining Why Health Staff Leave*, Policy Brief, Human Resources for Health Knowledge Hub, University of New South Wales, Sydney.
- Doyle, J, Roberts, G, Biribo, S & Ratu, A 2012, *Information Needs and Policy Responses to Manage Skilled Pacific Health Worker Emigration*, [In review].
- Dumont, J-C, Spielvogel, G & Widmaier, S 2010, *International Migrants in Developed, Emerging and Developing Countries: An Extended Profile*, OECD Social, Employment and Migration Working Papers No. 114, Paris.
- Dumont, J-C & Zurn, P 2007, 'Immigrant health workers in OECD countries in the broader context of highly skilled migration', *International Migration Outlook*, Part III, OECD, Paris, pp. 161-228
- Esau, R 2005, 'University education and migration experiences in the South Pacific region: survey of Tongans in Fiji', *Geographical Review of Japan*, vol. 78, no. 12, pp. 753-768.
- Fiji Ministry of Health 2010, *Annual Report*. (No publication details)
- Gallina, A 2010, *Human Mobility Report 2011, Migration and Human Development in African, Caribbean and Pacific Countries*, ACP Secretariat, Brussels.
- Gibson, J & McKenzie, D 2011, 'The microeconomic determinants of emigration and return migration of the best and brightest: evidence from the Pacific', *Journal of Development Economics*, vol. 95, no. 1, May, pp. 18-29.
- Henderson, L & Tulloch, J 2008, 'Incentives for retaining and motivating health workers in Pacific and Asian countries', *Human Resources for Health*, vol. 6, no. 18.
- Hugo, G 2010, *The Future of Migration Policies in the Asia-Pacific Region*, Background Paper WMR 2010, International Organization for Migration, Geneva.
- Human Resources for Health Knowledge Hub 2009, *Mapping Human Resources for Health Profiles from 15 Pacific Island Countries: Report to the Pacific Human Resources for Health Alliance From the Human Resources for Health Knowledge Hub*, Human Resources for Health Knowledge Hub, University of New South Wales, Sydney.
- Joint Learning Initiative 2004, *Human Resources for Health: Overcoming the Crisis*, Harvard University Press, Cambridge.
- Kaitani, M, Mohanty, M, Muliaina, T, Buadromo, V, Kumar, R, Kumar, S, & Naidu, V 2011, *Development on the Move: Measuring and Optimising Migration's Economic and Social Impacts in Fiji, Suva*, viewed March 2012, [http://works.bepress.com/ronald\\_ravinesh\\_kumar/9/](http://works.bepress.com/ronald_ravinesh_kumar/9/)
- Khadria, B 2010, *The Future of Health Worker Migration*, Background Paper WMR 2010, International Organization for Migration (IOM), Geneva.
- Lee, H 2006, "'Tonga only wants our money": The Children of Tongan Migrants', in Stewart Firth (ed), *Globalization and Governance in the Pacific Islands*, ANU E Press, pp. 121-135.
- Lee, H 2009, 'Pacific migration and transnationalism: Historical perspectives' in Helen Lee & Steve Tupai Francis (eds), *Migration and Transnationalism Pacific Perspectives*, ANU E Press, pp. 7-41.
- Macpherson, C 1983, 'The skills transfer debate: great promise or faint hope for Western Samoa?', *New Zealand Population Review*, vol. 9, no. 2, pp. 47-77.
- Macpherson, C 1985, 'Public and private perceptions of home: will the Samoans return?', *Pacific Viewpoint*, vol. 24, no. 1, pp. 242-62.
- Macpherson, C & Macpherson, L 2009, "'It was not quite what I had expected": Some Samoan Returnees' Experiences of Samoa', in D. Conway & R. Potters (eds), *Return Migration of the Next Generations: 21st Century Transnational Mobility*, pp.19-39.
- Mills, E, Kanters, S, Hagopian, A, Bansback, N, Nachege, J, Alberton, M, Au-Yeung, C, Mtambo, A, Bourgeault, I, Luboga, S, Hogg, R, Ford, N 2011, 'The financial cost of doctors emigrating from sub-Saharan Africa: human capital analysis', *British Medical Journal*, 343:7031 (published 24 November 2011).
- Negin, J 2008, 'Australia and New Zealand's contribution to Pacific Island health worker brain drain', *Australian and New Zealand Journal of Public Health*, vol. 32, no. 6, pp. 507-511.

OECD 2008, *A Profile of Immigrant Populations in the 21st Century: Data from OECD Countries*, OECD, Paris.

Oman, K 2007, 'Should I migrate or should I remain? Professional satisfaction and career decisions of doctors who have undertaken specialist training in Fiji', PhD thesis, James Cook University, Townsville.

Oman, K, Moulds, R & Usher, K 2009, 'Specialist training in Fiji: Why do graduates migrate, and why do they remain? A qualitative study', *Human Resources for Health*, vol. 7, no. 9.

*Pacific Code of Practice for Recruitment of Health Workers and Compendium [2007]*, Suva, [http://www.wpro.who.int/health\\_technology/pacific\\_code\\_practice\\_for\\_recruitment\\_health\\_workers.pdf](http://www.wpro.who.int/health_technology/pacific_code_practice_for_recruitment_health_workers.pdf)

Pacific Human Resources for Health Alliance (PHRHA) 2012, *HRH Country Profile: Fiji*, viewed 23 May 2012, [http://phrha.org/index.php?option=com\\_content&view=article&id=123%3Ahrh-country-profile-fiji&catid=48%3Afiji&Itemid=69](http://phrha.org/index.php?option=com_content&view=article&id=123%3Ahrh-country-profile-fiji&catid=48%3Afiji&Itemid=69)

Pak, S & Tukuitonga, C 2006, *Towards Brain Circulation: Building the Health Workforce Capacity in the Pacific Region*, NZAID, Wellington.

Reddy, M, Mohanty, M & Naidu, V 2004, 'Economic cost of human capital loss from Fiji: Implications for sustainable development', *International Migration Review*, vol. 38, no. 4, winter, pp. 1447-1461.

Rokoduru, A 2006, 'Contemporary Migration Within the Pacific Islands: The Case of Fijian Skilled Workers in Kiribati and Marshall Islands', in Stewart Firth (ed), *Globalization and Governance in the Pacific Islands*, ANU E Press, pp. 173-186.

Rokoduru, A 2008, 'Transient greener pastures in managed, temporary labour migration in the Pacific: Fiji nurses in the Marshall Islands' in John Connell (ed), *The International Migration of Health Workers*, Routledge, New York, pp 172-181.

Rutten, M 2009, 'The economic impact of medical migration: an overview of the literature', *The World Economy*, vol. 32, no. 2, pp. 291-325.

Samoa Ministry of Health n.d., *Health Sector Plan 2008-18*, viewed May 2012, <http://www.health.gov.ws/Portals/189/HEALTH%20SECTOR%20PLAN.pdf>

Stilwell, B, Diallo, K, Zurn, P, Dal Poz, M, Adams, O & Buchan, J 2003, 'Developing evidence-based

ethical policies on the migration of health workers: conceptual and practical challenges', *Human Resources for Health*, vol. 1, no. 8.

Voigt-Graf, C 2007, 'Pacific Islanders and the Rim: linked by migration', *Asian and Pacific Migration Journal*, vol. 16, no. 2, pp. 143-156.

WHO Regional Office for the Western Pacific (WPRO) 2004, *The Migration of Skilled Health Personnel in the Pacific Region: A Summary Report*, World Health Organization Regional Office for the Western Pacific, Manila.

World Bank 2011, *The Migration and Remittances Factbook 2011*, 2nd edition, World Bank, Washington DC.

World Health Organization (WHO) 2002, *World Health Report 2002: Reducing Risks, Promoting a Healthy Life*, WHO, Geneva.

World Health Organization (WHO) 2006, *World Health Report 2006: Working Together For Health*, WHO, Geneva.

World Health Organization (WHO) 2010a, *Migration of Health Workers*, WHO, Fact sheet No. 301.

World Health Organization (WHO) 2010b, *The WHO Global Code of Practice on the International Recruitment of Health Personnel*, WHO, Geneva, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA63/A63\\_R16-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA63/A63_R16-en.pdf)

Yambilafuan, F 2009, 'Workforce Status in the Country', in *HR Training Forum*, Port Moresby.

## **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, newborn and child health workforce; public health emergencies; and migration.

[www.hrhub.unsw.edu.au](http://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](http://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](http://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.

[www.wchknowledgehub.com.au](http://www.wchknowledgehub.com.au)

## Human Resources for Health Hub

Send us your email and be the first to receive copies of future publications. We also welcome your questions and feedback.



Human Resources for  
Health Knowledge Hub

### HRH Hub @ UNSW

School of Public Health and Community Medicine  
Samuels Building, Level 2, Room 209  
The University of New South Wales  
Sydney, NSW, 2052  
Australia

T +61 2 9385 8464

F + 61 2 9385 1104

[hrhhub@unsw.edu.au](mailto:hrhhub@unsw.edu.au)

[www.hrhhub.unsw.edu.au](http://www.hrhhub.unsw.edu.au)

<http://twitter.com/HRHHub>



A strategic partnership initiative funded by the Australian Agency for International Development

