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Feature

Globalisation, localisation and implications of a transforming nursing workforce in New Zealand: opportunities and challenges

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Globalisation, localisation and implications of a transforming nursing workforce in New Zealand: opportunities and challenges

Severe staff and skill shortages within the health systems of developed countries have contributed to increased migration by health professionals. New Zealand stands out among countries in the Organisation for Economic Co-operation and Development in terms of the high level of movements in and out of the country of skilled professionals, including nurses. In New Zealand, much attention has been given to increasing the number of Māori and Pacific nurses as one mechanism for improving Māori and Pacific health. Against a backdrop of the changing characteristics of the New Zealand nursing workforce, this study demonstrates that the globalisation of the nursing workforce is increasing at a faster rate than its localisation (as measured by the growth of the Māori and New Zealand-born Pacific workforces in New Zealand). This challenges the implementation of culturally appropriate nursing programmes based on the matching of nurse and client ethnicities.

Key words: migrant nurses, migration, nursing, workforce.

In New Zealand, attention has been given to increasing the number of Māori and Pacific nurses as one possible mechanism for improving Māori and Pacific health. This can be seen as one form of localisation of the nursing workforce. However, migrants form an increasingly important component of the New Zealand nursing workforce. The source of such migrants has also been changing. Taking into account concepts of both globalisation and localisation, the main aims of this study are (i) to determine whether globalisation of the New Zealand nursing workforce is proceeding faster than localisation (as measured by the growth of the Māori and New Zealand-born Pacific workforces in New Zealand) and (ii) to explore the practicalities of supporting a policy of 'cultural concordance' as a means of improving health outcomes. We do this by examining the main source countries of migrant nurses coming to New Zealand, including whether they migrate independently or with their families. We then investigate how the mix of nurses employed in New Zealand has changed in terms of its age structure and whether the nurses were born in New Zealand or overseas from 1991 to 2006.

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BACKGROUND

In this study, we are primarily concerned about the recent migration patterns of nurses to New Zealand. But recent migration by nurses needs to be viewed in a wider historical context. New Zealand has experienced several waves of migration. The first was by settlers from islands around the Marquesas and Cook Islands, starting perhaps about 1000 years ago, who became New Zealand's indigenous population, the Māori. This wave of migration was followed by strong migration flows from Europe, with these Europeans becoming the dominant group by the mid-1880s. After World War II,

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significant migration occurred from the Pacific, with this population growing rapidly during the late 1960s and early 1970s. The fourth major migration wave, classified as Asian migrants, pre-dates recent Pacific migration. People of Asian origins and ethnicities have lived in New Zealand from the early days of European settlement, although in very small numbers. However, a century later in the 1980s and 1990s, the number of people from Asia grew rapidly. A more recent component of migration comprises refugees and other settlers from Africa and the Middle East. A significant, and growing, proportion of New Zealand residents are born overseas (Dumont and Lemaitre 2005; Globerman and Shapiro 2008; Zurn and Dumont 2008; Dumont and Widmaier 2010) resulting in New Zealand being a migration outlier in the Organisation for Economic Co-operation and Development (OECD). By 2006, just under 23% of the New Zealand usual resident population was born overseas. In 2001, just over 32% of people born overseas were born in the UK and Ireland but this declined to 29% by 2006. By 2006, those born in Asia had increased to reach the same level as those born in the UK and Ireland. Small groups, such as Fijian Indian, Malay and Pakistani, showed particularly strong growth between 2001 and 2006 (Bromell 2008). In addition, country of birth is becoming a less reliable predictor of ethnicity with, for example, Asians migrating from African countries and Afro-Caribbean people from the UK. As one measure of diversity of the population, there are now more than 120 distinct languages spoken in New Zealand. Health outcomes also differ across (and within) various ethnic population groups, but on a range of measures Māori and Pacific peoples are over-represented among those with poor outcomes (Blakely et al. 2007). As an example of differences, Statistics New Zealand's 2005–07 life tables indicate that a newborn Māori boy can expect to live 70.4 years and a newborn Māori girl 75.1 years (Statistics New Zealand 2009). In contrast, for non-Māori in 2005–07, a newborn male can expect to live 79.0 years and a newborn girl 83.0 years.

Because of New Zealand's migration policies, most recent migrants to New Zealand have tertiary education qualifications. These well-educated migrants are seen as contributing to a 'brain exchange' as a very large proportion of New Zealand's population, particularly those with post-school qualifications, live overseas. Although about a quarter of New Zealand's population are born overseas, a similar proportion of the New Zealand-born population, including about one in six Māori, does not live in New Zealand (Hamer 2007). Overall, the movements in and out of New Zealand are very large relative to the total population. As an illustration of this, New Zealand welcomed 2.3 million migrants from 1955 to 2004, but this translated into a net population gain of just 208 000 people over this whole period (Bedford 2006). In 2009, for example, the net gain through permanent and long term migration was 21 253 people, but included in this was a net loss to Australia of 17 969 people. Trans-Tasman migration favours Australia with nearly 70% of the settler flows being in the direction of Australia. Partly, this reflects the different population sizes, with Australia having five times as many people as New Zealand, but equally other factors such as economic advantages play a part. The largest net gains for New Zealand were from UK, India, Philippines and China, with the gains from these countries together barely offsetting the losses to Australia. One of the factors in this low net gain is the onward migration to another country of many people who migrate to New Zealand. For this same year (2009), 28% of those moving to Australia from New Zealand were not New Zealand born, although this does include Australian return migration. New Zealand has had a relatively poor record of retaining migrants, although this appears to be improving. From 2001 to 2006, New Zealand lost 24% of all recent migrants compared with 42% from 1996 to 2001. In relation to doctors, the Medical Council's 2006 workforce survey shows that by the third year after graduation, 25% were not practising in New Zealand (Medical Training Board 2009).

Although international mobility affects the entire New Zealand workforce, it is particularly evident in relation to the health workforce. New Zealand has the highest proportion of overseas-born doctors in the OECD countries and one of the highest proportions of migrant nurses (Aiken et al. 2004; Zurn and Dumont 2008). Data from the OECD show that overseas-born nurses made up 29% of the New Zealand nursing workforce with overseas-trained nurses forming 24% of this workforce in 2005/06. In relation to doctors, in 2005, the New Zealand Medical council registered 1130 International Medical Graduates versus 297 local graduates (Medical Training Board 2009). The OECD data also show that New Zealand doctors have the second highest outward migration rate in the OECD, and that this outward flow is also significant for New Zealand nurses (23%) (Zurn and Dumont 2008). New Zealand permanent and long-term departure data reveal that the outward flows of nurses and doctors in recent years have shifted from the UK as most common destination in the 1990s to Australia in the following decade, along with increasing diversification of destination countries, including non-OECD countries. Of note is the outflow of nurses to Saudi Arabia and both nurses and doctors to North America. Also of note, although the OECD demonstrates that New Zealand has fewer doctors relative to its population than in most OECD countries, its data suggest that New

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Zealand has more nurses relative to its population than the OECD average (Zurn and Dumont 2008).

The migration of health professionals internationally is an important component of globalised labour markets and a sign of skill shortages in particular nations, including New Zealand and Australia (Hawthorne 2001 Hawthorne 2008; Kingma 2001; Tregunno et al. 2009). For example, a recent UNESCO report showed that, in 2006/07, 4060 nurses were selected by Australia as permanent residents (Hawthorne 2008). The number of health professionals migrating from developing to developed nations is expected to continue to rise because of the decrease in fertility and the ageing of populations in industrialised nations such as New Zealand (Bach 2003; Cox and Hope 2006). Globally, nurses from the Philippines remain the main source of nurses to OECD countries, most of whom, in terms of absolute numbers, are drawn to the USA but with some now coming to New Zealand. There is little concern about New Zealand drawing on nurses from areas such as the poorer regions of Africa, but concerns have been expressed about New Zealand (and Australia) drawing on nurses from the Pacific and creating shortages of health workers in higher-need regions (Negin 2008).

As in many other migrant destination countries, New Zealand has a government-administered immigration programme. Briefly, migration paths include the New Zealand Residence Programme through which potential migrants may enter New Zealand through the Skilled/Business, Family Sponsored and International/Humanitarian streams. Migrants may also come to New Zealand through various temporary categories as visitors, students and temporary workers.[1] However, the distinction between temporary and permanent migration is blurring. A significant number (89%) of New Zealand permanent migrants have previously lived in New Zealand under a temporary permit (worker, visitors or study) (Merwood 2008), and not all permanent migrants remain in New Zealand. Included in the group of temporary permit holders who stay on in New Zealand are those who have trained as nurses and then apply to become permanent residents.

In the New Zealand Residence Programme, 60% of places are allocated to the Skilled/Business stream, followed by 30% to the Family Sponsored stream, and 10% to the International/Humanitarian stream. Reflecting these broad ratios, in 2008/09, of the 46 097 people approved for residence, 28 547 were approved through the Skilled/Business stream, 8946 through the Uncapped Family Sponsored stream, 5100 through the Parent and Sibling Adult Child stream and 3504 through the International/Humanitarian stream. In 2008/09, the UK was the largest source country of Skilled/Business migrants (24%), although the proportion from UK declined from 2007/08. South Africa, China and the Philippines were the next largest source countries. Skilled Migration Category (SMC) approvals from the Philippines showed a substantial increase, making it the fourth largest source country. (In 2008/09, 2992 principal applicants were approved for residence through the SMC compared with 808 in 2005/06.)

The number of temporary work permits issued to people has also increased substantially in recent years such that in 2008/09, 136 481 individuals were issued work permits nearly three times the number of people approved for residence. Of the 136 481 permits, 15% were issued to people from the UK, followed by 9% to people from China. The other main source countries were India (7%), Germany and USA (both at 6%), and the Philippines (5%). The Philippines has had a significant increase in the number of work permits issued from 2495 approvals in 2005/06 to 6867 approvals in 2008/09. When compared with most other industrialised countries, New Zealand has a very high rate of temporary migrants (OECD 2009).

Although this study begins by focusing on the globalisation of the nursing workforce through migration, in New Zealand there is also a strong emphasis on 'localisation'. One response to the poor health outcomes for Māori and Pacific people has been an official emphasis on increasing the number of Māori and Pacific health workers, including nurses. In New Zealand, as in most industrialised countries, there is much debate about the causes of poor health outcomes for particular ethnic groups. Factors such as institutional racism, culturally inappropriate clinician-client interactions, genetic and behavioural risks, and loss of resources and culture through colonisation have been all discussed in health research and policy making (WHO 2006). However, there is a particular focus in New Zealand on workforce issues in relation to research and the delivery of services. First, there is the question of who should undertake research into areas such as Māori and Pacific health and, underpinning this issue, concepts of specific Māori or Pacific knowledge. In many areas of the health sector, there is acceptance of the idea that Māori researchers, and Māori knowledge and frameworks (Kaupapa Māori Research), should be central to any study into ways of improving Māori health outcomes.[2] As an example of Kaupapa Māori Research, in a study considering ways to improve heart disease services the authors note such research 'focuses on

[1] *Detailed information is available from the Immigration New Zealand website (http://www.immigration.govt.nz).*

[2] *It is beyond the scope of this study to critique this approach.*

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Māori advancement, adopting a theoretical position and multimethods approach born of the need to challenge colonising power, norms and assumptions, so that Māori ways of knowing and operating are central' (Kerr et al. 2010, 16). Kaupapa Māori research 'is by Māori for Māori. Māori worldviews are the normative frame, research is for the benefit of Māori'. There is also much discussion about the potential benefits, and occasionally the potential problems, of health practitioners, particularly doctors and nurses, affiliating with the same ethnic group or groups as their patients, sometimes referred to as 'cultural concordance' (Ape-Esera, Nosa, and Goodyear-Smith 2009). The idea is that the patient's perception of the healthcare provider and provider's perception of the patient – perhaps based on cultural practices, language and differing world views, but possibly also on recognisable characteristics of both parties – may influence various positive aspects of healthcare delivery and outcomes. However, such research has also shown that some health consumers do not want their health-care provided by people of their own ethnicity. There is concern about the smallness and closeness of some communities and apprehension about confidentiality. Nursing concepts of 'cultural safety' were born out of concerns about health-care for Māori, although they now go beyond consideration of only ethnicity (Richardson 2004; Nursing Council of New Zealand 2005). Adding to this discussion of cultural safety is a commonly held view within the nursing community that 'the principles of the Treaty of Waitangi form the basis of interactions between nurses and Māori consumers of the services they provide' (Nursing Council of New Zealand 2005, 10). Equally as part of its mission statement, the New Zealand Nurses Association states it 'embraces Te Tiriti O Waitangi' (New Zealand Nurses Organisation 2010).[3]

These types of discussions have led to concepts such as health service delivery 'by Māori, for Māori' and 'by Pacific, for Pacific'. These concepts have been canvassed in several settings (see, e.g. Durie 1998; Edwards, McManus, and McCreanor 2005; Wilson 2008). This rationale has been used to justify 'special measures' such as quotas for doctors in medical schools as well as nursing and other health-related scholarships for Māori and Pacific students (Callister 2007; Ministry of Health 2008). In addition, a Bachelor of Nursing (Pacific) began at one New Zealand training institution in 2004, and by mid-2009 two New Zealand educational institutions offered a Māori Bachelor of Nursing. Whether nurses of particular ethnic backgrounds will actually work in ethnospecific contexts is an important issue but beyond the direct scope of this study.

METHODOLOGY

This study is largely based on census data from the 1991, 1996, 2001 and 2006 censuses. New Zealand enumerates all people in the country at a specified point in time. Although all visitors in New Zealand on Census Night are supposed to complete a census form, it is known that this population is inadequately captured and, furthermore, is only required to complete part of the form, so information being discussed here is not available for visitors. The population reported here is the usually resident population collected by census including those who have been resident in New Zealand, or intend to be so, for 12 months or more and are at the time on temporary immigration permits. This population includes those who usually live in New Zealand and were present on Census Night but does not include people who were temporarily out of the country at that time (these are subsequently adjusted for in the estimated resident population but are not included in the census usually resident population).

The other main data source is immigration data collected by the Department of Labour (through its Application Management System). The department's database contains information about whether the applicant is the principal or secondary applicant, the applicant's sex, age and, for the principal applicant, their occupation at the time of their application. Data from this source are from 2003/04 to 2008/09.

Occupation data are classified in New Zealand using two closely related Standard Classifications. These are the older New Zealand Standard Classification of Occupations and the newer Australian and New Zealand Standard Classification of Occupations. The latter was developed as part of the harmonisation of data systems on both sides of the Tasman. The coding of nurses in each has subtle differences, although the effect on results is minor.

As far as the 'source' of nurses is concerned, they could be in at least four potential situations. Nurses could be born:

- in New Zealand and trained in New Zealand,
- in New Zealand and trained overseas,
- overseas and trained in New Zealand, and
- overseas and trained overseas.

We focus on two groups, nurses born in New Zealand and nurses born overseas, but we acknowledge that the meaning of being 'born overseas' or 'New Zealand born' is complicated. As an example, a person may have had New

[3] *The treaty signed at Waitangi on 6 February 1840 was an agreement between the British Crown and Māori chiefs (Wilson 2009).*

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Zealand citizen parents who were living overseas when the child was born, but that child may have lived most of their life in New Zealand. Equally, a person may have been born overseas but spent most of the childhood and adult life in New Zealand. There are also New Zealand-born and -trained nurses who have spent time living and working overseas, during which they may have undertaken additional training, but who have then returned to New Zealand. In New Zealand, the proportion of trainee nurses who are foreign students has grown: in 1995, these international nursing students represented <1% of total New Zealand nursing enrolments, but in 2006 they represented 7%.

In order to protect confidentiality, the numbers of variables that could be analysed for this study were limited. The main variables used are age, overseas or New Zealand born, applicant status, education and birthplace of partner. When examining partnership data, we include opposite-sex and same-sex partners. In the migration data, we are determining partnership status of only nurses who were the principal applicant. Some nurses will be migrating to New Zealand as the partners of a principal applicant, so are not officially recorded in the migration data on occupation.[4] Finally, in most of the cross-tabulations, given that in 2006 93% of the nursing workforce was female, we have limited our analysis to female nurses.

RESULTS

Census data show that the number of nurses working in New Zealand has been increasing. In 1991 and 1996, there were 28 041 and 28 014 nurses respectively. This increased to 30 843 in 2001 and 34 989 in 2006, indicating the growing demand for nursing professionals.

In New Zealand, the Skilled/Business stream is the most important route for permanent migration. The number of female nurses migrating into New Zealand through the Skilled/Business stream as the principal applicant has increased such that the number of female registered nurses increased from 517 in 2003/04 to 648 in 2008/09. Over the same period, the number of male nurses also grew from 74 to 112.

Source countries of registered nurses and midwives

Table 1 shows the top 10 source countries of registered nurses and midwives in New Zealand who came to New Zealand through the Skilled/Business stream as principal applicants. The source of migrants is diverse, but the UK by far remains the largest source country of migrant nurses with 218 nurses entering New Zealand as principal applicants through the Skilled/Business stream in 2008/09. The intake of nurses from the Philippines has been growing and almost doubled from 71 in 2003/04 to 124 in 2008/09. Nurses from India and South Africa make up smaller but consistent proportions of the overall intake. The number of registered nurses from China has significantly increased, albeit from a low base, from 4 in 2003/04 to 73 in 2008/09.

Table 1 Nationality/source country of female registered nurses and midwives entering New Zealand through the Skilled/Business stream as principal applicants, 2003/04–2008/09, June years

Source countries	2003 /04	2004 /05	2005 /06	2006 /07	2007 /08	2008 /09	Total
UK	189	350	343	313	251	218	1664
Philippines	71	107	103	123	115	124	643
India	88	149	85	57	24	71	474
China	4	23	21	44	66	73	231
South Africa	45	45	28	21	22	44	205
Zimbabwe	13	13	10	13	42	46	137
Fiji	34	21	18	18	7	14	112
USA	7	11	10	9	9	14	60
Ireland	10	10	7	9	5	4	45
Germany	8	7	7	3	8		33
Other	48	72	51	37	36	40	284
Total	517	808	683	647	585	648	3888

Source: Department of Labour, data sourced on 1 February 2010.

Some principal applicant nurses and midwives come to New Zealand alone, but others come as part of a family. In addition, nurses may come to New Zealand as part of a couple where they are not the main applicant. In relation to nurses who are coming to New Zealand as principal applicant, based on an analysis of 2006/07 data, migrant nurses from UK (75%), India (76%), the Philippines (61%) and particularly South Africa (89%) are likely to come to New Zealand as a family unit. However, migrant nurses from China are more likely to come to New Zealand independently with only 28% being partnered in 2006/07 (Badkar, Callister, and Didham 2008). This could reflect the younger age structures of Chinese migrants, as many come to New Zealand as students and study in areas with skill shortages (in this case nursing), through which they are able to transition to residence in New Zealand (Merwood 2007).

[4] *This is because they may be entering New Zealand through other categories where one's occupation is not recorded because it is not used to determine the outcome of the application.*

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Table 2 Nationality/Source country of female registered nurses and midwives issued temporary work permits 2003/04–2008/09, June years

Source countries	2003 /04	2004 /05	2005 /06	2006 /07	2007 /08	2008 /09	Total
UK	497	513	328	337	274	259	2208
Philippines	211	202	183	222	218	259	1295
India	277	224	127	55	85	199	967
South Africa	85	60	40	43	42	67	337
Zimbabwe	26	22	65	70	88	56	327
China	17	34	18	52	77	42	240
Fiji	53	51	32	32	29	31	228
USA	29	42	24	22	27	21	165
Ireland	41	32	23	21	9	12	138
Canada	24	21	25	20	18	27	135
Others	141	127	97	84	71	59	579
Total	1401	1328	962	958	938	1032	6619

Source: Department of Labour.

Although the number of temporary work permits issued to female migrants from 2003/04 to 2008/09 has declined slightly, the numbers are still nearly double that of nurses migrating via the Skilled/Business stream[5] (Table 2). Of particular note, given global patterns of nursing migration, female migrants from the Philippines became the largest group (along with female migrants from UK) of temporary nursing and midwifery migrants in 2008/09.

Table 2 shows that although nurses and midwives from UK formed by far the largest supply between 2003/04 and 2008/09, their overall numbers have been declining.

What we have shown so far are the flows of nurses into New Zealand, but, as already discussed, nurses also move out of New Zealand. Table 3 draws on census data to show the stocks of nurses in 1991, 1996, 2001 and 2006. The table shows the proportion of overseas-born women employed in the broad occupational category of Professional, then narrower categories of nursing and midwifery and Doctors. In all groups, the proportion of born overseas increased between the 1991 and 2006 censuses. For example, the proportion of female nurses and midwives who were born overseas increased from 19% in 1991 to 28% in 2006. As a health-related comparison, although the proportion of overseas-born female doctors increased between 1991 and 2006, female nurses are still much more likely to be New Zealand born than are female doctors.

[5] *Some nurses may be coming in on temporary work permits initially, because work permits are processed faster than residence permits. Once they are in New Zealand, they can apply for permanent residence.*

Table 3 Percentage of women who were employed in three selected occupational categories who were overseas born, 1991–2006

Census year	Professional	Nursing and midwifery	Doctor
1991	19	19	41
1996	20	19	42
2001	23	23	46
2006	27	28	52

This uses the New Zealand Standard Classification of Occupations (NZSCO99v1.0) for the employed usually resident population aged 15 and over.
Source: Census of Population and Dwellings, Statistics New Zealand.

Age structure of nurses and midwives

Table 4 examines the age structure of women employed in the occupational category nursing and midwifery and whether these nurses were born overseas. As background to the table, not only does New Zealand have an ageing population overall, but it also has an ageing medical workforce with the average age of nurses estimated to be 45 years (Zurn and Dumont 2008). As the proportion of New Zealand-born women employed as registered nurses has declined from 1991 to 2006, the proportion of overseas-born women employed as nurses has doubled in the age groups 15–24 (from 10% to 19%) and 25–34 (from 17% to 34%). The proportion of employed overseas-born nurses aged 35–44 has also increased (from 19% in 1991 to 33% in 2006). In the

Table 4 Women in nursing and midwifery occupational categories by age group who were overseas born, 1991–2006 (%)

Age group (years)	1991	1996	2001	2006
15–24	10	9	12	19
25–34	17	18	25	34
35–44	19	19	23	33
45–54	22	22	22	25
55–64	25	25	23	23
65+	20	21	28	24

This uses the New Zealand Standard Classification of Occupations (NZSCO99v1.0) for the employed usually resident population aged 15 and over.
Source: Census of Population and Dwellings, Statistics New Zealand.

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older age groups (45–54, 55–64 and 65 and over), the proportion of employed overseas-born registered nurses is relatively stable. However, in 2001, just under a third of the nurses in the group aged 65 and over were born overseas (decreasing to 24% in 2006, which is more consistent with the 1991 and 1996 censuses).

Table 5 examines the country of birth of the nursing workforce from 1996 to 2006. Table 5 shows a number of patterns. Although recent inflows of nurses show some decline in the relative importance of nurses from the UK, overall they are a growing proportion of the New Zealand nursing workforce. Despite much movement between Australia and New Zealand, very few nurses are Australian born. But perhaps most importantly, Table 5 shows the real diversity of sources of migrant nurses. If patterns in this table are simplified, what can be seen is a growth in the proportion of nurses born in the Pacific (2% in 1996 rising to 3.3% in 2006), in Asia (1.6% to 5.7%) and Africa (0.9% to 2.7%).

Table 5 Country of birth of women in nursing and midwifery categories who were overseas born, 1996–2006 (%)

Country	1996	2001	2006
NZ born	80.9	77.1	71.9
Australia	1.9	1.9	1.7
Fiji	0.5	1.3	1.7
Samoa	0.8	0.8	0.7
Tonga	0.3	0.6	0.5
Other Pacific	0.4	0.4	0.4
UK	9.6	9.6	11.0
Ireland	0.5	0.6	0.5
Germany	0.3	0.3	0.5
The Netherlands	1.0	0.8	0.8
Other Europe	0.4	0.6	0.7
North Africa and the Middle East	0.1	0.1	0.1
Malaysia	0.0	0.4	0.4
Philippines	0.3	1.2	2.1
Other South East Asia	0.7	0.3	0.4
China	0.1	0.3	0.6
Other East Asia	0.2	0.5	0.5
India	0.2	0.4	1.5
Other South and Central Asia	0.1	0.1	0.2
Canada	0.4	0.4	0.4
USA	0.2	0.3	0.4
Other Americas	0.1	0.2	0.1
South Africa	0.5	1.4	1.7
Zimbabwe	0.1	0.1	0.5
Other Sub Saharan Africa	0.3	0.4	0.5
Total	100	100	100
Number specified	26 406	28 803	32 532

Source: Census of Population and Dwellings, Statistics New Zealand.

Partnering and 'connectedness' to New Zealand

Worldwide, the proportion of couples where partners are not born in the same country is increasing (Constable 2004), and nurses working in New Zealand illustrate this trend. Although most partnered New Zealand-born nurses had a New Zealand-born partner, around one-sixth had an overseas-born partner. Equally, most partnered overseas-born nurses had an overseas-born partner, but in prime working age groups around a third had a New Zealand-born partner. These partnership arrangements for nurses suggest that, for a small but significant proportion of foreign born nurses, there are links, at least through birthplace of their partner, to New Zealand. Thus, families can be both 'local' and 'global'. How this affects decisions about where to live long term is important, but although globally there is a rapidly emerging literature on the interactions between families and migration, this issue has yet to be researched in a New Zealand context in relation to health workers.

Ethnicity of nurses

The potential tension between globalisation and localisation shows up in ethnicity and country of birth data. Table 6 shows the proportion of registered nurses and midwives in each ethnic group from 1991 to 2006. These are total counts, so if a person records more than one ethnic group, they are counted in each group. Table 6 shows an increase in the proportion of nurses who identified as Māori, Pacific or Asian, with the strongest growth among Asian nurses. Yet, by 2006, all three ethnic groups, particularly Māori and Pacific, were still under-represented in relation to the total population.

When considering measures to increase the representation of Māori and Pacific nurses, representation could be equal to an ethnic group's share of:

- the total population,
- the working age population,
- current client groups and
- the projected share of specific client groups.

These targets can be significantly different in size. For example, if matched against age-based client groups, a quarter of paediatric nurses should be Māori and 11% Pacific, but only about 5% of aged care nurses would need to be Māori and 2% Pacific.

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Table 6 Registered nurses and midwives by ethnic group, women only, 1991–2006 (%)

Ethnic group	1991	1996	2001	2006
Proportion of nurses and midwives				
Māori	4.7	6.1	6.5	6.9
Pacific	2.0	2.4	2.8	2.8
Asian	1.8	2.1	4.7	7.5
Proportion of total population				
Māori	13.0	15.1	14.7	14.6
Pacific	5.0	5.8	6.5	6.9
Asian	3.0	5.0	6.6	9.2

These percentages are based on total counts. People who affiliate with more than one ethnic group are counted in each group.
Source: Census of Population and Dwellings, Statistics New Zealand.

Table 7 Nursing and midwifery group by ethnic group born in New Zealand, 1991–2006

Ethnic group	1991	1996	2001	2006
Percentage of nurses and midwives born in New Zealand				
Māori	98.7	98.8	98.7	98.6
Pacific	19.6	33.0	31.7	33.0
Asian	17.1	19.5	7.7	5.1
Percentage of each group born in New Zealand – total employed population				
Māori	99.4	98.8	98.8	98.6
Pacific	26.6	40.2	40.8	43.7
Asian	19.4	20.6	15.4	10.7
Percentage of each group born in New Zealand – total population				
Māori	99.1	98.6	98.6	98.4
Pacific	49.6	57.8	58.2	60.0
Asian	29.2	25.3	22.5	20.1

These percentages are based on total counts. People who affiliate with more than one ethnic group are counted in each group.
Source: Census of Population and Dwellings, Statistics New Zealand.

Table 7 shows that the proportion of nurses born overseas within each ethnic group is quite divergent. Virtually, all Māori nurses were born in New Zealand. Although almost all Māori nurses working in New Zealand are 'local', a significant number of Māori nurses work in neighbouring Australia. In total, in 2006, 2433 Māori nurses were working in New Zealand. Based on ancestry data rather than ethnicity data, in 2006, 673 Māori nurses were working in Australia. As already indicated, an estimated one in six of Māori live in Australia (Hamer 2007), so it is no surprise that nurses are included in this group.

The Pacific population is increasingly New Zealand born, with an increase between 1991 and 1996 in the proportion of Pacific nurses who were born in New Zealand. Nevertheless, two-thirds of Pacific nurses were born overseas. Although 60% of the Pacific population living in New Zealand was born in New Zealand, the Pacific population is a young population and many of those born in New Zealand have not yet reached an age where they could have trained as a nurse and be in paid work. Of those who were not born in New Zealand, some will have arrived in New Zealand as young children, so will have had their schooling and nursing training in New Zealand, but some are likely to have been trained in the Pacific and migrated to New Zealand (Connell 2008).

Of particular note in Table 7 is the increasing proportion of Asian nurses born overseas: 95% in 2006. Some of these nurses will have trained overseas and migrated to New Zealand after their training, but some will have trained in New Zealand and stayed on for employment. Ministry of Education data show that, in 1995, just over 7000 domestic nursing students were enrolled in New Zealand. At this time, there were just 50 international nursing students. By 2006, there were just over 9600 domestic nursing students, whereas the number of international students had risen to 760. In 1995, international nursing students represented <1% of total enrolments, but this had risen to 7% by 2006. Students from Asia have risen from around a third of international students in 1991 to two-thirds in 2006. A significant proportion of the remaining international students reported Pacific ethnicities.

DISCUSSION

New Zealand has the one of the largest proportions of migrant nurses among OECD countries, and migrant nurses have been increasing as a proportion of the total nursing workforce. The growing demand for nurses in developed countries such as New Zealand has accelerated international nurse migration, including outward migration of New Zealand born and trained nurses. Our study has shown that migrant nurses are coming to New Zealand from all parts of the world. However, countries within Asia, mainly the

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Philippines, are an increasingly important source of migrant nurses in New Zealand. The importance of gender flows in international skilled migration from the Asian region has been discussed previously (Badkar et al. 2007). The current study also highlights the growth in migrant nurses from China. Although the numbers are still very small relative to other countries, their absolute numbers have significantly increased. The Free Trade Agreement with China, signed in 2008, might affect trends in nurse migration from China in the future (Hugo, Callister, and Badkar 2008).

The change in the nursing workforce from being a primarily New Zealand-born and mainly European ethnic group to an increasingly ethnically diverse workforce raises opportunities as well as challenges. In New Zealand, there is a concern about the relatively small numbers of Māori and Pacific nurses, and although the numbers are increasing they are not keeping up with the population growth of client groups. Further complicating this is a concern about increasing the number of Pacific nurses through the migration of trained nurses from the Pacific rather than training the local Pacific workforce. In addition, a significant number of Māori nurses are working in Australia. This is one small indicator that even if more Māori and Pacific nurses are trained, there is no easy way of ensuring that they work in ethno-specific contexts. Nurses migrate for many reasons, including better earning opportunities. Given that incomes in New Zealand have slipped relative to many industrialised countries, including Australia, overseas destinations will be attractive to New Zealand trained nurses from all ethnic groups (Haig 2010).

Although there is a concern about Māori and Pacific health and nursing representation, a range of studies suggests that there is an increasing diversity of both clients and nurses in the health sector. The diversity of both nurses and clients, as well as the under-representation of particular ethnic groups in nursing, mean that in most situations it will not be possible to match the ethnicities of nurses and clients. Inevitably services will be delivered 'by Chinese for Māori', 'Canadian for Māori', 'Māori for European' as well as many other complex cross-cultural nursing situations. Given that effective communication is so important in healthcare delivery, concern also remains within the health sector about competency in English language among some migrants and there is ongoing debate as to how to best overcome this challenge. In mid-2010, with the exception of Australia, international applicants for New Zealand, nursing registration from all countries, including the UK, is required to sit an English Language assessment before submitting an application. The assessment can be either the International English Language Testing (IELTS) Academic Test, or the Occupational English Test (OET). The nurses must achieve a score of 7 in all areas of the IELTS (Academic Test) or must achieve a B pass in all areas of the OET. Yet, equally, an advantage of a more linguistically diverse nursing staff is improved communication with clients who are themselves immigrants and whose English language skills are limited (AUT University 2008).

Although the 'localisation' of the nursing workforce is an aim of some within the health sector, the data show a strong shift to the globalisation of the New Zealand nursing workforce. This situation is unlikely to reverse. In fact based on trends for doctors, this globalisation is likely to increase. Given an ageing population and a very mobile workforce, New Zealand health sector employers face very major challenges in relation to training, attracting and retaining a workforce that is both technically and culturally competent. Finally, the data indicate that the health sector needs to look beyond 'cultural concordance' as a key means of improving Māori and Pacific health outcomes.

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