

# Pacific Health Workforce Service Forecast

Report to Health Workforce New Zealand and  
the Ministry of Health

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## Executive Summary

The rapidly rising demand for services combined with constraints on funding and the availability of professional skills has led to the need for innovative thinking about how high quality health services can be delivered for Pacific communities. Investing in a workforce that can improve the quality, timeliness and efficiency of services to Pacific people will inevitably be more cost effective, enabling the fast growing Pacific population to contribute positively to New Zealand's economy and society.

The overarching objective of this Pacific health workforce forecast is to inform the development of policies and strategies that will strengthen and sustain a Pacific health workforce so that it can respond to the unique health and service needs of Pacific peoples and communities, contributing to their improved health outcomes.

The Pacific workforce forecast provides an assessment of workforce issues as they relate to meeting the health needs of the Pacific population. This review was supported by a Pacific Expert Group (PEG) of clinicians and specialists who provided expert advice in Pacific health, allied health, the unregulated health workforce, the clinical workforce, management and health workforce training.

There are seven sections to this forecast report. These are:

1. The Pacific health workforce vision to 2020.
2. The profile of the Pacific workforce.
3. Growing the Pacific workforce.
4. Training and qualifying Pacific people.
5. Pacific health workforce forecasts to 2020.
6. Clinical scenario modelling.
7. Strengthening the health workforce.

### The Pacific health workforce vision 2020

The Pacific Expert Group (PEG) identified the following Pacific health workforce vision to 2020

*A culturally competent workforce helping Pacific people live longer, healthier lives.*

### Profile: Pacific health workforce

Datasets were sourced from a wide range of agencies including DHB's, Health Workforce New Zealand, Government agencies and registration bodies. A significant barrier to developing a clear and definitive Pacific workforce profile was that each dataset had different standards and bases for data collection and reporting.

According to figures provided by Health Workforce New Zealand, there were 165,615 people working for organisations whose self-designated primary purpose is related to human health in 2011. The dataset issues raised above, and further discussed in the report means there is less certainty about the number of Pacific people in the health workforce. However, it is estimated the regulated component of the Pacific health workforce comprises of 2,090 Pacific people. This represents approximately 2.3 percent of the total workforce.

The majority of people in the regulated Pacific workforce are nurses (77.8 percent). A further 8.6 percent are doctors. It is estimated that there are 283 Pacific people working in health professions other than doctors and nurses. There is considerable variation in the extent to which Pacific people are employed in the other health professions ranging from 2.9 percent (or 33 individuals) of all medical laboratory technicians, to there being no Pacific podiatrists.

It is difficult to ascertain the number of Pacific people in the unregulated workforce. However comparison of various datasets suggest that Pacific unregulated health workers may represent the largest group of Pacific health workers, and are likely to comprise the majority of the Pacific health workforce. The skill levels of this group, and their relatively large number, suggests that they represent one of the most significant opportunities for enhancing the Pacific health workforce- discussed in more detail as part of the section of the report dealing with training and qualifying the health workforce.

### **Key components: Pacific health workforce**

Figure 1 below is a diagrammatic representation of the key 'stocks' and 'in-flows' within the Pacific health workforce.

Starting from the bottom left corner we can see the number of students enrolled in tertiary-level degree programmes leading to careers as doctors, nurses and other health professions during the 2011 calendar year.

From this 'stock' of tertiary students we are able to discern the 'in-flow' of graduate doctors and nurses (that is, 16 students graduating from the Bachelor of Medicine and Bachelor of Surgery, and 73 from the Bachelor of Nursing degrees) in the 2011 calendar year. We were unable to determine how many students completed degrees leading to careers in allied health professions.

The number of medical and nursing 'interns' provides us with an indication of the 'in-flow' of graduates into the workforce as recent graduates undertake the basic vocational education and training required to develop full professional competency. During the period 1 July 2011 to 30 June 2012 we were able to identify 21 graduates of the Bachelor of Medicine and Bachelor of Surgery degree who were undertaking clinical training in

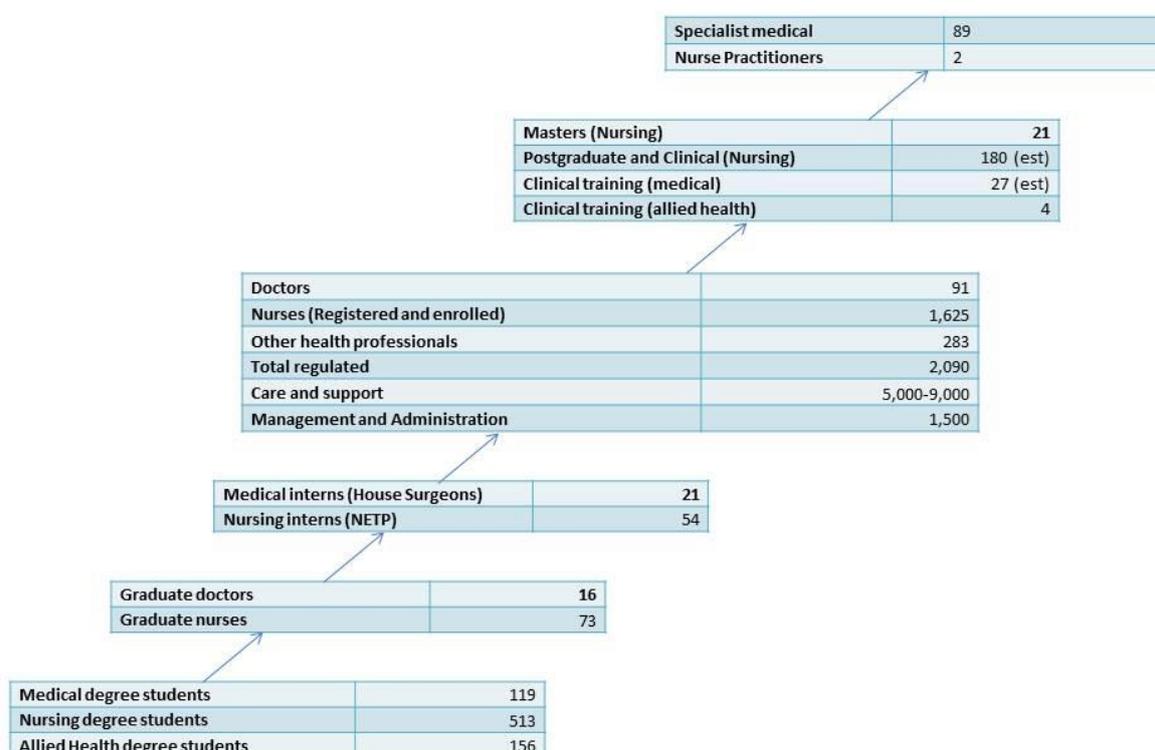
preparation for registration as doctors. There were also 54 nurses enrolled in the Nursing Entry to Practice clinical placements.

The cumulative effect of these ‘in-flows’ over time is the current stock of Pacific health professionals excepting those with advanced clinical competencies, that is specialists, general practitioners, and nurse practitioners, shown in the central table in the diagram.

Current health workers may also undertake further or advanced clinical training. In the case of Pacific health workers we have identified 21 Pacific people studying toward the degree of Masters of Nursing, and approximately 180 who are undertaking postgraduate training in Nursing. We also estimate that there are 27 Pacific doctors undertaking clinical training as specialists with approximately 16 as general practitioners and 11 for other specialities. At least four Pacific people are undertaking clinical placements in the allied health professions.

The completion of advanced clinical training contributes to ‘in-flows’ into the group of general practitioners, specialists and nurse practitioners which are shown in the table at the top right of Figure 1.

**Figure 2 Inflow and Stock of Current Pacific health workforce**



**Notes:** Specialist medical includes 51 General Practitioners, and 38 other specialists. Other health professionals made include some health professionals with advanced clinical training and competencies that could be grouped with specialist medical and nurse practitioners, however we were unable to source sufficiently detailed information to do so with confidence.

Care should be taken in interpreting this data because this diagram does not address the 'out-flows' from the health workforce or other 'in-flows' such as migration. In addition the source data may be limited either in scope (for example the number of clinical placements relates only to those funded by Health Workforce New Zealand or those we were able to identify through qualitative analysis) and quality (for example, we were unable to confirm whether those people undertaking masters and postgraduate study in Nursing are actually employed as nurses).

Nevertheless, the diagram does suggest that the 'in-flows' into the Pacific health workforce involve relatively few individuals, and these numbers reduce as these individuals undertake further advanced training. In addition, while Pacific nurses make up the largest component of the 'clinical' workforce our estimates indicate that by far the largest group of Pacific health workers are those employed in care and support roles. The circumstances, characteristics and career patterns of Pacific care and support workers are not well-understood despite the evident size of this workforce.

### **Ratios of Pacific health workers**

Inequalities in the distribution of health workers are often described by comparing the number of health workers per capita. Per capita measures also provide a useful way to assess how many more Pacific health workers might be required to achieve per capita ratios that are consistent with those reported for the general population.

The ratio of Pacific doctors per 1,000 Pacific people was estimated to be 0.6 in 2010, compared to a ratio of 3.2 for the wider population. For Pacific nurses the relevant estimated ratio was 5.7 per 1,000 Pacific people. The ratio of 'Pacific other' health workers per 1,000 Pacific peoples was estimated to be 1.0 in 2010, compared to 4.2 for the New Zealand population.

### **Growing the workforce: key sources of potential Pacific health workers**

Pacific young people are relatively less likely to transition directly from secondary school to the training required to attain registration as a doctor or a nurse. There were 350 Pacific young people aged between 18 and 24 enrolled in either the Bachelor of Medicine and Bachelor of Surgery, or Bachelor of Nursing degrees during the 2011 calendar year. These students represent approximately 0.9 percent of the 37,485 Pacific young people aged between 18 and 24.

The rate at which Pacific students attain university entrance, and the relevant 'quality' of that achievement to health careers, is therefore likely to be a significant (but by no means exclusive) determinant of their propensity to enter into the medical and nursing workforce.

The current mechanisms facilitating transition from secondary school to tertiary education are not resulting in significant numbers of Pacific young people accessing degree-level study.

There is a considerable group of Pacific people whose talents, skills and experience are under-utilised. The household labour force survey for the quarter ending June 2012 reported that for the 200,800 Pacific people over the age of 15:

- i. 17,900 were actively seeking work;
- ii. an unemployment rate of 14.9 percent (the comparable rates for European and Maori were 5.2 percent and 12.8 percent respectively); and
- iii. a labour force participation rate of 59.8 percent (equivalent to 80,722 Pacific people not being in the labour force) with the comparable rates for European and Maori being 69.5 percent and 65.6 percent<sup>1</sup>.

Pacific people overall are much less likely than the general population to hold a degree-level qualification, and much more likely to not have any secondary school qualification<sup>2</sup>.

Providing effective and meaningful opportunities for adult Pacific people to attain degree-level or higher qualifications could make a significant contribution to the numbers of Pacific people able to participate in key health workforce groups.

In addition, the unregulated health workforce provides a large potential pool of workers engaged in relevant employment who could be prepared for employment in the regulated health workforce. Initiatives aimed at improving the skill levels of workers in the unregulated health workforce by providing clear pathways to relevant education and training, for example the Bachelor of Nursing (Pacific) at Whitireia Polytechnic. In addition, these pathways could be pursued by workers seeking to enhance and develop their skills with the income differentials between the regulated and unregulated health workforce providing a strong incentive.

### **Training and qualifying Pacific people for the health workforce**

Within the tertiary education system there were approximately 37,826 students<sup>3</sup> who identified with at least one Pacific ethnicity enrolled in the 2011 calendar year. There is a reasonably large group of Pacific tertiary students (2,521) who are undertaking study toward programmes at Bachelor degree level or equivalent in health-related fields of study. There were approximately 25,139 Pacific students enrolled in tertiary education at levels below degree-level. The number of students undertaking study in the field of study of

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<sup>1</sup> [http://www.stats.govt.nz/browse\\_for\\_stats/income-and-work/employment\\_and\\_unemployment/HouseholdLabourForceSurvey\\_HOTPJun12qtr/Definitions.aspx](http://www.stats.govt.nz/browse_for_stats/income-and-work/employment_and_unemployment/HouseholdLabourForceSurvey_HOTPJun12qtr/Definitions.aspx)

<sup>2</sup> In 2008, almost 24% of non-Māori, non-Pasifika held a bachelors degree or above compared with 9% of Māori and 8% of Pasifika. See <http://www.educationcounts.govt.nz/indicators/main/education-and-learning-outcomes/1903>

<sup>3</sup> Limited to students who held New Zealand citizenship or equivalent. Some students may be counted more than one if they enrolled in more than one programme in the relevant year.

Health at Certificate and Diploma level in 2011 was approximately 888. The largest subgroups at this level were Human Movement and Sport Science (252 students), Nursing (202 students), and Public Health (200 students)<sup>4</sup>.

There are significant differences between students studying toward the Bachelor of Medicine and Bachelor of Surgery degrees offered at the University of Auckland and the University of Otago, and the Bachelor of Nursing degrees offered at a number of tertiary education organisations around New Zealand. Eighty five percent of Pacific medical students are under the age of 25. Fifty two percent of Pacific nursing students are over the age of 25.

The highest rates of nursing participation and completion are associated with the Wellington region, which may reflect the long commitment to the training of Pacific people by Whitireia Community Polytechnic through the Bachelor of Nursing (Pacific), and the proximity of the TEO to a significant Pacific community.

Smaller groups of students were studying toward postgraduate qualifications in other areas including Community Health (22 students), and Psychiatry (14 students). Consistent with the small numbers of Pacific people working in a range of the other health professions are very low enrolments, e.g no more than two individuals, in Midwifery, Nutrition and Dietetics, and Rehabilitation Therapies.

We have identified 191 Pacific health professionals who commenced clinical vocational training during the year ending 30 June 2012. There were 54 Pacific nurses and 21 Pacific doctors commencing their initial post-registration clinical training during that period. There were 70 Pacific nurses, 24 Pacific doctors and seven Allied Health professionals undertaking some other form of clinical training funded through Health Workforce New Zealand during that period.

There was insufficient data to draw a definitive conclusion about Pacific students working towards PhDs in Health fields although there are 212 students enrolled at that level overall.

There were 49 Pacific students studying at Masters level toward programmes related to Health. The largest group for whom field of study information is available is the 21 students enrolled in nursing-related studies. The number of Pacific people studying toward a Masters-level programme in Nursing suggests that there may be some opportunities to increase the small number (two out of 89) of Nurse Practitioners who are Pacific. This is because completion of a clinically-focussed Masters of Nursing degree is one of the requirements for registration as a Nurse Practitioner.

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<sup>4</sup> Nursing students were predominantly associated with the detailed field of study of Health Care Assistant (139 students). Human movement and Sport Sciences is a detailed field of study under the grouping of 'Other Health'.

Of the 233 Pacific students enrolled in other postgraduate programmes, the largest group of those that were classified was Nursing with 108 students accounting for 46.4% of the total.

### **Forecasts to 2020 for the Pacific health workforce**

The small numbers in the Pacific workforce meant that forecasts were completed for the doctors and registered nurses which form the largest groupings in the Pacific health workforce.

Based on the assumptions outlined in this section, by 2020 there will be:

- i. 130 Pacific medical students by 2020 (up from 119 in 2011);
- ii. 25 graduates in 2020 (up from 16 in 2011);
- iii. 231 Pacific doctors (up from 180 in 2011); and
- iv. a ratio of 0.7 Pacific doctors per 1,000 Pacific people by 2020 (up from 0.6 in 2011).

Three scenarios for the Pacific registered nurse workforce based on the key factors in the workforce development model have been developed. The results of the scenarios suggest that significant change in the composition of the workforce in the short to medium term for nurses is relatively attainable. However, the per capita ratio of Pacific nurses to the Pacific population is lower than that for the general population, and even under relatively ambitious assumptions the numbers of Pacific registered nurses are not likely to increase to levels that reflect the share of the Pacific population between now and 2020.

By contrast, the development pathway for doctors takes much longer, and so the effects of any change in enrolment patterns, and decisions about the selection of specialities are not evident for several years. Nevertheless the effects of the recent increase in Pacific students enrolled in the Bachelor of Medicine and Bachelor of Surgery is an opportunity to encourage a higher proportion of the emerging generation of Pacific physicians to pursue careers in primary health care.

The scenarios for nurses and the medical workforce might provide some clues to the way in which the workforce for other health professions is formed, but further, and more detailed analysis is required.

### **Clinical Scenario Modelling**

The Pacific Expert Group directed that the Pacific clinical scenarios should:

- capture the complexity of Pacific health issues and the interplay with the current health workforce; and
- take a family approach – an approach that focusses on the family as a whole rather than focusing on a clinical scenario for an individual.

Taking a family based approach (the Misi Family) as the clinical scenario differs significantly from other service reviews, which primarily focus on clinical scenarios for an individual.

The clinical scenario modelling highlighted that over a period of 12 months the Misi family engaged with approximately 30 separate health professionals to have their health needs met. Despite this, immunisation for the children was not up to date, a mother had not had her pregnancy monitored and there were five visits to hospital accident and emergency services. All visits were made by ambulance. Furthermore, two teenage members of the family, who are highly likely to have undiagnosed health issues, have had no visits to the doctor. It also highlighted significant socio-economic factors that impact on the family.

The scenario highlights the multi-morbidities affecting many members of the family. It is clear the family would benefit from access to health professionals operating in a primary care setting with a range of generalist medical skills such as diabetes management, immunisation, maternal health, oral health, mental health and rehabilitation.

Health professionals interacting with this family would also require the ability to provide a family based approach including 'in home assessments', supporting the family to address risk factors such as smoking, home economics, and living conditions. This is particularly important because of the collective nature of their living and cultural arrangements.

A culturally competent workforce that can transcend age and generational issues is also vitally important.

## Recommendations

The Pacific population is youthful in structure, culturally and ethnically diverse, and highly urbanised. The ways in which Pacific communities interact with healthcare services are influenced by familial and community structures and worldviews which are not well understood by the health system or the general health workforce.

The health profile for Pacific peoples shows high rates of chronic and infectious diseases, and a high prevalence of risk factors linked to poor health. Uptake of preventive health services is low, whilst avoidable hospital admissions are high. Emerging evidence indicates the failure to address the complex array of factors<sup>5</sup> underpinning disparities in Pacific health outcomes is indicative of a lower quality care experience and less than adequate health system responsiveness.

A culturally competent health workforce has the capacity to address the barriers that Pacific people face in accessing high quality health services that meet their needs; and improving

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<sup>5</sup> Socioeconomic determinants, health literacy, cultural beliefs and collective worldviews – see clinical scenario, on page 88.

health outcomes and wellbeing, by integrating cultural practices and concepts and diverse world views into high quality, evidence informed health services.

Health workforce planning is one of the most important challenges facing policy makers in New Zealand over the next decades. Current economic conditions mean that establishing an affordable and sustainable health system that fully meets the needs of Pacific populations requires a health workforce with the skills to deliver services which are responsive to the evolving demographic, epidemiological, cultural and socioeconomic profiles of that population, whilst at the same time changing user expectations of services and technological innovations.

### **Recommendation One – implement an improved model of care, initially through establishing demonstration sites in Auckland**

A comprehensive change is required to the current model of care in order to meet the health needs of most Pacific people. The improved model of care needs to have the following features:

- the family group (rather than the individual patient) is the focus of planning and service delivery, and preventative, primary and secondary health care service design and implementation are integrated to achieve an holistic people and family-centred health service delivery model;
- health funding models underpinning the model of care are configured to enable a family focussed model of integrated care;
- system performance indicators measure variables that incentivise practitioners to focus on a family focussed model of integrated care delivery;
- all of the workforce supporting delivery of the model of care have the capability and cultural competence to work with diverse Pacific families that are experiencing multiple and complex health and social challenges;
- delivery organisations undertake workforce development and training focused on skills development to achieve coordinated responses at a family, community, social services and health system level, and
- delivery organisations also ensure their workforce development and training is focused on improved technical competencies as well;
- delivery organisations achieve integration between the roles of community health workers and the medical workforce and explore “new” roles for health workers, which utilise skills and abilities of employees without the constraint of current professional practice expectations. Workforce development for these new roles and for community health workers leads to change in training and role expectations; and

- Clinical leaders have the technical competencies needed to deliver services that address the priorities for Pacific health (i.e. they have a range of expertise and knowledge including child and maternal health, long term conditions and preventative health). In addition, they have the leadership skills to manage and coordinate multidisciplinary health service teams. They also enjoy the respect, trust and credibility with the Pacific families and communities they serve.

This report recommends that demonstration sites be established so that the improved model of care and the associated workforce and leadership developments can receive the necessary support for their establishment, operation and evaluation. It is most appropriate that these sites be established at existing Pacific providers in Auckland as these are serving the bulk of the Pacific population and they are already progressing toward similar models of care. The need for a focus in the Auckland metropolitan region is discussed in more detail in recommendation four.

### **Recommendation Two - leadership and coordination is required to effect an improved model of care**

Emerging (yet isolated and fragmented) service innovations currently underway in Pacific primary care providers and Auckland District Health Boards indicates that an improved model of integrated preventative, primary and secondary care, tailored to meet the needs of Pacific peoples can only be achieved if leadership development and mentoring of clinical leadership takes place. An approach that is adaptable and flexible responds to Pacific stakeholder feedback and takes learning from iterative processes and achieves incremental improvement. It needs to ensure frontline health workers and clinicians are integral to the development of strategies, processes, planning, delivery and evaluation of an improved model of care.

Given the small scale of the Pacific health workforce, the scope of health service roles and the diversity of the Pacific population the service response needs to be targeted, evidence based, informed by careful problem definition and supported by comprehensive monitoring and evaluation.

Recently, this leadership role for Pacific issues in the health sector has been contributed to by Pacific leadership at the Ministry of Health and General Manager Pacific positions at District Health Boards however these roles are now less prominent.

There has also been a small network of senior Pacific clinicians, researchers and managers who have multiple roles in the sector. This report recommends this small leadership pool is increased, actively supported and strengthened to achieve the changes required.

Such an approach would include:

- Strengthening the Pacific led governance and monitoring of Pacific health workforce development at a national level will provide the opportunity to overview and

consolidate real progress for a small and often dispersed area of workforce development. The quality of information pertaining to Pacific health workforce is variable in both scope and quality. This is addressed in greater detail in recommendation three.

- The development of the Pacific health workforce and the implementation of the programme of work outlined in this report require leadership which is also strongly culturally-centred. It further requires better alignment of systems and processes so that information about the Pacific health workforce can be collected and monitored and appropriate system responses are initiated.
- Upskilling the Pacific nursing workforce - Pacific nurses make up the largest group in the Pacific health workforce but this report indicates that they are less likely to be engaged in clinical and academic leadership roles. A comprehensive programme is needed that ensures that Pacific nurses develop the skills need to exercise clinical leadership, particularly to support the improved model of care proposed herein. Clear leadership roles for nurses are required within the clinical teams for the new improved model of care. Training of nurses to achieve nurse practitioner or advanced nurse practitioner status should be a priority for investment and initiatives to achieve this support.

This recommendation is made in the context of on-going and longer term initiatives that support increases in the numbers of medical and other health professional workforces.

### **Recommendation three – Issues to do with the Pacific workforce training pipeline and its monitoring need to be addressed**

Underpinning efforts to improve the quality of health services and increase health system responsiveness to the needs of Pacific people is the understanding that Pacific people make up a very small proportion (2.3%) of the health professional workforce. The importance of ensuring that the health workforce pipeline and health workforce in training reflect the ethnic and socioeconomic realities of the communities they serve is well recognised<sup>6</sup>.

Recent research into primary care for Pacific peoples<sup>7</sup> found that Pacific health workers make a significant contribution to Pacific health improvement through frontline roles offering linguistic and cultural skills, and at every level of the health system providing insights in to the realities of the health system for Pacific peoples and Pacific worldviews. Pacific professional leadership is required to maintain a focus on the evidence for and advocacy for system improvement for Pacific peoples.

Addressing the historical imbalances in the health workforce and the numbers of Pacific students in tertiary education requires comprehensive information systems on the actual number of Pacific health care workers and their distribution in the health system. At a national level, limited data or analysis on the Pacific health workforce is available and there

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<sup>6</sup> Crampton, 2012

<sup>7</sup> Southwick et al, 2012

is substantial variation in the data collected. Included in this report is stock data, using headcount data from a range of sources. However active workforce and full time equivalents could only be estimated. The status and reliability of data in the system needs to change.

While difficult to obtain, flow data is critical for addressing the substantial challenges in working with very small numbers of Pacific health workers. Systems to report and model the data need to be put in place especially for small and vulnerable workforce groups such as Pacific.

Crampton (2012) states unequivocally that overcoming these historical deficits will also require changes to “...elitist educational institutions which have developed within the context of socially and ethnically stratified societies...”<sup>8</sup>

Based on this report, detailed recommendations on pipeline initiatives are grouped under the headings **Attraction and Retention** and **Skill Development and Utilisation**.

### *Attraction and Retention*

- The rate at which Pacific school leavers attain university entrance and NCEA Level 3 requirements for entry to degree level training for careers in the health professions, has been growing rapidly over the past several years. However the actual number of Pacific students progressing to degree level study remains too low. This sharply constrains the capacity to increase the numbers of Pacific people in the health workforce. The longer term performance of schools and the education system to feed health workforce training programmes requires monitoring and public reporting, and outcomes reporting (that is careers achieved).
- There are opportunities to improve the information for secondary school students, tertiary students, and potential adult learners about the pathways toward employment in the regulated health workforce. Improving information and careers advice about the options that are available, and providing role models and mentorship to inform decision-making could influence decisions about study options that are available, and the preparation required (including what subjects to choose at secondary school to achieve career entry UE and NCEA and the options for adult learners).
- There is a reasonably substantial group of Pacific tertiary students (equivalent to 2,521 students) who are undertaking study toward programmes at Bachelor degree level or equivalent in health-related fields of study. There are opportunities to channel more of these students towards careers in the regulated health workforce, particularly in degrees leading to careers in the ‘other’ regulated health professions where enrolments appear to be particularly low for example applied degrees and

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<sup>8</sup> Crampton, 2012

diploma such as medical laboratory assistants and dental therapists etc. The largest number of Pacific tertiary students at degree-level (other than medicine and nursing) are studying towards degrees in population health related fields. While desirable there may be opportunities to enable students to transition more smoothly into training and learning that leads to roles in the nursing, and the other health professions.

- A significant proportion of Pacific students enrolled in the Bachelor of Nursing and Bachelor of Nursing (Pacific) degrees are adult learners. Older Pacific people particularly those employed in the unregulated health workforce represent a significant opportunity to increase the number of Pacific people in the regulated health workforce provided they are able to access tertiary education that suits their needs and circumstances.
- Care needs to be taken to ensure that initiatives aimed at increasing participation do not lose sight of the importance of maintaining a clear focus on the multiple pathways of the results required. As well as the opportunity cost associated with the Government's contribution to tertiary education, students should expect that the private investment they make to training and learning leads to employment outcomes. This should be part of tertiary education organisations public performance accountability.
- Admission and selection processes across the tertiary education system, workforce development and training, and clinical placements in health related fields must place greater priority on people achieving/gaining the competencies to work effectively with Pacific people. Many organisations report Equal Employment Opportunity (EEO) and affirmative action policies exist, but the implementation of policies and programmes is not monitored or incentivised and "...inequity [continues] to be built in to health systems..." This needs to be addressed in education in training for health careers.

### *Skill development and utilisation*

The majority of the 2020 Pacific health workforce is either currently employed in the health sector or is now in the workforce training pipeline. Ensuring that the talents, skills and experience of the current Pacific health workforce are effectively utilised in the services which can make the most impact on meeting the health needs of Pacific people can be achieved by:

- Developing a pathway for Community Health Workers to clinical or paraprofessional roles. This report confirms that there is limited information about the non-regulated health workforce generally. However Pacific unregulated health workers make up a significant proportion of the overall Pacific health workforce. Developing a career pathway leading to speciality care roles for Pacific peoples for Community Health Workers is an important step in developing this workforce, and resourcing the improved model of care.

- A specific focus is required on supporting registered Pacific nurses to achieve postgraduate qualifications that are well aligned to the health needs of Pacific people and the improved model of care which this report recommends. This will require more work to develop and align the appropriate education pathways and clinical placements.
- Providing opportunities for senior Pacific nurses and Pacific doctors to pursue professional advancement as specialists (nurse practitioners and general practitioner leaders) in primary and integrated care. This will enable the health system to leverage off an area of existing strength and provide the Pacific leadership required to develop the complex system responses and model of care recommended by this report.
- A co-ordinated approach to clinical placements in primary health care that places appropriate priority on ensuring that the emerging Pacific health workforce has opportunities to be exposed to the kind of team-based clinical environments envisaged by this report is essential. A strong focus on the Auckland region will be essential given the high demand for primary health care services in that region.

#### **Recommendation four- a focus in Auckland**

Better co-ordination at a national level with a particular implementation focus on the Auckland region. An estimated 71% of the Pacific population lives in Auckland and 39% of the NZ Pacific population live in Counties Manukau District Health Board (CMDHB). Within CMDHB, Pacific populations are clustered in only a few suburbs, with 77% percent of the Pacific population resident in Mangere, Otara and Manurewa. In Otara and Mangere, Pacific people make up the more than half of the population.

The clustering of Pacific peoples by area of residence and by practices they choose to attend, provides the opportunity for learning, not available in the rest of the country where Pacific numbers are often too small for analysis, and ethnic specific numbers smaller still. For example, a review of the CMDHB Chronic Care Management Programme for diabetes which includes 9717 Pacific people, found that 97 percent of these patients were enrolled in 3 (of 11) PHOs. Additionally 46% of these patients access 2 practices and 81% go to 10 (of 125) practices<sup>9</sup>. This concentration of Pacific populations in South Auckland and the provision of their health services through a small number of primary care practices create the opportunity for system improvements to be effected. It follows that focused investment in a small number of providers is likely to yield the greatest benefits for this population group.

A focussed approach is likely to also be beneficial to maximising the benefits of Pacific workforce development.

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<sup>9</sup> Southwick et al

# Introduction

## Overview

The New Zealand health workforce is estimated to number 165,615. Although information is not available on the number of Pacific health workers in the total workforce, we estimate that Pacific people make up 2.3 per cent (2090) of the 90,000 regulated health workforce. There are 2090 Pacific people employed as nurses (1627) and doctors (180) and other health professionals (283). The Pacific health workforce is a very small but significant part of the workforce.

New Zealand's Pacific population is now one of considerable size and social significance, and unlike the general New Zealand population is predominantly youthful in structure and highly urbanised in location. In 2006, 60 percent of the Pacific population was aged 0 to 30 years. Ninety seven percent of the Pacific population live in main urban areas, with 71 percent in the Auckland metropolitan region<sup>10</sup>. The Pacific population is projected to increase from 7.2 percent in 2006 to 9.6 percent of New Zealand's population in 2026 – an annual growth rate of 2.4 percent. The Pacific population is undergoing demographic change. More Pacific people are identifying with multiple ethnicities, and the proportion of Pacific children born in New Zealand is increasing. Hence ethnic and cultural identities are changing. It is important to emphasise that, although some differences exist, there are many commonalities shared by all Pacific groups, particularly the holistic perspective of health, collective world views and the important role of the extended family and community in Pacific health and well-being<sup>11</sup>.

Compared to the total New Zealand population, Pacific peoples have poorer health status and health outcomes. This is demonstrated by health outcome measures such as life expectancy and a wide variety of measures including child health, chronic disease, infectious diseases and risk factors for long-term conditions.

Pacific people have significantly lower life expectancy than the total population. In 2006, the life expectancy gap was 6.7 years for Pacific males and 6.1 years for Pacific females, compared with the total population. Moreover, unlike other ethnic groups, this gap has not reduced over the past decade. Health system data shows that for some services including child immunisation, PHO enrolment and screening for diabetes, Pacific people have high levels of engagement with the health system. However other measures of health system performance, such as ASH admissions and amenable mortality indicate that Pacific people

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<sup>10</sup> MoH, 2012

<sup>11</sup> Minister of Health and Minister of Pacific Island Affairs, 2010

have high levels of unmet health need and face barriers to accessing the health care they need.

The rapidly rising demand for services combined with constraints on funding and the availability of professional skills has led to the need for innovative thinking about how high quality health services can be delivered for Pacific communities. This report suggests that this will require a culturally competent workforce that understands how health services and health systems need to respond to the needs of culturally and socio-economically diverse populations is required to be developed. A key feature of a culturally competent workforce will be people of Pacific ethnicity – the Pacific health workforce, which is the focus of this Health Workforce Forecast.

### **Aims and objectives**

This Pacific workforce forecast was jointly commissioned by Health Workforce New Zealand (HWNZ) and the Pacific Programme Implementation team within the Sector Capability and Implementation Business Unit of the Ministry of Health.

The overarching objective has been to inform the development of policies and strategies that will strengthen and sustain a Pacific health workforce so that it can respond to the unique health and service needs of Pacific peoples and communities, contributing to their improved health outcomes.

The project brief has been to:

- **Develop a vision** for the Pacific Health Workforce
- Describe the **current profile** of the Pacific health workforce, and how this workforce is trained, recruited, upskilled and retained
- Review the **current health needs**
- Review **service provision now**
- Propose **services that need to be different** in the future
- Consider **changes required** to achieve this different future, particularly in relation to health workforce development; and
- Provide **advice on Pacific workforce investment** for Serau II.

The project components is attached as appendix two.

### **The Approach**

This Pacific workforce forecast provides an assessment of workforce issues as they relate to meeting the health needs of the Pacific population. This review was overseen by a Pacific Expert Group (PEG)<sup>12</sup> of clinicians and specialists providing expert advice in Pacific health, allied health, the unregulated health workforce, the clinical workforce, management and health workforce training. Our analysis relating to the overall Pacific workforce has drawn

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<sup>12</sup> Dr Margaret Southwick (Chair), Dr Teuila Percival, Dr Monique Faleafa, Margie Fepulea'i, Hilda Fa'asalele, Lita Foliaki, Ron Manulevu, Henry Samia, Dr Api Talemaitoga, Vito Nonumalo, Kim Wright.

on the expertise of the PEG who were chosen as 'key thinkers' (not sector representatives), and who took a collaborative problem solving approach to service and workforce planning as a response to the unique health needs of Pacific people.

The project brief required identification of existing Pacific models of care that utilise the current workforce in innovative ways. This necessitated a literature review which expanded on the stock take of workforce initiatives provided by Health Workforce New Zealand (HWNZ). The stocktake and the literature review are attached as appendix one.

The project has used a wide variety of sources as datasets, including HWNZ and DHB data, information from health regulatory organisations, surveys of registered health workers carried out by health professional organisations, and data from a range of education organisations. Secondary sources including system monitoring reports and research were also used to provide as comprehensive a picture as possible of the Pacific health workforce and supply (the education and training pipeline).

To achieve this, the data underpinning this forecast has necessarily focused on the regulated<sup>13</sup> component of that workforce, which collects limited ethnic data. Most data is collected by professional groups for a broad range of purposes, but not specifically for the purpose of ethnicity relating to workforce development. There is almost no data relating to ethnicity of the unregulated health workforce.

These data constraints mean this report includes data focused on a duo disciplinary approach (nursing and medical staff) in order to evidence the challenges of addressing workforce issues for minority ethnic groups.

The PEG advised that the workforce forecast clinical scenario modelling used in this report needed to reflect the realities of Pacific people's collective worldview as well as the influence of socioeconomic determinants of their health needs. This resulted in a clinical scenario that reflected the complexities of an entire Pacific family unit rather than one based on an individual patient's experience.

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<sup>13</sup> The regulated workforce is those health practitioners who practice in a regulated profession in New Zealand, registered with the relevant responsible authority and hold an Annual Practising Certificate issued by that authority.

## Section one - Pacific Health Workforce Vision 2020

The vision for the Pacific Health Workforce developed by the PEG is:

*A culturally competent workforce helping Pacific people live longer, healthier lives.*

This statement reflects the need to ensure that Pacific health workforce development is directly linked to achieving improved health outcomes for Pacific peoples. The definition of cultural competence is defined in appendix two.

PEG recognised this as critical to addressing the challenges of implementation of ethnic specific affirmative action programmes.

New Zealand policy, planning and research reports frequently cite the importance of cultural competence in health service delivery and increasing the numbers of underrepresented minority groups in the workforce (expressed as ensuring that the workforce reflects the population served) as strategies to address inequalities in health status and improve access to care and health outcomes for minority populations. However the associations between workforce diversity, improved cultural competence in health services and improved health outcomes are frequently glossed over and the “chain of logic” linking actions to outcomes, as well as the evidence base from New Zealand and international research supporting interventions is often poorly understood and articulated. This leads to interventions which are not well planned or implemented and which are implemented with inadequate monitoring or evaluation with unrealistic expectations of what will be achieved.

Other health system research indicates that “...inequity is built in to health systems...”<sup>14</sup>. In New Zealand, Sheridan et al (2011) reviewed chronic disease management in DHBs and PHOs and reported that equity is not addressed systematically below strategic levels and equity does not shape funding decisions, programme development, implementation and monitoring. The authors describe ‘... wilful ignorance embedded in habitual, inequitable practices...’<sup>15</sup>. Other New Zealand public policy research indicates the underlying discomfort with affirmative action programmes. For example, Boston et al (2006) note that affirmative action programmes aimed at addressing ethnic inequalities remain controversial and asks whether it is ever justified to give preferential treatment to disadvantaged groups in order to increase their representation in the public service, or access to higher education or

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<sup>14</sup> Starfield, 2011, Sheridan, 2011

<sup>15</sup> Sheridan, 2011, page 12

employment? Duignan<sup>16</sup> points to the high level of political scrutiny these types of programmes are likely to receive.

Furthermore, demonstrating the associations between workforce development and health outcomes requires careful evaluation, monitoring and long term timeframes. Capability development has been described as “...a risky, murky, messy business, with unpredictable and unquantifiable outcomes, uncertain methodologies, contested objectives, many unintended consequences, little credit to its champions and long time lags”<sup>17</sup>.

The very small size of the Pacific workforce, the scale of health needs in the Pacific population and the complex array of factors which impact on access to and quality of health services requires a complex and multifaceted response. Understanding the issues as ‘wicked policy problems’<sup>18</sup> helps with developing a learning approach, requiring adaptability and flexibility through numerous iterations as delivery is unlikely to be a one off task. The approach to implementation is not a linear process leading from policy ideas through implementation to change on the ground, but rather a more circular process involving continuous learning, adaptation and improvement, with policy changing in response to implementation as well as vice versa.

This report is the PEG’s response to the critical need for data, careful analysis and interpretation and evidence informed action to achieve the Pacific Health Workforce Vision 2020.

## Policy Context

The Pacific Provider and Workforce Development Framework (PPWDF) – Serau - provides the Ministry of Health’s policy settings for investment decisions for 2009-2012<sup>19</sup>. Serau has two focus areas, with the objectives and funds outlined below:

	<b>Objective</b>	<b>Allocation</b>
<b>Focus 1:</b> Increase the Pacific health workforce	The right Pacific people with the right skills in the right places	\$4.0 million
<b>Focus 2:</b> Sustainable Pacific providers	Strengthen Pacific providers to deliver quality health services	\$3.4 million

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<sup>16</sup> cited in Ringold, 2005, p 5

<sup>17</sup> Morgan P. Capability Development – Some strategies. Hull: Policy Branch, CIDA, 1998 (p6)

<sup>18</sup> Wicked policy problems are characterised as difficult to clearly define; have many interdependencies, are often multi-causal and not stable; usually have no clear solution; are socially complex; involve many organisations and changing behaviour; previous policy failures; and attempts to address them often lead to unforeseen consequences.

<sup>19</sup> Ministry of Health (2009b)

Focus one of the framework relates to Pacific workforce development. The policy conceptual framework identifies 5 stages in developing a Pacific health workforce. It is founded on the principle that strategies to attract, train, strengthen, upskill and retain the right people with the right skills in the right places will achieve the aims of workforce development. Figure 3 below shows the Serau model for increasing the Pacific health workforce.

**Figure 3 - Serau: focus one increasing the Pacific health workforce\***



\*Note: Goal 4 includes two stages, upskill and retain

In Serau, workforce planning assumes that increasing the number of Pacific people in the Pacific health workforce will address workforce shortages and quality of health care issues for Pacific people. The Serau model suggests that workforce policy, and implementation can be addressed by interventions focussed on Pacific people at key points in the education and training system and in the career cycle of the Pacific health workforce.

Table 1 below provides a breakdown of the current Serau focus one funded programmes.

**Table 1 Current Focus One programmes**

Provider	Programme	Description of initiative
<b>Attract</b>		
Te Pou / Le Va	Pacific Health Workforce Awards and Futures that Work.	Scholarships and support programmes for Pacific students to assist fund their tertiary qualification.

Pasifika Medical Association	Healthcare Heroes in 15 schools, including 3 Health Science Academies.	Increase the number of Pacific students taking science in years 11, 12 and 13 by providing the Healthcare Heroes programme in the Auckland region. The three programme goals are: <ul style="list-style-type: none"> <li>• Strengthening science to ensure adequate supply of Pacific students with strong science background.</li> <li>• Encouraging Pacific students to choose Health science careers.</li> <li>• Providing support for Pacific students taking science.</li> </ul>
	Mentoring Support (Students Are Our Future).	Contribute towards increasing the number of Pacific students enrolled in a health qualification at tertiary institutions by providing a mentoring programme targeting health workforce priority areas.
	Monitoring/Evaluation of Healthcare Heroes.	To deliver a monitoring project covering the Healthcare Heroes programme and the Students are our Future programme in the Auckland region.
<b>Train</b>		
University of Otago	Pacific Foundation programme.	Increase the number of Pacific students enrolled in a health qualification at tertiary institution by supporting Pacific students through their transition from secondary school to a tertiary institution.
<b>Strengthen</b>		
Bader Drive Healthcare	Supporting Pacific clinical needs in Primary Health Care.	Support programme participants to develop the relevant skills and competencies towards achieving GP registration.  Ensure adequate employment opportunities with Pacific health service providers for programme graduates in primary care.  Identify the sustainable funding pathway to support the established pipeline approach for GPEP 1 and GPEP 2 trainees.
Unitec	Return to nursing.	Increase the number of Pacific trained nurses to become NZ registered nurses. The programme provides a combination of IELTS, language coaching and a nursing Aoteroa programme, in the Auckland region.
<b>Upskill and Retain</b>		
Pacific Perspectives	Aniva Pacific Alumni Leadership programme.	Improve the recruitment, training and ongoing professional development of Pacific health workers.

Approximately \$4 million per year has been invested into these initiatives over Serau's three year term. The pipeline approach which provides support from secondary level through tertiary and post-graduate education, to growing the Pacific health workforce has led to:

- an increase in the recipients of Pacific Health Workforce Awards attending tertiary courses in medicine, nursing, oral health, podiatry, midwifery and other allied health areas (207 recipients in 2010, 246 in 2011 and 181 in 2012);
- two Pacific clinical training support programmes to be completed in 2013. This will lead to 12 more Pacific general practitioners, 2 more nurses in general practice and 2 more Nurse Practitioners;
- an English language programme to be completed in 2013 which aims to re-introduce up to 14 Pacific trained New Zealand resident nurses to the New Zealand health workforce;
- two mentoring programmes for tertiary students;
- a secondary school programme in 15 Auckland schools to encourage Pacific students to take science, tracking and monitoring the results across the range of science subjects; and
- a Pacific health nursing leadership programme which is supporting thirty Pacific nurses to gain postgraduate qualifications and attain personalised career development support.

Examples of Serau funded programmes are included as case studies in the text as examples of innovative programmes addressing aspects of Pacific health workforce development.

Three years on from the commencement of Serau, the simplicity of setting targets and monitoring outputs in the workforce supply cycle have enriched our understanding of the workforce development needs of the Pacific workforce and the complexity of designing effective interventions. However, Serau has also demonstrated that dynamic policy processes supported by effective implementation of interventions and ongoing monitoring and evaluation are required to achieve the workforce outcomes desired and to respond to changing health needs of Pacific people.

### **Serau II and the Pacific Innovation Fund**

The Ministry of Health recently reviewed its allocation of PPWDF to ensure that Pacific-led services and the Pacific health workforce are best placed to improve Pacific health.

The Ministry consulted Pacific providers and DHBs as part of the review. The Ministry has identified areas where Serau could be enhanced so the allocation of the PPWDF better supports Pacific providers to respond to changes within the New Zealand health system, and strengthen their contribution to improving Pacific health.

In addition, new funding of \$6.0 million (exclusive of GST) was announced as part of the Government's 2012 Budget to establish a Pacific Innovation Fund that will be administered over four years.

The Pacific Innovations Fund (the Fund) will invest in Pacific health initiatives that demonstrate innovation through the application of new strategies, models and methods of service delivery. The focus of the 2012/16 funding will be strengths-based innovation projects that seek to prevent the causes of disease and injury to the Pacific population. Priorities within this focus include:

- strengthening Pacific child and youth protective factors; and
- reducing the prevalence of risk factors affecting Pacific people's health (eg, obesity and smoking).

The feedback received as part of the PPWDF review and the new Pacific Innovation Fund has been incorporated to form the new PPDWF strategy, Serau II.

Serau II will have the following three focus areas:

**Focus 1** - Increase the Pacific health workforce which will incorporate findings of this MoH and HWNZ Pacific Health Workforce Service Forecast.

**Focus 2** - Sustainable Pacific providers which will focus on building Pacific primary care collectives.

**Focus 3** - Supporting innovation that leads to transformation which will prioritise strengths-based innovation projects that reduce risk factors and prevent disease and injury in the Pacific population.

## Pacific perspectives of health

The CMDHB 2006-2010 Pacific Action Plan<sup>20</sup> summarises the essential characteristics which are common to Pacific peoples in New Zealand. Examples of the views articulated by Pacific writers in New Zealand include:

*"Pacific people have a holistic view of health where a person is in tune with his/her environment and community. Health is achieved when there are positive and balanced relationships between these three elements: Atua (God), Tagata (people) and Laufanua (land/environment). Health is the state in which a person's physical, mental and spiritual needs are in balance and the person is able to meet their obligations to themselves, their family, village and community" (Lui 2003).*

*"[The Pacific cultural approach] to health care issues ... recognises the holistic world views of Pacific peoples. It is a perspective that acknowledges the interdependence between the spiritual, mental and physical beings of individuals and communities" (Taufe'ulunguaki 2004).*

*"...the essence of the relational person exists in identity with others from specific locations of belonging as in their villages, districts and country (fa'asinomaga); that they are born into*

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<sup>20</sup> CMDHB Tupu Ola Moui Pacific Health and Disability Action Plan 2006-2010

*genealogical continuums (tupuaga) and that during their lifetimes, they undertake positions and roles of responsibility(tofiga)” (Tamasese et al 1997).*

The Pacific perspective of health has been described as a balance between an individual’s spiritual, mental and physical health and wellbeing. The Pacific world view is defined by relationships with immediate and extended family, village, district, church and country. This social and collective context of relationships reflects the important reference points for Pacific identity and wellbeing, which encompasses more than a biomedical definition of health<sup>21</sup>.

To provide optimal care to Pacific people, the health workforce must be culturally competent. Cultural competence includes knowledge, skills and behaviours based on the understanding of how and why different belief systems, cultural biases, ethnic origins, family structures and other culturally determined factors influence health seeking behaviour. These differences are real, and impact on the way in which people experience illness, adhere to medical advice and respond to treatment. A culturally competent health workforce cannot be trained simply by reading textbooks or attending lectures, but must include encountering and interacting with individuals’ from a variety of racial and ethnic backgrounds<sup>22</sup>. While the majority of Pacific people will now and in the future continue to receive care from health workers with backgrounds far different from their own, Pacific health workers and Pacific providers have a key role in contributing to preparing a culturally competent health workforce that is able to provide quality care to Pacific populations.

### **Pacific population demographics**

A fundamental objective of Pacific health workforce development is to better respond to the health needs of Pacific peoples. Recommendations for workforce development must be based on a sound understanding of the cultural and ethnic diversity of the Pacific population and their unique health needs, relative to the total population. Without this understanding, health care will continue to be delivered by a “one size fits all” approach and/or shaped by the cultural assumptions of health providers that, in some instances remain stubbornly resistant to Pacific world views. To ensure this does not happen, there is a need for a Pacific workforce that is engaged at all levels of the health system with the appropriate technical skill for their roles, enhanced by their cultural and language skills and community connectedness. This small workforce is in the unique position of understanding and communicating the issues from Pacific consumer and stakeholder perspectives and health systems perspectives. The Pacific workforce is therefore an important voice to ensure equity in health outcomes for Pacific people.

The demographic data highlights the ethnic diversity of the Pacific population, its predominantly youthful age structure and highly urbanised location. These characteristics and the characteristics of the Pacific health workforce are not currently aligned and this highlights the complexity of policy and strategy design and implementation to achieve the

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<sup>21</sup> CMDHB (2006) *Tupu Ola Moui Counties Manukau District Health Board Pacific Health and Disability Action Plan 2006-2010*

<sup>22</sup> Cohen 2002

desired outcomes. Given the small scale of the Pacific health workforce, the scope of health service roles that must be covered and the diversity of the Pacific population, responses need to be targeted, evidence based and informed by careful problem definition and data collection.

### Demographics

Included in this section is information on:

- ethnic diversity within the Pacific population;
- population growth;
- age structure; and
- geographic distribution.

### Ethnic Diversity

“Pacific” is an inclusive term of convenience used to describe an increasingly diverse population group in New Zealand. The Pacific population in New Zealand is made up of people from many Pacific nations. The largest groups in New Zealand are Samoan, Cook Islands, Tongan and Niuean, with smaller communities of Tokelauan, Tuvaluan, Fijian and Kiribati people. Over time, the Pacific population in New Zealand has changed from being a migrant population to a population where the majority – 60 percent in 2006, were born in New Zealand<sup>23</sup>. In addition, two thirds of Pacific young people identify with more than one ethnic group<sup>24</sup>.

### Population Growth

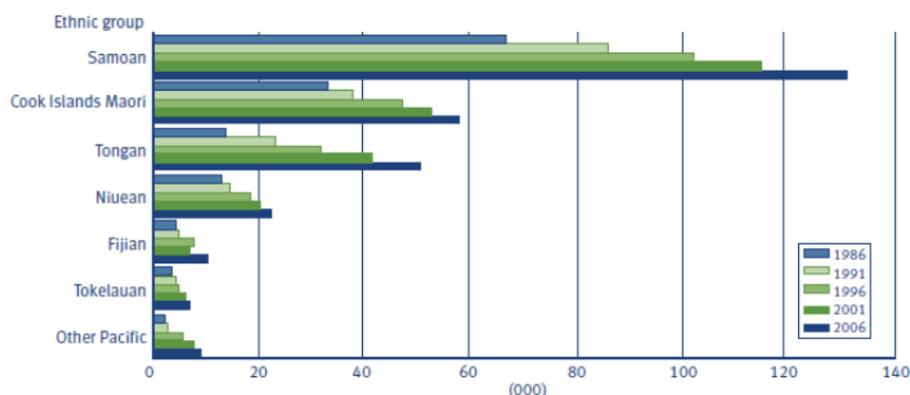
The Pacific population is projected to increase from 7.2 percent of the population in 2006 to 9.6 percent of the population in 2026. The growth of Pacific ethnic groups between the 1986 and 2006 censuses are shown in Figure 4 below. The Samoan population, numbering 131,000 people in the 2006 census, is by far the largest Pacific group in New Zealand, accounting for almost half the Pacific population. The Samoan population grew by 98% between 1986 and 2006, compared with a growth rate of 23.4 percent for the total population. The Cook Islands population is the second largest group, with 58,000 living in New Zealand in 2006, an increase of 24,900 since 1986. The Tongan population, which grew almost threefold between 1986 and 2006 from 13,600 to over 50,500, represents the fastest growing group during this period. The size of the three other main Pacific ethnic groups at the 2006 census numbered 22,476 for Niuean, 9,861 for Fijian and 6,822 for Tokelauan. Other Pacific ethnic groups grew from a total of just under 2,000 in 1986 to almost 9,000 in 2006. Of these the three largest groups in 2006 were Tuvaluans (2,600), Tahitians (1,300) and Kiribati (1,100) (Statistics New Zealand, 2010).

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<sup>23</sup> Statistics New Zealand and Ministry of Pacific Island Affairs, 2010

<sup>24</sup> Percival, 2011

Figure 4: Growth of Pacific ethnic groups, 1986-2006



Source: Statistics New Zealand and Ministry of Pacific Island Affairs 2010a

The ethnic makeup of the Pacific population is changing. Recent population projections based on migration data, are that by 2026, nearly 50 percent of the Pacific born population in New Zealand will be Melanesian, a significant change from the predominantly Polynesian populations which have made up the majority of Pacific migrants to New Zealand over the past decades<sup>25</sup>.

There is emerging evidence in New Zealand of differences in the patterns of risk factors and health outcomes between Pacific ethnic groups. For example, Cook Islands populations have higher prevalence and mortality of serious long term conditions such as cardiovascular disease compared with other Pacific ethnic groups, and Tongan and Samoan populations have higher rates of hospital admissions for close contact infectious diseases<sup>26</sup>. A culturally competent health workforce responding to these differences must have an understanding of the diversity of the Pacific population and the evidence of how this impacts on engagement with health services, to enable planning and delivery of targeted, community and family centric health service responses.

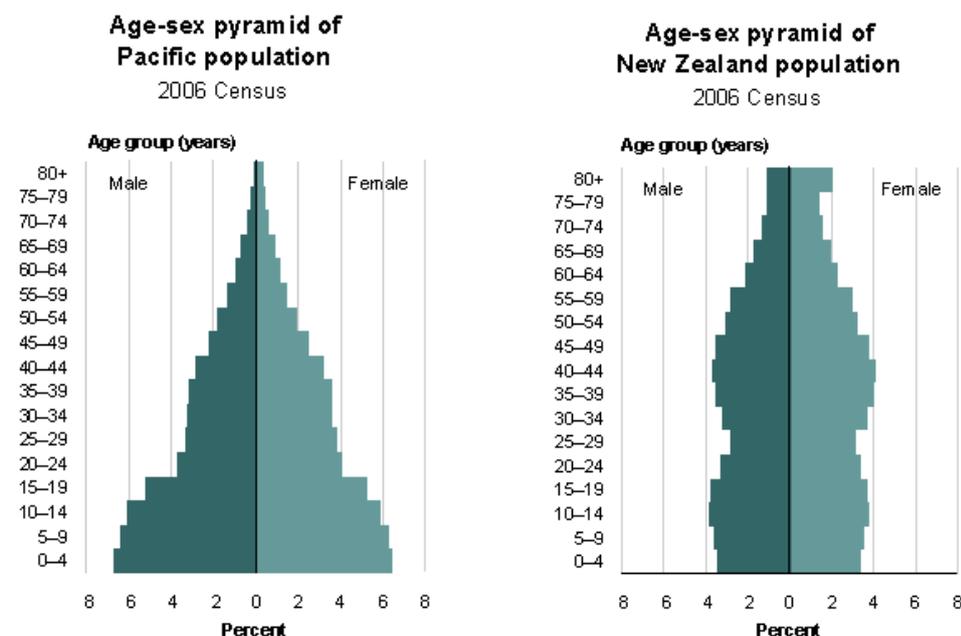
### Age and Gender Structure

The relative youthfulness of the Pacific population compared to the total population is demonstrated by the age/sex pyramids in Figure 5. The median age of the Pacific population in 2006 was 21 years, compared with 36 years for the total population, with 38 percent of Pacific people aged under 15 years ( compared with only 22 percent of the total population) and just 4 percent of Pacific people aged 65 and over ( compared with 12 percent of the total population). The different age structures of ethnic groups in New Zealand population impact on priorities for health planning in the future. For example population projections indicate that the 65+ age group will make up 23 percent of the European population by 2026, compared with 9 to 12 percent of the Pacific (and Maori) population.

<sup>25</sup> Bedford R

<sup>26</sup> Pacific Perspectives Primary Care for Pacific People, A Pacific and Health Systems Approach, June 2012 (unpublished)

**Figure 5: Age profile of the New Zealand and Pacific populations, by sex, 2006**



Source: Statistics New Zealand, 2010.

While the health system focus on addressing the needs of an aging population including long term conditions and rehabilitation are also appropriate for Pacific people, there is for Pacific populations the need for a greater focus on developing a health workforce with a focus on child and maternal health, especially the unique needs of more vulnerable groups. This is discussed further in Section 6 (clinical scenario).

### Geographic Distribution

The Pacific population is highly urbanised. Ninety seven percent of the Pacific population live in the main urban areas of New Zealand, with the Auckland metropolitan region accounting for 71 percent of Pacific people, where Pacific people make up 16 percent of the population. The second largest grouping resides in the Wellington area (12.4 percent).

Within Auckland, the Pacific population is concentrated in particular areas making up a high proportion of the population in areas such as Otara (79.2 percent), Harania (76.5 percent) and Favona (66.4 percent)<sup>27</sup>. There are differences in the distribution of different ethnic groups, with, for example, the greatest concentration of Tongan people (78 percent) and Niueans (77 percent) reside in Auckland, while only 26 percent of Tokelauan people live in Auckland compared to a further 50 percent who live in Wellington. The balance of the Tokelauan population, along with Cook Islands people, are more likely than others to live in secondary urban areas<sup>28</sup>.

The urban concentration and clustering of Pacific ethnic groups means that health system responses that are targeted can be effective and efficient. For example, a review of the

<sup>27</sup> Statistics New Zealand, 2010, p.2

<sup>28</sup> Statistics New Zealand, 2010, p.1 of 4

CMDHB Chronic Care Management Programme for diabetes which includes 9717 Pacific people, found that 97 percent of these patients were enrolled in 3 (of 11) PHOs. Additionally 46% of these patients access 2 practices and 81% go to 10 (of 125) practices<sup>29</sup>.

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<sup>29</sup> Pacific Perspectives Primary Care for Pacific People, A Pacific and Health Systems Approach, June 2012 (unpublished)

## Section Two - Profile: Pacific health workforce

### Key Points

- Pacific people make up a very small proportion (2.3%) of the regulated health workforce with 2,090 people employed as nurses (1,627), doctors (180), and other health professionals (283).
- Pacific nurses comprise 77.8% (or 1,627) of the Pacific people in the regulated health workforce, and registered nurses make up 93.4% (or 1,520) of all Pacific nurses.
- There were 180 Pacific doctors in 2010, an increase of 111% from 1998. Fifty Pacific doctors were working as General Practitioners.
- It is estimated that there are 283 Pacific people working in health professions other than as doctors and nurses. Pacific people make up 1.5% of the 27,563 'other' health workers in New Zealand.
- There is little reliable information about the unregulated health workforce; however we estimate that there are several thousand Pacific people working in this workforce.
- To increase the number of Pacific health workers to ratios (per 1,000 people) that are consistent with the general population would require a further 1,064 Pacific doctors, 3,657 Pacific nurses, and 1,412 other health professionals by 2020.
- The lowest ratio of Pacific nurses per 1,000 Pacific people is in Auckland (5.1), and the highest in Wellington (7.7). This does not match demand as evidenced by the geographic concentration of Pacific people.

### Overview

This section provides information on the current numbers of Pacific people working in the health workforce, and provides some detail for key occupational groups including the regulated and unregulated health workforce. Greater detail has been provided for the medical and nursing workforce for reasons discussed below. Where data is available we have provided inter-temporal comparisons and described the employment settings, practice areas and specialisms of Pacific health workers.

Estimates have been made of the number of Pacific health workers that would be required to ensure that the health workforce reflects the ethnic diversity of the wider population. These per capita ratios are calculated at a national and regional level and provide an indication of where the areas of highest need are.

## Methodology

The preparation of quantitative aspects of this report required matching of a range of disparate datasets. The sources for these datasets is described below, the approach to relating data from the many sources and the issues that this raised for our analysis are discussed below.

For the regulated workforce data was obtained from the bodies responsible under the Health Practitioners Competence Assurance Act, for the registration of health workers (the registration bodies). A complete list of the reports accessed is presented in the references to this report. The data provided information on the numbers of Pacific people working in 14 of the 16 regulated health professions. The reports relied on responses by registered health workers to annual surveys. The approach taken to account for the response rate, and the general approach to information about ethnicity is described in appendix one.

Health Workforce New Zealand provided summary information by broad occupational groups on the results of the surveys conducted by the registration bodies, and on the workforce at District Health Boards. This latter information was used to describe the workforce at District Health Boards, and to inform estimates of the unregulated health workforce.

Information drawn from the Nursing Council of New Zealand's annual workforce survey was analysed to describe the distribution of Pacific people by the various dimensions used in the tables in the relevant sections of this report. This approach meant that we were able to, for example, describe what proportion of Pacific people were employed by Pacific Health providers, rather than what proportion of the staff employed by Pacific Health providers were Pacific.

Information on the number of Pacific people through to 2020 was provided by Statistics New Zealand via Health Workforce New Zealand. Data on the regional distribution of Pacific people was determined by calculating ratios based on 2006 census data (from Statistics New Zealand) and applying those to the forecast number of Pacific people.

Per capita ratios for Pacific doctors and nurses were calculated using the actual number of Pacific doctors and nurses reported by the registration bodies (using the latest available data) and the forecast number of Pacific people.

Calculating the number of workers in the regulated health sector required extrapolating the proportion of 'Care and Support' workers employed by District Health Boards across the total health workforce. Figures for the total health workforce were drawn from data provided by Health Workforce New Zealand. We were able to access analysis by

Careerforce<sup>30</sup>, of the unregulated health workforce to provide a reference point for the total number of these workers.

### **Ethnicity – aggregation**

Pacific ethnicities are defined in this report as Samoan, Cook Islands, Tongan, Niuean, Tokelauan, Fijian, and Other Pacific in accordance with the classifications used by Statistics New Zealand.

We have aggregated any reported Pacific ethnicities into the category of ‘Pacific’. We have done this because the level of disaggregation of ethnic identity in the source data we obtained varied considerably.

We note the limitations arising from our aggregation of ethnic identities in this way. The combination of variable source data and in some cases very small numbers meant that any greater level of disaggregation would not have aided understanding or interpretation of the general issues raised in this report.

### **Ethnicity – multiple responses**

Data on the reported ethnicity of health workers is normally collected in a manner that allows for multiple responses. In some cases the reporting of multiple ethnicities can lead to the totals of respondents by ethnicity exceeding the total number of health workers, particularly for those professions with high response rates.

We have consistently either presented the total number of known individuals or used this number as the denominator for the calculation of percentages.

### **Ethnicity – accounting for response rates**

Ethnicity data is normally collected as part of annual surveys by the relevant body/authority responsible for the registration of regulated health workers. The response rates for these surveys can vary from year to year.

For the purposes of assessing how many Pacific people there are registered with each authority, we have used the proportion of people reporting a Pacific ethnicity and applied that proportion to the total number of people registered with the relevant responsible authority and holding an Annual Practising Certificate issued by that authority. There is a possibility this approach may understate the total numbers of Pacific people in circumstances where Pacific people are less likely to participate in the relevant survey, or overstate those figures where they are more likely to participate.

We have presented in relevant tables an effective response rate as a proxy for the reliability of the results we have obtained. The effective response rate is calculated by dividing the

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<sup>30</sup> Careerforce is the Industry Training Organisation for the aged-care, disability, health and social services workforces.

number of responses by the total number of known individuals (those with registration and an Annual Practising Certificate).

In the case of data supplied for the nurses workforce we have elected to rely directly on the published data. This is because the non-response rate for the ethnicity question in the survey was less than 0.01 percent.

We considered and discounted the possibility of simply accepting the total number of Pacific people responding to the relevant surveys on the basis that this approach would necessarily understate the total number of Pacific people.

### **Issues and mitigations**

Each of the datasets that were used had different standards and bases for data collection and reporting. Some of the issues encountered included:

- i. Registration bodies generally conduct and report the results of workforce surveys of the registered health professionals that they are responsible for. The range of analysis and reporting undertaken by registration bodies is variable, and in many cases ethnicity data is only used to determine an overall number (rather than any more detailed level of analysis). This limited the extent to which detailed analysis could be undertaken on the regulated health professions.
- ii. Data provided by District Health Boards on a quarterly basis about employees is aggregated into six occupational groupings Senior and Junior Medical, Nursing, Midwifery, Allied & Scientific (the amalgamation of Allied Health and Technical and Scientific), Care and Support, and Corporate and Other. The aggregation of occupational groups meant that the information collected by DHBs could not be directly related to that held by registration bodies.
- iii. Tertiary education data is reported using descriptors known as fields of study (at various levels of detail) which do not consistently map to the roles within the regulated health workforce. This meant the relationships between student enrolments and completions had to be inferred in a number of cases.
- iv. The tracking of the progress of individuals through the compulsory and tertiary education sectors, and in to employment is not routinely undertaken. As a result, it is difficult to assess the extent to which secondary school students are progressing to employment in the regulated health workforce.
- v. Data on the unregulated health workforce was not comprehensive and required inferences to be drawn from Statistics New Zealand and Department of Labour employment data.
- vi. Occupational categories used in reporting by Statistics New Zealand and the Department of Labour, use Australian and New Zealand Standard Industrial Classification which also do not map directly to the data collected by registration bodies or District Health Boards.

To manage these issues, we took the following approach:

- i. For information about the overall workforce we have relied on advice from Health Workforce New Zealand.
- ii. To determine the overall size of the regulated health workforce we relied on the results of the workforce surveys conducted by registration bodies where these were available, or data supplied by Health Workforce New Zealand.
- iii. The Nursing Council of New Zealand provided us with the number of practising nurses who identified with one or more Pacific ethnicity from which we were able to extrapolate the numbers of registered and enrolled nurses.
- iv. Detailed information on enrolments in the Bachelor of Medicine and Bachelor of Surgery, Bachelor of Nursing, Bachelor of Nursing (Pacific), and Bachelor of Nursing (Maori) was obtained from the TEC to augment the higher level information about enrolments (at the field of study level).
- v. An inferred rate of completion was calculated as a proxy for the extent to which enrolment in the degrees (noted above) leads to qualification.

The issues arising from the limited information about the unregulated health workforce were not able to be resolved.

### **A focus on doctors and nurses**

In preference to other occupational groups, we have provided more extensive information about the mechanisms that lead to the development of the medical and nursing workforce. The key considerations in making this decision were:

- i. the desirability of providing as comprehensive a view as possible of the mechanisms leading to the development of the Pacific health workforce;
- ii. the nature of the data available including our capacity to map degree-level tertiary education to the requirements for registration for the regulated health workforce, or entry into careers in the unregulated health workforce;
- iii. the extent of other related information about the composition of the regulated and unregulated health workforces; and
- iv. the inherent risks associated with inferring patterns or pathways from datasets that involved relatively small numbers of learners.

On balance our view was that the combination of the extensive information about the composition of the medical and nursing occupational groups, the relatively clear nature of the pathways leading to registration for these two occupational groups, and the relatively large size of the student cohorts undertaking the degree-level training, made the decision a relatively straightforward one.

## **Total health workforce**

According to figures provided by Health Workforce New Zealand there were 165,615 people working for organisations whose self-designated primary purpose is related to human health in 2011

We can view the health workforce from a number of perspectives. The workforce surveys conducted by the registration bodies for the health workforce indicate that there were approximately 90,000 regulated health workers in 2010. The composition of the remainder of the health workforce is not well understood but will certainly comprise people working to provide a range of health and health-related services (often described as the unregulated health workforce), and people involved in providing management, administrative and other support to the health workforce. While there are no definitive figures on the membership of the unregulated health workforce we can infer from the difference between the total workforce and the regulated workforce that these two groups may comprise approximately 75,000.

There is less certainty about the number of Pacific people in the health workforce because of the issues noted as part the discussion of the methodology used. We can say with a reasonable degree of confidence that Pacific people in the regulated health workforce number approximately 2090 in 2011. We can be less certain about the number of Pacific people in the unregulated health workforce, and those providing management and other support. Our estimates for these groups, and the limitations on these, are discussed in the relevant sections below.

Approaching the workforce from the perspective of their employment setting provides a different view. District Health Boards reported that they employed 72,417 people as at 31 March 2012. This figure would imply that approximately 93,000 were employed in the remainder of the health sector, for example by primary health organisations, Pacific and Maori Health Service Providers, Private Hospitals, and rest homes and residential care facilities.

Due to the issues relating to the data provided by District Health Boards (DHBs) we were unable to draw any conclusions about the detailed composition of the workforce (that is, in relation to the professions within the regulated health workforce) or more importantly the proportion of Pacific people employed overall. We are able to make some general observations about the types of roles that Pacific people are employed in based on the distribution of Pacific workers at DHBs (appendix one refers).

Pacific people make up 3.3 percent of the workforce at DHBs totalling 2,355 individuals. The largest number of Pacific employees (and in terms of the proportion of the relevant DHB workforce) are in:

- i. Corporate and other roles (734, or 4.9%);
- ii. Care and support (661 or 7.4%); and
- iii. Nursing (627 or 2.3%).

Smaller numbers of Pacific people can be found working in:

- i. Allied and Scientific roles (207 or 2.0%);
- ii. Junior Medical (76 or 4.9%);
- iii. Senior medical (30 or 0.7%); and
- iv. Midwifery (20 or 1.2%).

The figures above provide a guide to the distribution of the Pacific health workforce.

### **Regulated and unregulated workforces**

The health workforce can be divided into two broad categories: the clinical (or regulated) workforce; and the unregulated workforce.

The regulated workforce includes those health practitioners who practice in a regulated profession in New Zealand are registered with the relevant responsible authority and hold an Annual Practising Certificate issued by that authority. The regulated health workforce in New Zealand covers 16 professions. These professions are dentists, nurses, midwives, physicians, optometry and optical dispensing, osteopathy, pharmacy, physiotherapy, podiatry, psychology, psychotherapy, chiropractic, dietetics, medical laboratory science, medical radiation technology, and occupational therapy. For this report, we have divided the regulated workforce into three groups: the medical workforce, the nursing workforce, and other health professionals.

There is no agreed definition of the unregulated health workforce but it can be understood to encompass those people who have direct personal care interaction with clients, patients or consumers within the health and disability sector, they may be paid or unpaid, and are not subject to regulatory requirements under legislation or other means. The scope of care that this workforce provides is not strictly defined, and can include social, practical (including information, coordination, advice and cultural support) and advocacy services that support the full continuum of care

The unregulated workforce can include community health workers, healthcare assistants, orderlies, cultural support workers, support workers, community homecare workers,

whanau ora workers, mental health workers, youth workers, compulsory care coordinators, cultural assessors, care givers, care workers, care assistants, care managers, care support workers, mental health support workers, nurse assistants, care givers, nurse aides and rehabilitation assistants. Terms which are commonly used within the Pacific health sector include matua, interpreters, consumer advisers, traditional healers, community support workers, cultural advisers, family advisers, interpreters and service administrative staff<sup>31</sup>. The unregulated workforce can also include parents providing in-home care.

### Participation by Pacific peoples in the regulated health workforce

We estimate that there were approximately 90,009 people working in the regulated health workforce in New Zealand in 2011. Nurses make up 54 percent of the total regulated health workforce, doctors 15.4 percent, and other health workers 30.6 percent. We estimate that there were 2,090 Pacific people working in the regulated health workforce in 2011, representing 2.3 percent of the total workforce.

The distribution of Pacific people in the regulated health workforce differs from the profile for the general population, with a higher proportion in nursing roles (Table 2 refers).

**Table 2 Roles in the regulated health workforce in 2010 comparing the distribution of Pacific people with the general population**

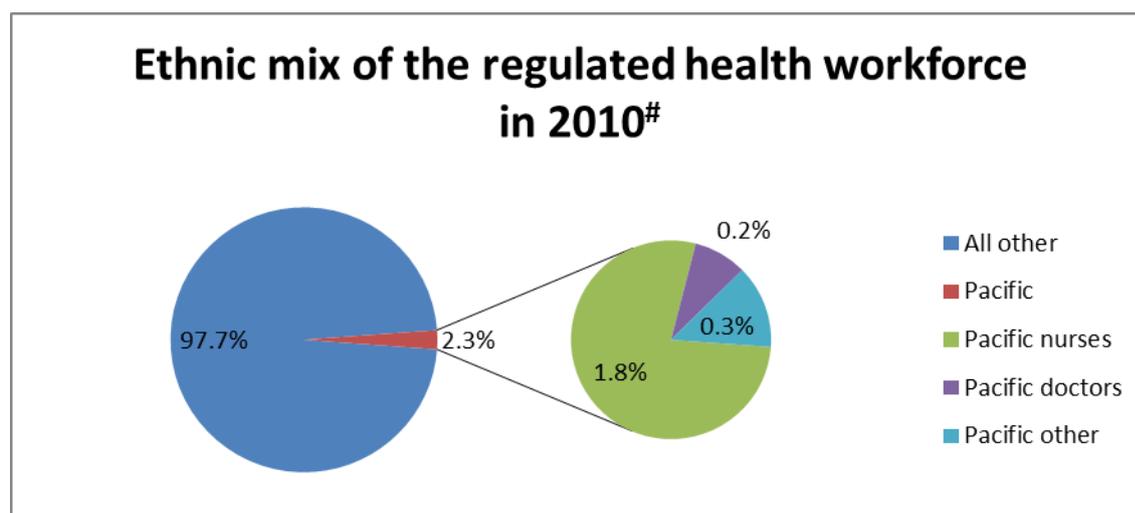
Role	All NZ	% (all NZ)	Number (Pacific)	% (of all Pacific)
Nurses	48,563	54.0%	1,627	77.8%
Doctors	13,883	15.4%	180	8.6%
Other health	27,563	30.6%	283	13.5%
Total	90,009	100.0%	2,090	100.00%

Source: All figures drawn from the workforce surveys conducted by the relevant registration bodies.

Figure 6 shows the representation of Pacific people within the overall regulated health workforce. Pacific nurses comprise 2.3 percent of the total regulated health workforce. Pacific doctors and other health professionals make up much smaller proportions overall (0.2 percent and 0.3 percent respectively).

<sup>31</sup> Samu, K 2007

Figure 6 Pacific people in the overall regulated health workforce in 2010



\* 2010 or most recently available data.

**Source:** Source data drawn from the workforce surveys conducted by the relevant registration bodies.

**Notes:** Total percentages do not add up to 100.0 percent due to rounding.

Appendices two and three provide detailed information on ethnic diversity amongst doctors, nurses, and other health professionals in New Zealand.

### Medical workforce

The 180 doctors who identified with a Pacific ethnicity made up 1.3 percent of the 13,883 registered doctors working in New Zealand in 2010.

We do not have reliable information on the geographical distribution of Pacific doctors, however 40 percent of Pacific senior medical staff, and 53 percent of junior medical staff employed by District Health Boards as at 31 March 2012 were employed at Auckland, Counties-Manukau, and Waitemata District Health Boards<sup>32</sup>.

As the data in Table 3 indicates, Pacific doctors as a proportion of all doctors peaked in 2008 at 1.8 percent. The proportion reported for the 2010 year was 1.3 percent, although this figure is higher than the comparable figure for 1998 which was one percent<sup>33</sup>. The variability in the percentage of Pacific doctors is likely to be a function of the relatively small numbers involved.

Pacific doctors are younger on average than their peers with female Pacific doctors reporting an average age of 37 years, and male Pacific doctors an average age of 43 years. The comparable average ages for the whole medical workforce are 41 years and 48 years respectively.

<sup>32</sup> HWNZ, 2012

<sup>33</sup> MCNZ 1998

**Table 3 Ethnicity and average ages of the medical workforce, 2005 to 2010**

Ethnicity	2005	2006	2007	2008	2009	2010	Average age (Females)	Average age (Males)
All Pacific	1.5%	1.6%	1.6%	1.8%	1.4%	1.3%	37	43
NZ European	57.5%	55.9%	56.9%	55.3%	53.9%	53.3%	43	50
NZ Māori	2.6%	2.5%	2.7%	3.1%	3.0%	3.0%	38	43
All other	38.4%	40.0%	39.1%	39.7%	41.6%	42.5%	N/A	N/A
Total	100%	100%	100%	100%	100%	100%	41	48

Source: Figures from MCNZ (2011). 'All other' group aggregated from source data.

Note: Actual figures in columns may not total 100% due to rounding. Average age by gender for the 2010 year.

Most Pacific doctors identify their work role as being a General Practitioner (28 percent), Registrar (26 percent), or other Specialist (21 percent). The proportion of Pacific doctors working as specialists (in areas other than General Practice) is markedly lower than the proportion of NZ/European doctors who are specialists (41 percent)<sup>34</sup>.

We can infer from these percentages that there were approximately 50 Pacific doctors working as General Practitioners in 2010.

The number of registered doctors increased between 1998 and 2010 from 8,491 to 13,883, an increase of 63 percent. We estimate that the number of Pacific doctors increased by a faster rate (112 percent) over the same period to total 180 in 2010, albeit from a relatively low base of 85<sup>35</sup>.

### Nursing workforce

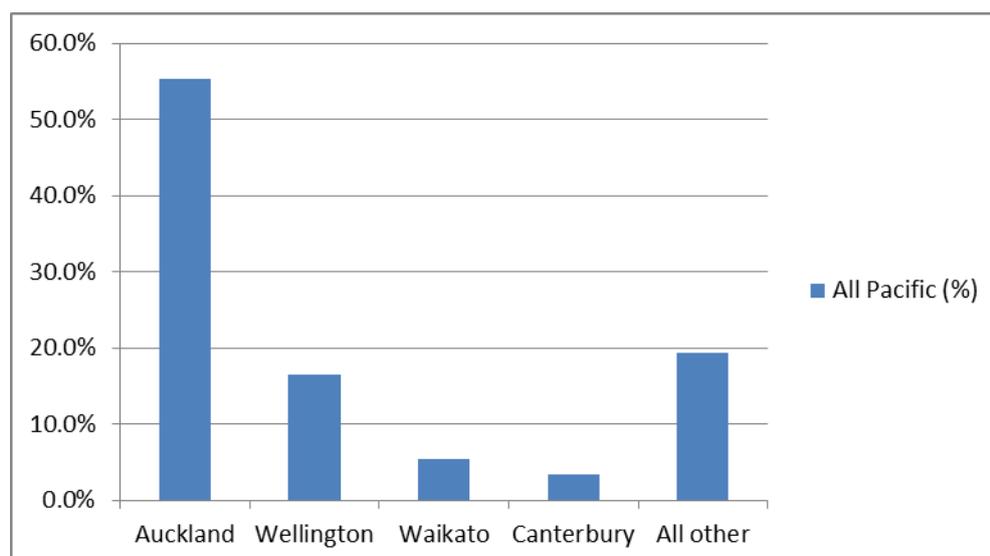
The 1,627 Pacific nurses made up 3.4 percent of the 48,563 practising nurses on the New Zealand Nursing Register as at 31 March 2011.

Pacific nurses are concentrated in the Auckland region (55.3 percent), and to a lesser extent Wellington (16.6 percent). The concentration of Pacific nurses in Auckland reflects the concentration of the Pacific population in that region (67 percent of Pacific people lived in Auckland in 2006).

<sup>34</sup> MCNZ, 2010

<sup>35</sup> Medical Council of New Zealand (1998)

**Figure 7: Geographic distribution of Pacific nurses in New Zealand, 2011**



Source: Source data from Nursing Council of New Zealand (2011).

As shown in Table 4 below, Pacific nurses are more likely to be registered nurses. At 31 March 2011, there were two Pacific nurse practitioners, 113 Pacific enrolled nurses, and 1,637 Pacific registered nurses.

**Table 4 Roles in the nursing workforce (%), 2011**

Role	Number (all)	% (all)	Number (Pacific)	% (Pacific of total?)
Registered nurses	45,318	93.3%	1,520	93.4%
Enrolled nurses	3,156	6.5%	105	6.4%
Nurse Practitioners	89	0.2%	2	0.1%
Total	48,563	100.0%	1,627	100.0%

Source: Source data from Nursing Council of New Zealand (2011).

Registered nurses comprise both the largest group of nurses overall (45,318), and the largest number of Pacific nurses (1,520). Pacific registered nurses represent 3.4 percent of all registered nurses.

The practice areas of Pacific and all nurses have been aggregated into the four categories of Community/Primary, Disability, Secondary/Tertiary, and Other<sup>36</sup>. Comparing the distribution of practice areas of Pacific nurses against the wider nursing workforce in Table 5 indicates that Pacific nurses are more likely to be employed in secondary/tertiary practice areas, and less likely to be employed in the practice area grouping of 'Other'.

<sup>36</sup> Community/Primary covers practice areas that are predominantly delivered in the community (such as Practice Nursing, and Primary Health Care), Disability (covering the practice area of intellectually disabled), Secondary/Tertiary (covering practice areas that involve the delivery of specialist services (for example, Intensive Care, and Surgical), and Other (covering Nursing policy, research, education, and all non-specific responses). Practice areas which may involve an element of primary care but which we assess as being offered predominantly as secondary services (such as Child and Youth health) have been deemed to be secondary care.

**Table 5 Distribution of Pacific nurses by practice area type, 2011**

Practice area type	All Pacific (%)	NZ		All others (%)
		European/Pakeha (%)	NZ Maori (%)	
Community/Primary	19.4%	20.0%	26.0%	13.4%
Disability	0.4%	0.5%	0.5%	0.5%
Secondary/Tertiary	64.4%	57.4%	51.8%	65.2%
Other/unstated	15.7%	22.2%	21.8%	20.9%
Totals	100.0%	100.0%	100.0%	100.0%

**Source:** Source data from Nursing Council of New Zealand (2011). **Notes:** Refer to appendix one for an explanation of how the reporting of multiple ethnicities has been handled.

The key drivers of these differences appear to be the lower likelihood that Pacific nurses are engaged in Nursing Administration and Management, Nursing Education, Nursing Policy, and Nursing Research (4 percent of all Pacific nurses compared to 7.2 percent overall). Conversely, Pacific nurses are more likely to be engaged in Continuing Care (12.4 percent of all Pacific nurses compared to 9.1 percent for all nurses).

Table 6 on the following page compares the distribution of Pacific nurses by employment setting to that reported by other nurses. The largest proportion of Pacific nurses is employed in DHB (acute) settings (35.6 percent). A further 30 percent<sup>37</sup> of Pacific nurses are employed in the following settings: Rest Home/Residential Care (11.1 percent); Primary Health Care (PHO)/Community Service (9.9 percent); and DHB (community) (9.1 percent). While Pacific nurses make up a significant component of the nursing workforce employed by Pacific health service providers, employment in such providers accounts for only 2.7 percent of all Pacific nurses.

The proportion of Pacific nurses employed in rest homes and residential care appears to be relatively high given the age profile of the Pacific population. Statistics New Zealand estimates that 5.0 percent of all Pacific people in New Zealand were 65 years or older, by comparison the proportion of people aged 65 years or older in the general population was 13.2 percent.

<sup>37</sup> Actual percentage is 30.0495%

**Table 6 Distribution of Pacific nurses by employment settings, 2011**

<b>Employment settings</b>	<b>All Pacific (%)</b>	<b>NZ European/Pakeha (%)</b>	<b>NZ Maori (%)</b>	<b>All others (%)</b>
DHB (acute)	35.6%	34.4%	30.4%	41.3%
Rest Home/Residential Care	11.1%	8.6%	9.3%	10.5%
Primary Health Care (PHO)/Community Service	9.9%	13.6%	11.5%	7.7%
DHB (community)	9.1%	9.3%	12.0%	7.3%
unstated	7.5%	6.7%	7.6%	8.4%
Private Hospital	7.2%	7.3%	3.4%	7.4%
DHB (other)	6.0%	5.9%	5.7%	5.8%
Nursing Agency	4.6%	1.3%	1.9%	2.1%
Pacific Health Service Provider	2.7%	0.0%	0.1%	0.0%
Other	2.4%	6.5%	4.7%	4.9%
Educational institution	1.2%	2.3%	2.3%	1.6%
Maori Health Service Provider	1.1%	0.7%	7.7%	0.4%
Government Agency	0.9%	1.1%	1.3%	1.0%
Self-employed	0.6%	1.5%	1.2%	0.9%
Rural	0.1%	0.7%	1.0%	0.5%
All individuals	100.0%	100.0%	100.0%	100.0%

**Source:** Source data from Nursing Council of New Zealand (2011)

## **Other health professions**

It is estimated that there are 283 Pacific people working in health professions other than doctors and nurses. Pacific people make up 1.03 percent of the 27,563 'other' health workers in New Zealand.

There is considerable variation in the extent to which Pacific people are employed in the other health professions ranging from 2.9 percent (or 33 individuals) of all medical laboratory technicians, to there being no Pacific podiatrists.

There are twenty or more Pacific people working as medical laboratory scientists (44), physiotherapists (42), midwives (40), medical laboratory technicians (33), medical radiation technologists (30), pharmacists (21), and dentists (20). There are also 19 Pacific people working as psychologists.

There are fewer than ten Pacific people working in eight professions (chiropractic, dental hygienists and auxiliaries, dental technicians, dental therapists, dietetics, dispensing opticians, optometrists, and osteopaths). Of the 173 registered podiatrists in New Zealand, none identify with a Pacific ethnicity. No ethnicity data was available for occupational therapists or psychotherapists.

Detailed information on the numbers of other health professionals, and those that identify with one or more Pacific ethnicities is presented in appendix three.

## **Participation by Pacific peoples in the unregulated health workforce**

It was difficult to source reliable information about Pacific people's level of participation in the unregulated health workforce. We have however provided some contextual information below, and made reference to some secondary analysis of the Pacific unregulated workforce.

Health Workforce New Zealand estimates that there were 42,590 people employed in the broad occupational group of 'Care and support'. This is broadly consistent with the estimates made by Careerforce (2012) that indicate that there may be up to 44,000 workers with significant components including:

- i. personal care workers (23,360 or 57 percent);
- ii. community workers (4,349 or 10 percent);
- iii. aged or disabled carers (7 percent or 3,282); and
- iv. nursing support workers (6 percent or 2,489).

The 2006 Census indicated that there were approximately 9,294 Pacific people working as community and personal service workers<sup>38</sup>. The definition of community and personal

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service workers is broad and it includes roles involving assistance to health professionals in the provision of patient care, providing information and support on a range of social welfare matters, and providing other services in the areas of aged care and childcare, it also includes services such as education support, hospitality, defence, policing and emergency services, security, travel and tourism, fitness, sports and personal services.

The Department of Labour's Sector Tool which also uses census data (amongst a number of sources) indicates that there were 6,867 Pacific people working in Health and Community Services. Health and Community Services covers hospitals and nursing homes; medical and dental services; other health services; veterinary services; child care services and community care services<sup>39</sup>.

Data supplied by District Health Boards indicates that they employed 8,886 people in Care and Support roles as at 31 March 2012, and that Pacific people made up 661 (7.4 percent) of these workers.

Secondary analysis of the Pacific unregulated workforce indicates that it is:

- i. diverse in roles and competencies;
- ii. valued by managers, and clients, particularly where staff demonstrate competency in one or more Pacific languages and cultures;
- iii. paid wage rates varying between \$11/hour<sup>40</sup> and \$35/hour at the time the relevant report was prepared; and
- iv. largely employed full-time, female, mature and in terms of formal education, not highly qualified<sup>41</sup>.

These findings suggest that Pacific unregulated health workers may represent the largest group of Pacific health workers, and are likely to comprise the majority of the Pacific health workforce. The skill levels of this group, and their relatively large number, suggests that they represent one of the most significant opportunities for enhancing the Pacific health workforce. This is discussed in more detail as part of the section of the report dealing with training and qualifying the health workforce.

### **Pacific peoples as health managers and other support roles**

According to figures provided by Health Workforce New Zealand, there were 31,505 people working in areas classified as management and administration roles for organisations whose self-designated primary purpose is related to human health in 2011.

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<sup>40</sup> The actual minimum wage in 2008 was \$11.25 per hour. In 2012, this has risen to \$14 in 2014.

<sup>41</sup> Samu, 2009

District Health Boards reported that they employed 15,046 people in 'corporate and other' roles as at 31 March 2012. The 'corporate and other' roles includes a diverse range of roles including executive positions, administration and clerical, business administration professionals, health service managers and business administration managers, orderlies, security, technical and trades, cleaners and facilities and engineering managers.

As at 31 March 2012, there were 734 (representing 4.9% of all DHB employees) reporting one or more Pacific ethnicity. This figure would imply that there are approximately 1,500 Pacific people employed in management and administration roles in the health workforce generally. It should be noted that this category includes many lower skilled roles and Pacific people may have higher representation in such roles.

### **Pacific health workers as a proportion of the Pacific population**

This section presents the ratio of Pacific health workers per 1,000 Pacific people in 2011, and estimates the numbers of Pacific health workers needed to ensure that the per capita ratio for Pacific is the same as the current ratio for the population as a whole.

We divided the number of Pacific doctors, nurses and other health professionals by the total Pacific population to calculate per capita ratios for each workforce group. The total Pacific population was based on forecasts provided by Health Workforce New Zealand. Regional per capita ratios required estimates to be made of the number of Pacific people resident in each region in 2011. To do this we drew on the percentage distribution of Pacific people recorded in the 2006 census. These percentages were then applied to the forecast total Pacific population in 2011.

Inequalities in the distribution of health workers are often described by comparing the number of health workers per capita. Measures that seek to assess the relevant ratios for subnational groups may, however, be a less reliable indicator. This lower reliability can arise because there is not a direct relationship between the ethnicity of health workers and their patients. Per capita measures may also be confounded by the non-uniform distribution of health care needs<sup>42</sup>.

Research into measurement issues relating to inequalities in access to human resources for health has noted that the value of most inequality measures changes if larger or smaller groupings of a population are chosen, that is, differences will be accentuated when described across smaller geographical divisions<sup>43</sup>.

Despite these limitations, per capita ratios for Pacific health workers have been used because they provide two important signals:

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<sup>42</sup> Munga, 2009.

<sup>43</sup> WHO, 2006.

- the extent to which the systems and processes that lead to the formation of workforces either unconsciously or consciously discriminate against certain ethnic groups; and
- the relative *quality* of the health care that subnational groups may be able to access (that is, in terms of the appropriateness of the care that they receive).

Per capita measures also provide a useful way to assess how many more Pacific health workers might be required to achieve per capita ratios that are consistent with those reported for the general population.

### Per capita ratios in New Zealand

Table 7 provides information on the per capita ratio of Pacific health workers by key groupings compared to the overall Pacific population, and the ratios reported for the general population.

The ratio of Pacific doctors per 1,000 Pacific people was estimated to be 0.6 in 2010, compared to a ratio of 3.2 for the wider population. The relevant average for OECD countries in 2010 was 3.1<sup>44</sup>. The number of Pacific doctors required to achieve a ratio of 3.2 per 1,000 Pacific people in 2011 would have been 911, rising to 1,064 by 2020 (in line with population forecasts).

For Pacific nurses the relevant estimated ratio was 5.7 per 1,000 Pacific people. The relevant average for OECD countries in 2010 was 8.7. To attain the ratio reported for the whole New Zealand population, the number of Pacific nurses in 2011 would need to have been 3,133 and this would need to rise to 3,657 by 2020.

**Table 7 Per capita measures of Pacific health workers, 2011 to 2020**

Year	2011	2016	2020
Pacific peoples	284,820	311,620	332,484
Current Pacific doctors (#)	180		
Current Pacific doctors (ratio per 1,000)	0.6		
Current ratio for the general population	3.2	3.2	3.2
Pacific doctors required for comparable ratio (#)	911	997	1,064
Current Pacific nurses (#)	1,627		
Current Pacific nurses (ratio per 1,000)	5.7		
Current ratio for the general population	11.0	11.0	11.0
Pacific nurses required (#)	3,133	3,428	3,657
Current Pacific allied health workers (#)	283		
Current Pacific allied health workers (ratio per 1,000)	1.0	1.0	1.0
Current ratio for the general population	4.2	4.2	4.2
Pacific allied health workers required (#)	1,210	1,324	1,412

Source: Source data from relevant registration bodies. Per capita ratios derived from Health Workforce New Zealand (2012a)

Notes: Population figures for 2011 and 2016 provided by Statistics New Zealand. Figure for 2020 estimated based on projected change between 2016 and 2021.

<sup>44</sup> OECD, 2012

The disparity in the ratios reported for other health workers appears to be similar to those reported for doctors. The ratio of Pacific other health workers per 1,000 Pacific peoples was estimated to be 1.0 in 2010, compared to 4.2 for the wider population. The number of Pacific other health workers required to achieve a ratio of 4.2 per 1,000 Pacific people in 2011 would have been 1,210 rising to 1,412 by 2020.

Information on the geographic distribution of Pacific nurses was sourced from the Nursing Council of New Zealand and this enabled analysis on a regional basis. This analysis (Table 8 refers) suggests that the Auckland region has a relatively low number of Pacific nurses per capita. Particularly notable is the higher rate reported for the Wellington and Waikato regions.

The higher per capita ratio for all other regions is likely to be because 86 Pacific nurses did not report the geographic location of their workplace. Even if the assumption that all of these Pacific nurses were employed in Auckland is adopted, there is only a modest effect on the per capita ratio, raising it from 5.1 to 5.5 per thousand.

**Table 8 Regional per capita measures of Pacific nurses, 2011**

<b>Year</b>	<b>Population</b>	<b>Nurses</b>	<b>Per capita</b>
Pacific peoples (all)	284,820	1,627	5.7
Auckland region	191,531	968	5.1
Wellington region	34,921	269	7.7
Waikato region	12,961	87	6.7
Canterbury region	11,723	57	4.8
All other (includes unstated)	33,683	246	7.3

**Source:** Source data from Nursing Council of New Zealand (2011). Per capita ratios derived from Statistics New Zealand (2008), and Health Workforce New Zealand (2012a)

## Section three - Growing the workforce: key sources of potential Pacific health workers

### Key Points

- Approximately 17.5% of the 37,485 Pacific young people aged between 16 and 24 years were enrolled in tertiary education at degree-level or above in 2011.
- Less than one percent of Pacific young people (301) were studying towards the degrees required to become a doctor or a nurse in 2011.
- 4,810 Pacific students left secondary school in 2008, 22.6% or 1,085 of these students had attained either NCEA level 3 or university entrance.
- Only 14.9% (or 715 Pacific students) had both university entrance and NCEA level 3. Achievement of standards is key determinant of success at tertiary level.
- Migration appears to be a significant factor in the composition of the Pacific nursing workforce with approximately 31.6% of all Pacific nurses having first registered overseas, predominantly in the South Pacific. There appears to be a lag of up to ten years between registration overseas and employment in New Zealand. By contrast most other overseas registered nurses work in New Zealand soon after they first register.
- Migration is a less significant factor in the formation of the Pacific medical workforce.
- Based on the household labour force survey we estimate that the talents, skills and experience of up to 30,000 Pacific adults are under-utilised.

### Overview

In this section we describe the skills and training pipeline for the regulated workforce from secondary schooling through the tertiary education system. We have focussed on the medical and nursing workforce to demonstrate the issues for supply of Pacific health professionals. This has required interpretation as the datasets do not match across the different educational and professional organisations from which we have tried to describe the pipeline. The medical and nursing occupations are the only professions with sufficient numbers and a clear enough pathway to do this.

Entry to the majority of the occupations in the regulated health workforce requires qualifications at least at diploma or undergraduate degree level. From a supply perspective, studying the education pipeline begins with obtaining university entrance at secondary

school and meeting entry requirements for study in health related tertiary qualifications. Completion of the relevant qualification is then followed by a period of vocational education to meet licensing requirements with the relevant professional body.

This section discusses supply of Pacific people through the education pipeline for the medical and nursing workforce.

The key factors that impact on current participation and achievement in tertiary education are:

- school leaver achievement;
- transitions from school to tertiary education;
- other pathways in to tertiary education;
- first year attrition and retention from tertiary education; and
- progression rates.

Migration is a further source of skilled labour for the Pacific health workforce. Although we conclude that this is unlikely to be an important source for the Pacific health workforce in the future, we have included here for completeness.

We have also attempted to quantify the potential pool of Pacific adult learners and explored some factors specific to the unregulated health workforce. There is very little information available about the training or entry pathways or requirements for the unregulated workforce. Using labour force participation and unemployment data we have described a considerable group of Pacific people whose talents, skills and experience are under-utilised.

There is evidence that a number of overseas trained and qualified Pacific nurse migrants have not been able to gain employment in the regulated workforce and are employed as lower skilled workers in the unregulated health workforce, for example in the aged care sector.

## **Methodology**

We can discern the sources of Pacific health workers by examining the profile of the current health workforce in terms of their prior qualifications and training, and the countries in which those qualifications were obtained. For health workers trained in New Zealand we have also been able to identify information about students enrolled in qualifications leading to careers in the regulated health workforce.

While the following analysis explores the training pipeline of potential workforce from the perspective of the current workforce, it is also important to note the limitations of such an approach. Limitations include a) dependency on the quality and comprehensiveness of the data that it draws upon, and b) does not necessarily provide a guide to the sources of Pacific health workers in the future.

Data relating to the attainment of university entrance, and NCEA level 3, and the rate at which Pacific students with university entrance transition to tertiary education was provided by the Ministry of Education. Detailed information about tertiary enrolments from the Tertiary Education Commission's (TEC) website was also used. In setting investment levels for tertiary education organisations, the TEC does not specifically seek to achieve a particular level of teaching and learning in health-related fields, although the number of places for medical students is capped at 485 per annum<sup>45</sup>.

These data sources were used to calculate the proportion of Pacific young people who were enrolled in medical and nursing degrees in 2011 to describe the pathway transition processes, and the scale of the school leaver cohort.

For the unregulated health workforce data about potential adult learners has been drawn from the household labour force survey from June 2012, and our own comparison of the rates reported for Pacific peoples with those for Europeans. Information about the skill level of the adult Pacific population was drawn from secondary analysis by the Ministry of Pacific Island Affairs and uses the portion of Pacific people with degree-level qualifications as a proxy measure.

Information about the influence of migration on the Pacific health workforce is drawn from the workforce surveys undertaken by the Medical Council of New Zealand, and the Nursing Council of New Zealand.

### **Pathways from school to tertiary education for medical and nursing trainees**

Pacific young people are relatively less likely to transition directly from secondary school to degree level study required to become a doctor or a nurse. We have been able to identify that there were 350 Pacific young people aged between 18 and 24 years enrolled in either the Bachelor of Medicine and Bachelor of Surgery, or Bachelor of Nursing degrees during the 2011 calendar year. These students represent approximately 0.9% of the 37,485 Pacific young people aged between 18 and 24 years.

The entry requirements for medical and nursing professions involve the completion of the relevant degree-level programme. Students progressing from secondary school to the Bachelor of Nursing degree are required to attain university entrance.

Students seeking admission to the Bachelor of Medicine and Bachelor of Surgery at either the University of Auckland or University of Otago must first gain admission to a common or intermediate year of 'first year' papers. Admission to this common year normally requires university entrance with at least some merit and excellence grades at NCEA Level 3.

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<sup>45</sup> <http://www.tec.govt.nz/Funding/Budget/Budget-2011/Universities/>

Students are also encouraged to take chemistry, physics and biology at Year 13 (and to level 3 NCEA for chemistry and physics).

Students with university entrance **but without** relevant subject requirements may also undertake a preparatory year of study at sub-degree level in order to gain admission to the intermediate year. In semester two of 2012 for example there were 38 Pacific students enrolled in the Certificate in Health Science at the University of Auckland. Admission to the Bachelor of Medicine and Bachelor of Surgery at the University of Auckland is via interview and only candidates with a 'B+' average attained either as part of eight specified first year courses, or an undergraduate degree can gain entry. Similar requirements apply at the University of Otago.

We were unable to access sufficiently detailed information on the rates at which Pacific students' transition to the Bachelor of Medicine and Bachelor of Surgery (or to other degree programmes) from the intermediate years at either university. In part this is because of the complexities of the pathways that students take, for example, some may choose to enrol directly into the intermediate year without pursuing the recommendation of academic staff to undertake the Certificate in Health Studies, and because of the lack and variability of mechanisms to track the progress of students over time.

We were able to draw on analysis undertaken by staff at the University of Otago of the effectiveness of the Pacific Orientation Programme at Otago (POPO). This programme forms part of a wider suite of initiatives aimed at ensuring that graduates reflect and are responsive to the diversity in society<sup>46</sup>. The analysis reported improved rates of course attainment during their first semester of study with an apparent correlation with the extent of the student's engagement with the programme and their level of educational attainment at secondary school<sup>47</sup>.

The rate at which Pacific students attain university entrance, and the relevant 'quality' of that achievement to health careers, is likely to be a significant (but not exclusive) determinant of their likelihood of entering the medical and nursing workforce (although there are a range of other factors which we discuss in subsequent sections).

The relevant literature provides a number of explanations for rates of attainment of university entrance on one hand, and the uptake of training opportunities that require the development of competencies in particular areas on the other. For example, socio-economic composition may affect school processes so as to cumulatively boost the academic performance of schools in higher decile settings and suppress it in low socio-economic, lower decile settings<sup>48</sup>.

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<sup>46</sup> Crampton (2012)

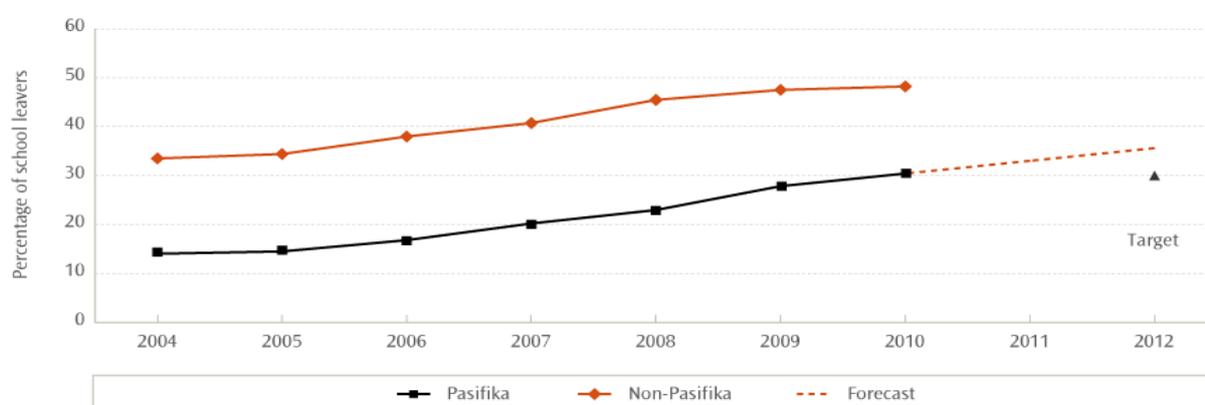
<sup>47</sup> Sopoaga and van der Meer (2011).

<sup>48</sup> Thrupp and Lupton (2006)

For those students that do achieve university entrance other factors can influence the extent to which they are prepared for advanced study. These include the impact that decisions about subject choice (whether made by parents, teachers, or student themselves), and which subjects, standards, and opportunities for merit and excellence grades are offered by schools<sup>49</sup>.

The rates of university entrance attainment by Pacific school leavers are shown in Figure 8. Between 2004 and 2010 the rates at which Pacific school leavers gained university entrance have increased from 14.5 percent to 30.5 percent. However this data gives no indication of the subjects comprising the university entrance standard achieved, for example the prevalence of science subjects.

**Figure 8 Percentage of school leavers with a university entrance standard (2004 to 2010)**



Source: Ministry of Education (2012b)

Appendix four provides more detailed information on the regional and ethnic differences in the attainment of university entrance amongst Pacific peoples.

The number of Pacific young people who progress to degree-level tertiary education of any type, and the number and proportion of those who undertake medical and nursing training is relatively small (Table 9 refers). Admission to degree-level study is relatively unusual for young people under the age of 18 generally, and the figures provided in Table 9 will necessarily include some Pacific young people who gain admission to the relevant programmes after a period of other tertiary education, or via the admission provisions for adult learners (i.e. those over the age of 20 can enter university study without UE).

Nevertheless the general point can be made that the current mechanisms facilitating transition from secondary school to tertiary education are not resulting in significant numbers of Pacific young people accessing degree-level study.

**Table 9 Pacific young people aged 18-24 years, 2011 calendar year**

Type	18-19 year olds	20-24 year olds
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<sup>49</sup> Madjar (2009)

Total Pacific population aged 15-24	37,485	
Enrolled in tertiary education	18,331	
Enrolled in degree-level training	6,579	
Enrolled in Medical training	9	92
Enrolled in Nursing training	84	165
Sub-total (medicine and nursing)	93	257
Medicine and nursing as a proportion of those in degree-level training	5.3%	
<b>Medicine and nursing enrolments as a proportion of all Pacific young people</b>	<b>0.9%</b>	

Sources: Selected figures sourced from TEC (2012b)

Note: Nursing students under the age of 18 at the date of first enrolment treated as 18 year olds

Data supplied by the Ministry of Education indicates that there were at least 4,810 Pacific secondary school leavers in 2008, with 22.6% or 1,085 of these students having attained either NCEA level 3 or university entrance. Only 14.9% (or 715) of these students had both university entrance and NCEA level 3, the combination of which is a key determinant of success at tertiary level.

Data supplied by the Ministry of Education also shows that for Pacific students leaving secondary school in 2008 with university entrance, 585 had transitioned to degree-level study at a university by 2010 and 30 transitioned to an Institute of Technology and Polytechnic (Ministry of Education, 2012)<sup>50</sup>.

A notable feature of this data is that the rates of progression to university study (within two years of attaining university entrance) for Pacific students who attained university entrance in 2008 was 78 percent, higher than the same as the rate for the general population (75 percent). It does seem apparent that for those Pacific young people who are appropriately prepared by the secondary school system that degree-level study, particularly in the university sector is highly valued.

The different patterns of enrolment by Pacific school leavers has some implications for the health workforce because Bachelor's degrees leading to employment as a doctor are only offered by two universities, while nursing training is largely provided by most institutes of technology and polytechnics (discussed below).

We were unable to obtain sufficiently disaggregated data about the subjects attempted and achieved by Pacific school leavers to assess whether these students were attaining the science and numeracy skills (for example, NCEA level three in chemistry, biology and physics, and mathematics subjects) suitable for nursing and medicine. As a result, we are unable to state definitively whether Pacific students are being well-prepared in terms of their subject selection for medical and nursing training. There is, however, extensive secondary analysis that suggests that the process of subject selection for Pacific students in

<sup>50</sup> Figure of 585 based on Pacific domestic students who left secondary school in 2008 and went on to study at bachelors level in either 2009 or 2010, and who are under 20 years of age when they start their degree-level study.

secondary school is not appropriate to the needs of these students<sup>51</sup>. Further the relatively small number of Pacific young people undertaking degree-level study in medicine and nursing suggests that these processes are little different for these programmes.

## **Migration**

Migration is a further potential source of skilled labour for the Pacific health workforce. However, the mechanisms by which the workforce may be augmented for other population groups through migration may be less effective for Pacific peoples because the potential source countries have relatively under-developed health infrastructure, and health training services. Further the recruitment of skilled labour from developing countries raises complex ethical issues.

The extent to which health professionals employed in New Zealand were trained in the South Pacific (and Fiji in particular) is likely to be a reasonable proxy for migration as a source of Pacific doctors and nurses.

## **Overseas trained Doctors**

The most recent workforce statistics from the Medical Council of New Zealand indicates that there a ‘...small number (of doctors) from the Pacific Islands’<sup>52</sup>. These doctors will most likely have been trained at the College of Medicine and Health Science at Fiji National University or the University of the South Pacific in Papua New Guinea.

Analysis of retention rates for overseas-trained doctors indicates that fewer than 20% of those migrating from the Oceania region are still employed in New Zealand after 10 years, however the rate includes a much larger number of doctors trained in Australia and so should not be relied upon.

On balance, we consider that migration has a relatively modest impact on the total number of Pacific doctors in New Zealand.

## **Overseas-trained Nurses**

Nurses who receive their first registration in a country other than New Zealand represent 24% of all nurses in New Zealand. Data supplied by the Nursing Council of New Zealand indicates that overseas-trained Pacific nurses total 486 representing 29.8% of all Pacific nurses. The largest sources of overseas-trained nurses were Fiji (268) and Tonga (92) with 430 overall having been trained in Pacific countries.

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<sup>51</sup> Madjar (2009)

<sup>52</sup> MCNZ (2011)

Based on information published by the Nursing Council it appears that there is a lag between graduation and subsequent employment in New Zealand of ten years or more. While we can infer from this that nurses trained in the South Pacific who migrate to New Zealand do so after a period of employment elsewhere, we were not able to confirm this.

There is evidence that a number of overseas trained and qualified Pacific nurse migrants have not been able to gain employment in the regulated workforce and are employed as lower skilled workers in the unregulated health workforce, for example in the aged care sector.

The Nursing Council of New Zealand does not publish figures on the retention rates (within New Zealand) of nurses trained overseas, and historic information on the nursing workforce reported only the total proportion of overseas trained nurses (16% in 1998)<sup>53</sup>. While this suggests that the total number and proportion of overseas-trained Pacific nurses may have increased over the same period, we were unable to confirm this. In addition, we were not able to affirm whether overseas-trained Pacific nurses are more or less likely to remain in New Zealand<sup>54</sup>.

## Adult learners

Tala practised as a nurse in Samoa for 12 years prior to migrating to New Zealand. She tried to get registration in New Zealand but despite having excellent spoken English she failed the International English Language Test (IELTS). She got work as a caregiver in a rest home. She earns \$30,000 per annum. In 2010 she joined the return to nursing programme through Unitec. She was supported to re-sit her IELTS and she passed. She is now employed by the District Health Board and her salary is \$70,000 per annum. She also has the opportunity to work overtime when she wants.

There are a considerable group of Pacific people whose talents, skills and experience are under-utilised. The household labour force survey for the quarter ending June 2012 reported that for the 200,800 Pacific people over the age of 15:

- I. 17,900 were actively seeking work;
- II. 14.9 percent were unemployed (the comparable rates for European and Maori were 5.2 percent and 12.8 percent respectively); and
- III. There was a labour force participation rate of 59.8 percent (equivalent to 80,722 Pacific people not being in the labour force) with the comparable rates for European and Maori being 69.5 percent and 65.6 percent<sup>55</sup>.

Had there been no differences between the level of unemployment and labour force participation rates reported for Pacific people and Pakeha/European, approximately 30,000 additional Pacific people would have been in

<sup>53</sup> Nursing Council of New Zealand. 2000. New Zealand Registered Nurses, Midwives and Enrolled Nurses – Workforce Statistics. URL: <http://www.nursingcouncil.org.nz/download/186/2000.pdf> Accessed 3 September 2012

<sup>54</sup> The relevant table for 2011 is on page 51 of the NCNZ report at <http://www.nursingcouncil.org.nz/download/186/31march2011.pdf>

The relevant table for 1998 is on page 26 of <http://www.nursingcouncil.org.nz/download/186/2000.pdf>

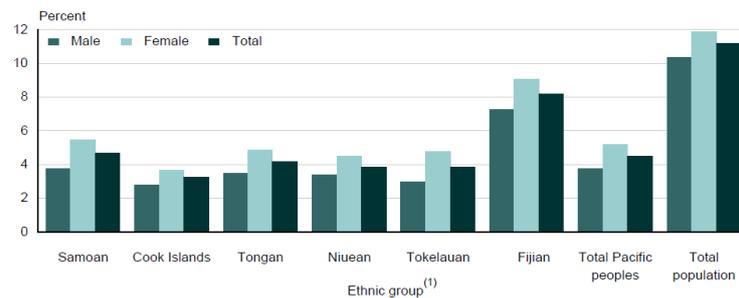
<sup>55</sup> [http://www.stats.govt.nz/browse\\_for\\_stats/income-and-work/employment\\_and\\_unemployment/HouseholdLabourForceSurvey\\_HOTPJun12qtr/Definitions.aspx](http://www.stats.govt.nz/browse_for_stats/income-and-work/employment_and_unemployment/HouseholdLabourForceSurvey_HOTPJun12qtr/Definitions.aspx)

Camelita migrated to New Zealand with her family when she was 25. She worked as a cleaner in a rest home. She really wanted to be a nurse so when her youngest child went to school and with encouragement from her boss and nursing staff at the home, Camelita enrolled full-time in the Whitireia Bachelor of Nursing Pacific programme. At the age of 38, Camelita became a registered nurse. She wants to work in primary care but there are no places available on the DHB NETP programme. By the time a place becomes available, she will no longer meet the DHB entry requirements for the NETP programme because she will have been practising as a registered nurse for more than 6 months. Camelita is considering shifting to Brisbane because she heard the Pacific community is growing, the pay is better and it will be easier for her find work in the community.

employment in the June 2012 quarter.

Pacific people overall are much less likely than the general population to hold a degree-level qualification, and much more likely to not have any secondary school qualification. Figure 9 shows the proportion of Pacific people who reported the attainment of a degree-level qualification in the 2006 census.

**Figure 9 Pacific people with a degree-level qualification, by ethnic group, and gender, 2006 census**



1. Where persons reported more than one ethnic group, they have been counted in each applicable group.

Source: Ministry of Pacific Island Affairs (2010).

A comprehensive survey of literacy and numeracy skills conducted in 2006, and subsequent analysis by the Ministry of Education found that among almost all population subgroups of Pacific adults in New Zealand in

2006 (i.e. groups defined by age, gender, labour force status, etc), nearly two thirds or more of members of the subgroup did not have the level of skills allowing full participation in the knowledge society and economy<sup>56</sup>. Amongst the groups that were most likely to demonstrate this level of literacy were Pacific people aged 25-34 years, women, those in employment, and those with tertiary-level education.

Providing effective and meaningful opportunities for adult Pacific people to attain degree-level or higher qualifications could make a significant contribution to the numbers of Pacific people able to participate in key health workforce groups.

In addition, the unregulated health workforce provides a large pool of workers engaged in relevant employment who could be potentially prepared for employment in the regulated health workforce. However, the secondary analysis of the unregulated health workforce (Samu, 2009) implies that the job 'resilience' (someone's capacity to reattach from one job

<sup>56</sup> Lawes (2009)

to another) of this group of Pacific workers is relatively lower because of their skill level, and age<sup>57</sup>.

Putting in place initiatives aimed at improving the skill levels of workers in the unregulated health workforce, providing clear pathways to relevant education and training and appropriate support for adult and second chance learners may improve the ability of Pacific people in the unregulated workforce to participate in higher skilled health sector roles, including paraprofessional roles.

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<sup>57</sup> For more information on the factors influencing job resilience please refer to:  
[http://www.dol.govt.nz/services/LMI/workforce2020/resilience-to-recession/resilience-to-recession\\_04.asp](http://www.dol.govt.nz/services/LMI/workforce2020/resilience-to-recession/resilience-to-recession_04.asp)

## Section four - Training and qualifying Pacific people for the health workforce

### Key Points

- Approximately 2,521 Pacific people were enrolled in tertiary education in health-related fields in 2011, with around 1,700 of those at degree-level or higher.
- Nursing attracts the largest proportion of Pacific students at degree-level or higher with approximately 700 enrolments.
- There were 119 Pacific medical students in 2011, an increase of 54.5% compared to 2007 when there were 77. Completions over the same period increased from 8 to 16.
- Pacific medical students tend on average to be younger than nursing students, and are more likely to hold university entrance, and more likely to transition directly from secondary school to tertiary education.
- The number of Pacific people enrolled in Bachelor of Nursing degrees in 2011 was 513, an increase of 64% from 2007. Completions over the same period increased by 74% to 73.
- The high ratios achieved in the Wellington region demonstrate that the tertiary system can respond to the challenge.
- To achieve the same ratio of enrolments per capita as the Wellington region, the number of enrolments at the tertiary education organisations offering nursing training in the Auckland region would need to increase from 289 to 581.
- The number of completions in the Auckland region is only one-third higher than that reported for Wellington region despite having a Pacific population more than five times larger.

### Overview

We now examine enrolment patterns for Pacific young people or adult learners. This analysis shows the relatively small numbers of learners at each level including degree-level study leading to careers in medicine, nursing, and the other health professions.

Detailed analysis of the differences between Pacific students studying toward Bachelor of Medicine and Bachelor of Surgery, Bachelor of Nursing, and Bachelor of Nursing (Pacific) degrees is presented to provide a reference point for discussions about the appropriateness of workforce initiatives tailored to specific source populations. Enrolment and completion data for these programmes has also been analysed to help form a view of the effectiveness of the current tertiary education provision, and to identify opportunities for improvement.

We compare the rates of enrolments and completions of Bachelor of Nursing degrees in the Auckland and Wellington region in order to highlight the role that tertiary education in Auckland plays in addressing health workforce issues for Pacific peoples.

Finally, we examine the profile of enrolments in postgraduate and Masters-level programmes in health to assess the opportunities that exist for advanced learning and research for current and future Pacific health workers.

Where practicable, these results have been used to inform our forecasts for the Pacific health workforce through to 2020 (Section 5) so that we can draw some conclusions about whether the current settings will result in a health workforce that better reflects the population that it serves.

## **Methodology**

Information on enrolments in tertiary education has been derived from data published on the TEC's website. We have relied on the fields of study used by tertiary education organisations to describe the nature of the teaching and learning involved in the relevant tertiary education programmes. This information is not necessarily reliable because of data quality issues and some tertiary education is not well-aligned to the descriptors that are used. As such this information should only be used as a guide to the nature of the tertiary education that students are undertaking.

We have reported information at the level of individual students in preference to equivalent full-time students (EFTS). EFTS is used for funding and some reporting purposes because it can provide a better guide to the intensity of activity being undertaken by students. We have selected individual students because there are relatively few Pacific students engaged in tertiary education in the broad area of health. Care should be taken in interpreting the data however because students enrolled in less than a full-time programme of study will necessarily take longer to complete their programme of study.

We have reported student enrolment information based on the levels of the New Zealand Qualifications Framework. Care should be taken in interpreting this data because the framework at certain levels combines different 'types' of learning, for example, level 7 is associated with both Bachelors Degree and Graduate Diplomas and Graduate Certificates.

More detailed (and anonymised) information on student characteristics, enrolments and completions for the Bachelor of Medicine and Bachelor of Surgery, Bachelor of Nursing, and Bachelor of Nursing (Pacific) degrees was also provided by the TEC. We use the term medical students interchangeably with those individuals enrolled in the degree of Bachelor of Medicine and Bachelor of Surgery. Similarly, nursing students refers to those enrolled in the Bachelor of Nursing, and Bachelor of Nursing (Pacific) degrees.

The data relating to nursing students was then combined with the information about the distribution of the Pacific population and the location of the relevant tertiary education organisations to calculate per capita ratios of enrolments and completions.

These per capita measures were then used to draw conclusions about the extent to which regional Pacific populations are well-served in terms of tertiary education leading to careers in medicine or nursing. The differences in these per capita measures between the Auckland and Wellington regions for nursing are highlighted and discussed in more detail.

### Pacific people enrolled in tertiary education

Within the tertiary education system there were approximately 37,826 students<sup>58</sup> who identified with at least one Pacific ethnicity enrolled in the 2011 calendar year. Table 10 shows that of these approximately 2,521 students were engaged in studies in the broad field of Health<sup>59</sup>.

**Table 10 Pacific students enrolled in tertiary education, 2011**

Type	Students
Pacific tertiary students (all levels)	37,826
<i>Pacific enrolled in field of study of Health</i>	2,521
PhD level	212 *
<i>Pacific enrolled in field of study of Health</i>	N/A
Masters and Postgraduate qualifications	1,429 **
<i>Pacific enrolled in field of study of Health</i>	282
Bachelors degrees and Graduate Certificates	11,009
<i>Pacific enrolled in field of study of Health</i>	1,348
Below degree-level	25,139
<i>Pacific enrolled in field of study of Health</i>	888

Source: TEC (2012a)

Notes: The actual number of Pacific students enrolled in PhD study in the field of study of Health is 3, however 73% of PhD student enrolments are not specifically classified and may include some research health-related topics.

### Sub-degree level study

Within the tertiary education system there were approximately 25,139 Pacific students (enrolled in tertiary education at levels below degree-level). Of these 888 (or 3.5%) were undertaking study in the field of Health at Certificate and Diploma level in 2011. The largest subgroups at this level were Human Movement and Sport Science (252 students Nursing (202 students), and Public Health (200 students)<sup>60</sup>.

<sup>58</sup> Limited to students who held New Zealand citizenship or equivalent. Some students may be counted more than one if they enrolled in more than one programme in the relevant year.

<sup>59</sup> For a comprehensive summary of the fields of study covered by Health see [http://www.educationcounts.govt.nz/data-services/collecting-information/code\\_sets/new\\_zealand\\_standard\\_classification\\_of\\_education\\_nzscd/nzscd\\_detailed\\_fields\\_of\\_study](http://www.educationcounts.govt.nz/data-services/collecting-information/code_sets/new_zealand_standard_classification_of_education_nzscd/nzscd_detailed_fields_of_study)

<sup>60</sup> Nursing students were predominantly associated with the detailed field of study of Health Care Assistant (139 students). Human movement and Sport Sciences is a detailed field of study under the grouping of 'Other Health'.

## Degree level study

We can understand more about the distribution of Pacific students undertaking degree-level programmes in health-related areas from Table 11 below. It is apparent from this data that 80% of all degree-level enrolments are associated with students enrolled in degrees in Nursing and related fields (609 students), Public Health (325 students), and Medical Students (138 students).

**Table 11 Pacific students enrolled in Bachelor degrees and Graduate Certificates in Health-related programmes, 2011 calendar year**

Narrow Field Name	Detail Field Name	Students
Complementary Therapies	Acupuncture	5
	Naturopathy and Homeopathy	2
	Traditional Chinese Medicine	3
Dental Studies	Dental Hygiene and Therapy	10
	Dental Studies not elsewhere classified	7
	Dental Technology	4
Medical Studies	Dentistry	2
	General Medicine	97
	Medical Studies not elsewhere classified	30
Nursing	Unknown	11
	Nursing	558
	Midwifery	42
Optical Science	Nursing not elsewhere classified	9
	Optometry	2
	Other Health	143
Pharmacy	Health not elsewhere classified	1
	Human Movement and Sports Science	1
	Paramedical Studies	1
Public Health	Pharmacy	19
	Community Health	170
	Environmental Health	45
Radiography	Health Education, Promotion, Counseling	2
	Occupational Health and Safety	5
	Unknown	103
Rehabilitation Therapies	Medical Imaging Technology (Radiography) and Radiation Therapy	9
	Chiropractic and Osteopathy	7
	Massage Therapy	1
Occupational Health and Safety	Occupational Therapy	18
	Physiotherapy	31
	Speech Pathology	4

Source: TEC (2012(a)).

Notes: All figures given are for equivalent fulltime students eligible for funding as domestic students, that is those eligible to receive Student Achievement Component funding. Differences between other data provided in this report can arise due to differences between counts of individual students, and the relationship between reported fields of study and names of degree programmes, and inclusion of graduate certificates in Table 10

The possibility exists that the coding of individual degree programmes may be unreliable, however it can be inferred from the data that enrolments in degrees leading to the other health professions make up a relatively small proportion of all enrolments. For example, Midwifery accounted for 42 students, Physiotherapy 31 students, Pharmacy 19 students, Medical Imaging Technology (Radiography) and Radiation Therapy 9 students, Chiropractic and Osteopathy 7 students, and Optometry 2 students.

### **Students studying toward medical and nursing degrees**

As might be expected there are significant differences between students studying toward the Bachelor of Medicine and Bachelor of Surgery degrees offered at the University of Auckland and the University of Otago, and the Bachelor of Nursing degrees offered at a number of tertiary education organisations around New Zealand (Table 12 refers). Pacific medical students are:

- younger with 85 percent of medical students being under the age of 25. The lower proportion of medical students aged 18-19 years reflects the delayed enrolment of students in the Bachelor of Medicine and Bachelor of Surgery due to the requirement to complete an intermediate, or common, year prior to admission.
- The progression of Pacific medical students directly from secondary school and their relative level of preparation is indicated by the proportion whose last year of secondary school was 2006 or later (47.9 percent) and high rate of attainment of university entrance (94 percent).

Pacific Bachelor of Nursing and Bachelor of Nursing (Pacific) students are:

- more likely to report their last year of secondary school as 1999 or earlier (40 percent compared to 2.5 percent for medical students), and Bachelor of Nursing (Pacific) are least likely to hold university entrance at admission (24.6 percent) compared to Bachelor of Nursing students (42.2 percent).
- The evident lag between leaving secondary school and pursuing a Bachelor of Nursing degree is indicated by the 51.8 percent of Pacific nursing students who are over the age of 25 (TEC 2012) with 11.1 percent of Bachelor of Nursing students and 19.7 percent of Bachelor of Nursing (Pacific) students aged 40 years or older. By comparison, there were no Pacific medical students aged 40 years or older.

**Table 12 Characteristics of medical students, Bachelor of Nursing, and Bachelor of Nursing (Pacific students), 2011 calendar year**

Type	Medical students	Bachelor of Nursing students	Bachelor of Nursing (Pacific) students
Total number of students enrolled (2011)	119	388	122
<b>Age profile</b>			
17 Years and Under	0.0%	0.5%	0.0%
18 - 19	7.6%	16.8%	13.1%
20 - 24	77.3%	32.7%	30.3%
25 - 39	15.1%	39.2%	36.9%
40 Years and Over	0.0%	11.1%	19.7%
<b>Highest secondary school qualification</b>			
University entrance or higher	93.3%	42.2%	24.6%
Other qualification	1.7%	4.9%	8.2%
Less than university entrance	5.0%	52.9%	67.2%
<b>Last year of secondary school</b>			
Since 2006 (inclusive)	68.1%	42.2%	37.7%
2000-2005 (inclusive)	29.4%	21.6%	9.8%
Prior to 1999 (inclusive)	2.5%	36.2%	52.5%
<b>First year of tertiary education</b>			
Since 2006 (inclusive)	79.0%	67.3 %	72.4%
2000-2005 (inclusive)	19.3%	20.4%	16.3%
Prior to 1999 (inclusive)	1.7%	12.4%	11.4%
<b>Activity prior to enrolment</b>			
Student (secondary)	72.3%	30.6%	28.8%
Student (tertiary)	15.1%	17.5%	6.4%
Employed	5.9%	34.4%	44.0%
Not in employment	0.0%	12.3%	18.4%
Other	6.7%	5.1%	2.4%

Pacific Bachelor of Nursing (Pacific) students were approximately 27.9 percent more likely to be employed prior to their admission (44.0 percent) compared to Bachelor of Nursing students (34.4 percent), and almost six and a half times more likely to be employed than medical students (5.9 percent).

These results indicate that there are very distinct differences in the level of academic preparation, propensity to transition from secondary school to tertiary education, and the age profile of Pacific medical and nursing students. There are also some further differences between those students pursuing Bachelor of Nursing, and Bachelor of Nursing (Pacific) degrees.

It would be expected from these results that the completion rates of medical students would be relatively high, and those of Bachelor of Nursing, and Bachelor of Nursing (Pacific) reasonably similar. The subsequent sections provide more information on completion rates, and explore possible reasons for any differences in these.

### **Enrolments and completions of medical degrees**

The process of meeting the licensing requirements for employment in the clinical workforce, in general terms, involves the completion of an undergraduate degree followed by a period of vocational education and continued professional development<sup>61</sup>.

In the case of doctors, the requirements are:

- i. the Health Sciences First Year programme at Otago University, or the first year of either the Bachelor of Health Sciences or Bachelor of Science in Biomedical Science at Auckland University;
- ii. a Bachelor of Medicine and Bachelor of Surgery;
- iii. between one and two years, depending on the area of specialty, as an intern (supervised junior doctor) in a hospital;
- iv. another three to eight years training, depending on the area of specialty, and examinations to become a Fellow (registered member) of a doctors' college (professional association); and
- v. continuing professional education to keep up to date with new research and technology.

The admission criteria and process for the Health Sciences First year programmes at the two universities is rigorous and comprehensive. The decision to undertake a medical degree given the long timeframes involved implies that the students concerned are making a significant personal commitment. Taking these two factors together would suggest that completion rates for medical students are likely to be relatively high.

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<sup>61</sup> This report does not examine the rates at which the Pacific workforce engage in ongoing professional development specifically, but uses their participation in the workforce as a proxy.

As shown by Table 13, the number of enrolments in clinical training has increased significantly over the past five years.

**Table 13 Pacific student enrolments and completions in Bachelor of Medicine and Bachelor of Surgery degrees, 2007 to 2011**

Type/Year	2007	2008	2009	2010	2011
Enrolments	77	86	109	121	119
Completions	8	8	16	18	16

Source: TEC (2012).

The increase in enrolments by Pacific students in the Bachelor of Medicine & Bachelor of Surgery was almost entirely attributable to the University of Auckland. In 2007, Pacific medical students at Auckland University made up two-thirds of the total Pacific medical students and by 2011 they accounted for 75.6 percent.

The number of enrolments in the University of Auckland's Bachelor of Medicine & Bachelor of Surgery appears to have stabilised in the last few years. Staff involved in the programme attribute this stabilisation to the care that has been taken to balance the obvious desirability of enhancing diversity in the student population with ensuring that any student accepted into the degree is well-prepared for its demands.

The completions figures presented in Table 13 could be interpreted to show relatively low completion rates. It should be noted that the relevant degrees are five years in length. That means that, for example, of the 77 Pacific medical students enrolled in 2007 we might expect approximately one-fifth, i.e. between 15 or 16, of them to be first year students. The 2011 calendar year would be the first opportunity for this cohort to complete, and the number of completions reported in 2011 was in fact 16.

While reliance on a single data point and an inferred pattern of enrolment and completion may not provide a full view of the rates of qualification attainment by Pacific medical students, the processes themselves are relatively straight forward and a number of factors that would tend to be associated with higher completion rates are noted. In addition, staff involved in the support of Pacific medical students have advised that non-completion by medical students generally is rare.

The nature of the 'market' for medical training in New Zealand makes it difficult to assess in a quantitative sense the relative performance of the providers in offering training that is relevant to the needs of Pacific young peoples and communities, and maximises opportunities for the relatively few Pacific young people who are well-prepared by the secondary school system for medical training.

With only two providers each serving a 'catchment' which is nominally national in scope it is difficult to infer whether the relative distribution of enrolments between Auckland and Otago is indicative of the performance by each provider. We would expect however that

Pacific medical students are more likely to enrol at the University of Auckland given the concentration of Pacific peoples in the North Island, and Auckland in particular.

The sample sizes with which we work are relatively small meaning that the decisions of individual students or sub-groups of students about where to study can have a disproportionate impact on the measured performance of the two universities.

In addition, if we use the current state (that is 119 enrolments in 2011) as a reference point for comparing the two organisations we run the risk of assuming that current number of Pacific medical student enrolments is reflective of the total potential cohort. The very low rate at which Pacific young people enrol in medical training would tend to suggest that there is considerable scope to increase the number of these students, particularly in the Auckland region.

Both organisations have reported the establishment of mechanisms for the tracking of student progress and achievement with a focus on the cohort that has accessed the support programmes that have been put in place for Pacific. There is, however, limited analysis of this information in the public domain (Sopoaga and van der Meer (2011) being an exception). As a result, we have been unable to verify the effectiveness of these programmes to any meaningful extent.

Information on the progress of individual students would be an essential input into decision-making about the effectiveness of programmes that aim to support Pacific students, and whether they are attaining their wider objectives (for example, ensuring that enrolments in all health sciences programmes reflect the diversity in the New Zealand population).

### **Enrolments and completions of nursing degrees**

The numbers of enrolments and completions by Pacific students enrolled in Bachelor of Nursing and Bachelor of Nursing (Pacific) degrees has increased rapidly over the past five years, however these increases conceal a degree of variability within the sector.

There were 448 individual Pacific students studying toward Bachelor of Nursing degrees in 2011 (Table 14 refers). The number of Pacific enrolments in Bachelor of Nursing degrees has increased by 64 percent since 2007 when there were 312 students. The number of completions has increased over the same period from 42 to 73, an increase of 74 percent.

**Table 14 Pacific student enrolments in Bachelor of Nursing programmes, 2007 to 2011**

Year	2007	2008	2009	2010	2011
<b>Enrolments</b>	312	325	396	454	513
<b>Completions</b>	42	43	70	55	73

Source: TEC (2012).

Notes: Enrolments in Bachelor of Nursing programmes drawn from multiple TEOs (discussed below). Data is limited to Student Component funded enrolments in each year.

Our analysis indicates that during the 2011 calendar year for every 1,000 Pacific people there were 1.8 students studying to become a nurse. The rate of completion in the same year was 0.3 per 1,000 Pacific people (Table 15 refers).

There are significant regional variations in the distribution of nursing enrolments and completions relative to the resident Pacific population in those regions.

**Table 15 Distribution of Pacific nursing enrolments and completions compared to regional distribution of Pacific population, 2011**

Region	Pacific population (%)	Enrolments (no.)	Enrolments per 1,000	Completions (no.)	Completions per 1,000
Auckland	67%	289	1.5	32	0.2
Wellington	12%	106	3.0	24	0.7
Waikato	5%	33	2.5	2	0.2
Other regions	16%	85	1.9	15	0.3
<b>Total</b>	<b>100.0%</b>	<b>513</b>	<b>1.8</b>	<b>73</b>	<b>0.3</b>

Source: TEC (2012). Data for Pacific regional population groups derived from HWNZ (2012a) and Statistics New Zealand (2008).

**Notes:** Figures for the distribution of the total Pacific population are based on total resident Pacific population projections from Statistics New Zealand for the 2011 calendar year. Enrolment figures subject to the same limitations as Table 10.

There were a total of 289 Pacific nursing students enrolled during the 2011 calendar year in the tertiary education organisations in the Auckland region representing 56 percent of all nursing students. The largest number of enrolments was reported by Manukau Institute of Technology with 158 enrolments.

The highest rates of participation and completion are associated with the Wellington region, which may reflect the long commitment to the training of Pacific people by Whitireia Community Polytechnic through the Bachelor of Nursing (Pacific), and the proximity of the TEO to a significant Pacific community.

Analysis of the change in the relevant ratios over time indicate that since 2007 a number of providers have made significant progress towards increasing the rate at which Pacific people enrol in and complete nursing programmes. Between 2007 and 2011 the enrolments by Pacific people in nursing programmes increased by 64 percent, with a number of providers reporting increases of more than 200 percent (the Manukau Institute of Technology, the Eastern Institute of Technology, and the Waikato Institute of Technology). By contrast, a

number of providers have reported significantly lower rates of growth, or in some cases a decline.

### Comparing the Auckland and Wellington regions

The most significant trend with both regional and national implications is the level of enrolments and completions reported in the Auckland region, particularly given the concentration of Pacific people (67 percent) in that region. The results reported for the Auckland region contrast most strikingly with those for Wellington. Student enrolments and completions per 1,000 people in Wellington were 3.0 and 0.7 respectively and the highest rates recorded nationally. By comparison the rates for the Auckland region were 1.5 and 0.3 respectively.

The total number of enrolments by Pacific students in Bachelor of Nursing or Bachelor of Nursing (Pacific) degrees in Auckland increased from 163 to 289 between 2007 and 2011. The primary source of this growth was Manukau Institute of Technology where numbers increased from 45 to 156 over the same period. By contrast Auckland University of Technology and Unitec New Zealand reported more modest growth of 27 percent and 12 percent over the period respectively, and the University of Auckland reported a decline.

The number of completions reported for Pacific students enrolled in the Bachelor of Nursing or Bachelor of Nursing (Pacific) for metropolitan Auckland region were 32 in 2011, and an average of 25 per annum between 2007 and 2010. In the Wellington region, enrolments increased between 2007 and 2011 from 75 to 106, and completions from 15 to 24.

The number of completions in the Auckland region in the 2011 calendar year was one-third higher than that reported for Wellington region despite a Pacific population which more than five times larger. Of the 24 completions reported in the Wellington region, 22 were associated with the Bachelor of Nursing (Pacific) at Whitireia Community Polytechnic. Based on an inferred rate of completion (that is by comparing the number of students commencing their studies in year n with the number of completions in year n+2) we can determine that the completion rate for the Bachelor of Nursing (Pacific) has averaged approximately 78.5 percent between 2009 and 2011 (Table 16 refers).

**Table 16 Inferred rate of completion, Pacific students studying toward the Bachelor of Nursing (Pacific), 2007 to 2011**

Type	2007	2008	2009	Average
Total number of students	55	52	65	57
Students starting (estimated)	18	17	22	19
Expected completions in year n+2	18	17	22	19
Actual completions in year n+2	14	10	22	15
Completion rate	76.4%	57.7%	101.5%	78.5%

Source: Raw data sourced from TEC (2012). The comparable rate for other Bachelor of Nursing degrees is 37.5%.

The level of enrolment and completion growth in the Auckland is encouraging, however in order to deliver results consistent with those reported in the Wellington region it would be necessary for:

- i. enrolments to increase from 289 to 581; and
- ii. completions to increase from 32 to 132.

Raising the level of participation and attainment in the Auckland region of Pacific nursing students is a significant opportunity. While we have not undertaken a comprehensive review of the factors associated with higher performance of the Wellington region, the disparity in results between Auckland and Wellington does raise important questions about the way in which nursing education for Pacific people is organised<sup>62</sup>.

### **Clinical placements**

In the year ending 30 June 2012 there were 191 Pacific trainees who commenced some form of post-entry clinical training funded through Health Workforce New Zealand.

Clinical placements can be divided into two main groups which are: those leading to registration or the basic vocational upskilling that is required following graduation, and advanced clinical or specialist vocational training.

We have identified from the data supplied by Health Workforce New Zealand that there are 21 Pacific doctors who commenced training as either year one or year two House Surgeons, that is undertaking their internship following graduation, during the year ending 30 June 2012. This number is broadly consistent with the numbers reported as graduating in 2010 and 2011.

For Pacific nurses approximately 54 enrolled in the Nursing Entry to Practice (NETP) programmes that are funded through Health Workforce New Zealand during the year ending 30 June 2012. The NETP programmes aim to support the transition of the new graduate nurses into the nursing workforce. Again these numbers are broadly consistent with the number of Pacific nurses reported as completing during 2010 and 2011.

In terms of the numbers of Pacific people undertaking advanced clinical or specialist vocational training, the data indicates that this group comprises 70 Pacific nurses, 27 Pacific doctors and 4 Pacific Allied Health professionals.

The 70 Pacific nurses undertaking clinical vocational training funded through Health Workforce New Zealand represents a subset of those enrolled in postgraduate nursing training generally (discussed below). We were unable to assess the extent the overlap (if

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<sup>62</sup> It should be noted that differences in the type of tertiary education available to students in the Auckland region compared to the Wellington region may be a factor in the differing levels of participation in nursing programmes. However, these differences do not necessarily explain the lower rates of completion which have been reported.

any) between these groups. The data from Health Workforce New Zealand does indicate that seven of the Pacific nurses were undertaking postgraduate study with some form of clinical mentoring.

There was limited information about the detail of the clinical training that was being undertaken however we note that 15 of the Pacific doctors in this group were working toward training as general practitioners, and six were working towards training for cardiothoracic surgery. Given the small numbers involved and the data quality issues noted above it would not be wise to draw significant conclusions about the numbers of Pacific people undertaking specialist training in medicine, however we can note that there was only one Pacific doctor undertaking clinical training in each of Obstetrics and Gynaecology, and Paediatrics.

**Table 17 New clinical placements, year ending 30 June 2012**

Classification	Trainees
Nursing (Postgraduate)	70
Nursing (New Entry to Practice)	54
Medical (House Surgeons)	21
Other medical including general practice	21
SET Surgical Training - Cardiothoracic Surgery	6
Allied Health	4
Other (not classified)	15
Total	191

Note: All data supplied by Health Workforce New Zealand.

The nature of the training undertaken by 15 trainees is not defined in the Health Workforce New Zealand data that was supplied and as a result the figures above should be treated as a guide only. In addition, not all clinical training is funded by Health Workforce New Zealand.

### **Masters degrees**

There was insufficient data to draw a definitive conclusion about the areas of focus for the 212 Pacific students working towards PhDs to assess how many of these are focussed on health-related areas because the fields of study for most students are not classified in a meaningful way.

Sarah was a top student at her South Auckland college. She achieved NCEA Level 2 with excellence. After attending a careers day she decided she wanted to become a radiologist. Her parents said if she wanted to work at a hospital it was better for her to be a doctor. She studied biology and chemistry for the first time in Year 13. Sarah did not really enjoy taking science subjects and combined with her church responsibilities and leadership role at school her grades dropped dramatically.

She successfully applied to Auckland University for admission to the First Year Health Science programme supported by the Maori and Pacific Admission Scheme (MAPAS). Sarah's parents were really proud and told everyone Sarah was studying to be a doctor. They bought her a car and relaxed their previous strict curfews to allow Sarah flexibility to study.

Sarah struggled from the outset. She did not bother applying to medical school after her first year because she knew her grades weren't good enough. After completing her Bachelor of Health Science, Sarah got a job working in human resources at Auckland City Council. While looking for information for her boss Sarah discovered Unitec offered a Bachelor of Health Science in medical imaging. Sarah studied part time for 3 more years to become a radio therapist.

Her student loan was \$54,000 on completion.

There were 49 Pacific students studying at Masters level toward programmes related to Health. The largest group for whom field of study information is available is the 21 students enrolled in nursing-related studies. The number of Pacific people studying toward a Masters-level programme in Nursing suggests that there may be some opportunities to increase the small number (2 out of 89) of Nurse Practitioners who are Pacific. This is because completion of a clinically-focused Masters of Nursing degree is one of the requirements for registration as a Nurse Practitioner.

Smaller numbers of students are enrolled in Public Health (seven students), Audiology (two students), and Speech Pathology (two students). There is one student enrolled in each of Occupational Therapy, Nutrition and Dietetics and Midwifery.

The largest provider of Masters-level programmes to Pacific students is the University of Auckland accounting for 40.8% of all such student enrolments with at least half of these in Nursing.

## Other postgraduate qualifications

The ability to perform more detailed analysis of the 233 Pacific students enrolled in other postgraduate programmes is also limited because 60 of these enrolments are not specifically classified.

The largest group of those that were classified was Nursing with 108 students accounting for 46.4%. Smaller numbers were reported in Community Health (21 students), Psychiatry (14 students), and Medical Imaging Technology (Radiography) and Radiation Therapy (7 students). Consistent with the small numbers of Pacific people working in a range of the other health professions were the very low enrolments, e.g no more than two individuals, in Midwifery, Nutrition and Dietetics, and Rehabilitation Therapies.

The largest provider of Postgraduate Diplomas and Postgraduate Certificate programmes to Pacific students is also the University of Auckland accounting for 56.2% of all such student enrolments with approximately 60% of these in Nursing.

## Section five: Forecasts to 2020 for the Pacific health workforce

### Key Points

- The numbers of Pacific doctors is forecast to increase from 180 to 231 between 2011 and 2020, an increase of 28%. The ratio of Pacific doctors per 1,000 Pacific people will increase slightly from 0.6 to 0.7 per 1,000 Pacific people.
- The number of Pacific registered nurses is forecast to increase from 1,637 to between 1,911 and 2,348 between 2011 and 2020. The best case scenario for the ratio of Pacific registered nurses per 1,000 Pacific people by 2020 is 7.1 per 1,000.
- Because of the limited information about the unregulated health workforce, and the highly diverse nature and very small numbers of Pacific people in the other health professions, no modelling was undertaken.
- The results of the clinical scenarios suggest that significant change in the composition of the workforce in the short to medium term for nurses is relatively attainable, but that this process will take much longer for doctors.
- The scenarios for nurses and medical workforce might provide some clues to changes in the number of other health professionals over time, but further, and more detailed analysis is required.

### Overview

This section of the report provides forecasts of the number of Pacific doctors and registered nurses between 2011 and 2020.

We have attempted to estimate the numbers of medical students, those undertaking internships, and engaged in specialist training by 2020 to inform assessments about what kind of support will be required for these emerging doctors over the remainder of the decade. Forecasting of the medical workforce also seeks to highlight the time it will take for the recent increase in the number of Pacific medical students to result in registered doctors. The number of Pacific general practitioners is also forecast and is intended to inform decision-making about the clinical support available for primary health care.

More extensive forecasting was undertaken for the registered nurse workforce with three forecasts prepared. This was because the shorter pipeline period (three years) between enrolment and registration means that the workforce 'stock' is more variable.

## Methodology

Detailed information on the methodology used for each forecast is provided in the relevant subsection.

The source data for enrolments and completions was drawn from the data provided by the TEC. Information specific to the medical workforce was drawn from the Medical Council of New Zealand as part of its annual workforce survey.

The nursing forecast used data from the most recent Nursing Council of New Zealand workforce survey.

## Forecasting the Pacific medical workforce

A scenario for the Pacific medical workforce was developed based on the key factors identified in the workforce development model. The model is relatively simple and was adjustable along the following dimensions:

- i. rate of growth in student enrolments;
- ii. rate of completion of the Bachelor of Medicine and Bachelor of Surgery degrees;
- iii. rate at which graduates transition to registration;
- iv. rate at which Pacific doctors are expected to retire;
- v. rate at which doctors exit for the workforce or leave New Zealand for any reason other than retirement; and
- vi. the length of time it takes for a graduate to attain registration.

As discussed above, student enrolments in the Bachelor of Medicine and Bachelor of Surgery between 2007 and 2011 increased by 11 percent per annum. It is noted that the relatively rapid rate of growth is a function of the implementation of more effective admissions and recruitment strategies at the universities offering medical training. Advice from Auckland University MAPAS programme indicates that enrolment numbers are likely to remain relatively stable for the medium term and therefore the rate of enrolment growth was set at 1 percent per annum. Adjusting the rate of enrolment growth makes no difference to the total workforce during the forecast period because of the time it takes to train a doctor (discussed below).

A completion rate of 100 percent for students attempting the Bachelor of Medicine and Bachelor of Surgery to take account of the highly motivated and academically capable student cohort was assumed. It was also assumed that 100 percent of graduates progress to registration.

The model has accounted for the possibility that some graduates may leave prior to, during, or after their training is complete (the measured rate for all graduates is 40 percent after ten years<sup>63</sup>) by calculating the relevant ratios for the group of Pacific doctors. In the model

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<sup>63</sup> MCNZ (2010)

the number of Pacific doctors or recent graduates leaving the workforce is estimated to be five per year between 2011 and 2016, rising to nine per year from 2017 to 2020. The increased number of exiting doctors is intended to reflect the impact of the increase in the number of Pacific people participating in the medical workforce in some form.

It has been estimated that the number of Pacific doctors retiring per year to be 2 per year between 2011 and 2016, and 3 per year from 2017 to 2020. The higher number attempts to take account of the general aging of the workforce over time.

The length of time that it takes for a doctor to attain the requirements for registration varies. For this model it is assumed that the average period of time between graduation and registration is six years.

Based on the assumptions noted above, by 2020 there will be:

- i. 130 Pacific medical students by 2020 (up from 119 in 2011);
- ii. 25 graduates in 2020 (up from 16 in 2011);
- iii. 231 Pacific doctors (up from 180 in 2011); and
- iv. a ratio of 0.7 Pacific doctors per 1,000 Pacific people by 2020.

**Table 18 Forecast Pacific medical workforce, 2011 to 2020**

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated workforce (start)	180	181	182	183	184	193	200	204	209	219
Student enrolments	119	120	121	123	124	125	126	128	129	130
Number of graduates	16	17	22	24	24	24	24	25	25	25
New registrants	8	8	8	8	16	18	16	17	22	24
Numbers retiring	2	2	2	2	2	2	3	3	3	3
Numbers exiting for other reasons	5	5	5	5	5	9	9	9	9	9
<b>Estimated workforce (year-end)</b>	<b>181</b>	<b>182</b>	<b>183</b>	<b>184</b>	<b>193</b>	<b>200</b>	<b>204</b>	<b>209</b>	<b>219</b>	<b>231</b>
Estimated GP workforce	51	53	55	58	62	69	76	82	91	101
Forecast population <sup>64</sup> )	284,820	290,180	295,540	300,900	306,260	311,620	316,836	322,052	327,268	332,484
Ratio per 1,000 Pacific people	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7

Assumptions	Rates/estimates
Rate of growth in enrolments	1%
Rate of completions	100%
Rate of transition to internship	100%
Numbers retiring (2011-16)	2
Numbers retiring (2017-21)	3
Rate exiting for other reasons	Based on graduate retention rates described in MCNZ (2010). Rates for Pacific graduates inferred from these rates
Average length of time to registration	Six years
Ratio of graduates selecting general practice	28% (proportion of Pacific doctors working as general practitioners in 2010)
Adjustable ratio of GPs (from 2016)	40%

<sup>64</sup> Health Workforce New Zealand (2012a)

An attempt has been made to forecast the number of Pacific registered general practitioners. Assuming that current and future graduates select general practice as their specialty at the same rate as the current cohort of Pacific registered doctors, the number of general practitioners will rise from 51 to 89 by 2020 as past enrolment growth works through the system.

Increasing the rate at which general practice is selected as a specialty to, for example, 40 percent would have a modest impact, increasing the number of general practitioners to 101 by 2020 (Table 18 refers).

Forecasting beyond 2020, while problematic given the assumptions that underpin the model that has been used, does indicate a significant increase in the number of registered Pacific doctors in line with the significant growth in enrolments between 2007 and 2011.

### **The Pacific registered nurse workforce to 2020**

Three scenarios for the Pacific registered nurse workforce based on the key factors in the workforce development model has been developed. The model is relatively simple and was adjustable along the following dimensions:

- i. rate of growth in student enrolments;
- ii. rate of the completion of Bachelor of Nursing degrees;
- iii. rate at which graduates transition into employment;
- iv. rate of migration;
- v. rate at which nurses are expected to retire; and
- vi. proportion of nurses who exit for the workforce for any reason other than retirement.

Each of these rates was adjusted depending on the scenarios that were tested.

As discussed above, student enrolments between 2007 and 2011 have increased by 13 percent per annum. The rate of growth in student enrolments was varied to assess the impact of student recruitment, and enrolment decisions on the workforce.

To forecast the number of completions of the Bachelor of Nursing degree a calculation of the average percentage of completions compared to the number of enrolments reported three years prior to the completion year was undertaken. Where enrolments are in a steady state the theoretical completion rate would be 33 percent, i.e. one third of the students enrolled in 2007 would be expected to complete in 2009. In practice, the average rate of completion between 2007 and 2011 was 21 percent which is equivalent to a completion rate of 64 percent for each cohort of students.

There are two areas where the information we hold about the transition to work is incomplete and may influence the forecast model. Firstly, we have relied on reported completions (and fulfilment of the requirements for registration) as an indicator for the obtaining of employment. The actual rate at which new graduates (from the November 2010 cohort) obtained employment was 87 percent but no ethnic breakdown is provided in the relevant reporting<sup>65</sup>.

It has been assumed for this forecasting that the transition to employment is the norm for graduates, that is, the rate of transition to employment is 90 percent, and that the reported rate is a function of the short timeframe between graduation and the reporting of graduate destinations.

Each of the scenarios modelled assumes that the effects of migration are neutral on the nursing workforce, that is, the inflows of Pacific nurses from Fiji are the same as the number leaving to work overseas. Additionally, it has been estimated based on the age profile of Pacific nurses that an average of 23 Pacific nurses will retire each year between 2011 and 2016, rising to 29 per year between 2017 and 2020.

Finally, it has been assumed that few Pacific registered nurses exit the workforce for reasons unrelated to retirement or migration. For the scenarios modelled this attrition has been set this rate of 1 percent per annum.

## Scenarios – Pacific registered nurses

### Scenario 1

The first scenario (Table 19 on page 87) assumes that there is no significant growth in enrolments from 2012, and the number of completions follows the patterns reported between 2007 and 2011 and peaks at 108 per annum. This scenario has:

- i. 4513 Pacific nursing students by 2020 (equivalent to the total reported for the 2011 calendar year);
- ii. 1,975 Pacific nurses by 2020; and
- iii. a ratio of 6.1 Pacific nurses per 1,000 Pacific people by 2020.

### Scenario 2

The second scenario (Table 20 on page 88) assumes that the current growth in enrolments continues until the ratio of Pacific nursing students to Pacific peoples nationally matches the highest level reported for any region in New Zealand currently (i.e. 3.0). All other assumptions are unchanged. This scenario has:

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<sup>65</sup> NETS (2011)

- i. 997 Pacific nursing students by 2020 (reaching a ratio of 3.0 per 1,000 in 2016 and stabilising at that ratio);
- ii. 2,410 Pacific nurses by 2020; and
- iii. a ratio of 7.2 Pacific nurses per 1,000 Pacific people by 2020.

### Scenario 3

The third scenario (Table 21 on page 89) assumes that the current rate of enrolment growth for Pacific nursing students is sustained (i.e. 13 percent per annum between 2007 and 2011). Scenario three has:

- i. 2,302 Pacific nursing students (up from 513 in the 2011 calendar year);
- ii. 2,480 Pacific registered nurses by 2020; and
- iii. a ratio of 7.5 Pacific nurses per 1,000 Pacific people.

The very modest differences between scenarios two and three appear counterintuitive; however the primary influence in the number of qualified nurses is the rate at which students complete their studies, and the time that it takes for this to occur. The current rate of completion means that even as the number of student enrolments increases there is a considerable lag before completions are recorded, and the numbers involved remain small (relative to the number of enrolments).

At the time of writing the final results of the workforce modelling being undertaken by the Nursing Council of New Zealand was not available. We understand, however, that the modelling indicates that the total number of nurses (including nurse practitioners, registered and enrolled nurses) will rise from 48,563 to 53,000 by 2035, indicating that either our forecasting assumptions for scenarios two and three are too ambitious, or there are particular factors influencing the Pacific nursing workforce that are distinct from the general workforce.

### Commentary on the scenarios

The results of the scenarios suggest that significant change in the composition of the workforce in the short to medium term for nurses is relatively attainable. However, the per capita ratio of Pacific nurses to the Pacific population is lower than that for the general population, and even under relatively ambitious assumptions in scenario 3 (for example, 14 percent growth in enrolments per annum between 2012 and 2020) the numbers of Pacific registered nurses are not likely to increase to levels that reflect the share of the Pacific population between now and 2020.

The scenarios suggest that an increase in the number of Pacific registered nurses of the order of 700 between now and 2020 under the current settings should be considered a minimum, and the wider application of some of the initiatives described in the section 'Training and Qualifying Pacific people for the Health workforce' should result in better performance.

By contrast, the development pathway for doctors takes much longer, and so the effects of any change in enrolment patterns, and decisions about the selection of specialities are not evident for several years. Nevertheless the effects of the recent increase in Pacific students enrolled in the Bachelor of Medicine and Bachelor of Surgery is an opportunity to encourage a higher proportion of the emerging generation of Pacific physicians to pursue careers in primary health care.

The scenarios for nurses and medical workforce might also provide some clues to the way in which the workforce for the other health professions is formed, but further, and more detailed analysis would be required.

**Table 19 Forecast Pacific registered nurse workforce, 2011 to 2020 – scenario one**

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated workforce (start)	1520	1548	1595	1654	1712	1769	1826	1876	1926	1975
Student enrolments	513	513	513	513	513	513	513	513	513	513
Number of graduates	73	96	108	108	108	108	108	108	108	108
Numbers transitioning to work	66	86	98	98	98	98	98	98	98	98
Numbers retiring	-23	-23	-23	-23	-23	-23	-29	-29	-29	-29
Numbers exiting for other reasons	-15	-15	-16	-17	-17	-18	-18	-19	-19	-20
<b>Estimated workforce (year-end)</b>	1548	1595	1654	1712	1769	1826	1876	1926	1975	2024
Forecast population <sup>66</sup>	<b>284820</b>	290180	295540	300900	306260	<b>311620</b>	316836	322052	327268	332484
Ratio per 1,000 Pacific people	<b>5.4</b>	5.5	5.6	5.7	5.8	<b>5.9</b>	5.9	6.0	6.0	6.1

Assumptions	Rates/estimates
Rate of growth in enrolments until 2016	0%
Rate of growth in enrolments from 2017	0%
Rate of completions	64%
Rate of transition to work	90%
Numbers retiring (2011-16)	23
Numbers retiring (2017-21)	29
Rate exiting for other reasons	1%

<sup>66</sup> Source: Health Workforce New Zealand (2012a)

**Table 20 Forecast Pacific registered nurse workforce, 2011 to 2020 – scenario two**

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated workforce (start)	1520	1548	1595	1654	1725	1809	1908	2019	2148	2278
Student enrolments	513	580	655	740	836	935	951	966	982	997
Number of graduates	73	96	108	122	138	156	177	197	201	204
Numbers transitioning to work	66	86	98	110	125	141	159	178	181	184
Numbers retiring	-23	-23	-23	-23	-23	-23	-29	-29	-29	-29
Numbers exiting for other reasons	-15	-15	-16	-17	-17	-18	-19	-20	-21	-23
<b>Estimated workforce (year-end)</b>	1548	1595	1654	1725	1809	1908	2019	2148	2278	2410
Forecast population <sup>67</sup>	<b>284820</b>	290180	295540	300900	306260	<b>311620</b>	316836	322052	327268	332484
Ratio per 1,000 Pacific people	<b>5.4</b>	5.5	5.6	5.7	5.9	<b>6.1</b>	6.4	6.7	7.0	7.2

Assumptions	Rates/estimates
Rate of growth in enrolments until 2016	13%
Rate of growth in enrolments from 2017	0%
Rate of completions	64%
Rate of transition to work	90%
Numbers retiring (2011-16)	23
Numbers retiring (2017-21)	29
Rate exiting for other reasons	1%

<sup>67</sup> Source: Health Workforce New Zealand (2012a)

**Table 21 Forecast Pacific registered nurse workforce, 2011 to 2020 – scenario three**

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Estimated workforce (start)	1520	1548	1595	1654	1725	1809	1908	2019	2150	2302
Student enrolments	513	580	655	740	836	945	1068	1207	1364	1541
Number of graduates	73	96	108	122	138	156	177	200	226	255
Numbers transitioning to work	66	86	98	110	125	141	159	180	203	229
Numbers retiring	-23	-23	-23	-23	-23	-23	-29	-29	-29	-29
Numbers exiting for other reasons	-15	-15	-16	-17	-17	-18	-19	-20	-21	-23
<b>Estimated workforce (year-end)</b>	1548	1595	1654	1725	1809	1908	2019	2150	2302	2480
Forecast population <sup>68</sup>	284820	290180	295540	300900	306260	311620	316836	322052	327268	332484
Ratio per 1,000 Pacific people	5.4	5.5	5.6	5.7	5.9	6.1	6.4	6.7	7.0	7.5

Assumptions	Rates/estimates
Rate of growth in enrolments until 2016	13%
Rate of growth in enrolments from 2017	13%
Rate of completions	64%
Rate of transition to work	90%
Numbers retiring (2011-16)	23
Numbers retiring (2017-21)	29
Rate exiting for other reasons	1%

<sup>68</sup> Source: Health Workforce New Zealand (2012a)

## Section six: Clinical Scenario Modelling

### Key Points

- A family based approach to the clinical scenario was adopted because the Pacific Expert Group were of the view that understanding the complexity of the Pacific health issues would provide a more accurate picture of the workforce and systemic gaps, enabling an improved ability to determine appropriate solutions.
- The Misi family clinical scenario is not a fictitious or composite case study. Names of family members have been changed to protect their privacy.
- The case study demonstrates that the health needs of the Misi family are not being met, due to a complex array of factors which include socioeconomic determinants, health literacy, cultural beliefs and collective world views.
- The barriers which are obvious in their journey through health services are that the health system approach is to manage in a reactive manner with individuals accessing single episodes of care, which are not coordinated across different organisations. This is particularly apparent in the system delivering high cost, complex (and life prolonging) treatments like renal dialysis, but failing to deliver effective preventive services like immunisation and smoking cessation.
- The clinical scenario suggests that the following represent priority areas for action:
  - delivering family-centred health care which requires a highly mobile team-based approach drawing together health professionals from a range of fields who understand the context of Pacific families;
  - health care services based on a family health management plan including the specific contributions and roles of each member; and
  - health care that is culturally competent, recognising the dominant, sub- and intergenerational cultures in family groupings.

### Overview

This section provides a summary of the small body of evidence in New Zealand on Pacific health need and Pacific people's experiences and journey through health services to provide context for the clinical scenario.

The purpose of the clinical scenario is to provide background and illustrate the need for the development of solutions to a particular clinical issue. A clinical scenario normally describes two states as follows:

- The current state which typically describes an adverse event, a barrier to providing clinical care, or a barrier to improving workflow.
- The proposed state which is a brief illustration of the improvement in safety and effectiveness obtained by applying an integrated solution.

## Methodology

When developing the clinical scenarios for the Pacific workforce service review, the Pacific Expert Group directed that the clinical scenarios should:

- capture the complexity of Pacific health issues and the interplay with the current health workforce; and
- take a family approach – an approach that focuses on the family as a whole rather than focusing on a clinical scenario for an individual.

We have stayed within the intent of the PEG requirements by describing key indicators of Pacific health status and outcomes. In doing so we describe the patient journey through a focus on child health, chronic disease, infectious diseases and risk factors for long term conditions which are indicative of the significant health events in the Pacific population and account for the bulk of the patient workload. Our approach addresses access to and quality of health services - how health services respond or fail to adequately respond and the implications for Pacific health workforce development.

Taking a family based approach (the Misi Family) as the clinical scenario differs significantly from other service reviews, which primarily focus on clinical scenarios for an individual. For example, the Rehabilitation Workforce Forecast provides three different clinical scenarios - early, moderate and severe cases. We have taken the family based approach because the PEG were of the view that understanding the complexity of Pacific health issues from the family system surrounding the individual would provide a more accurate picture of Pacific health and the workforce and systemic challenges for accessible and high quality health service delivery to Pacific peoples.

## Health Needs of Pacific People

The gap between the health status of Pacific peoples and the total New Zealand population is increasingly recognised in health system reports. Included in this section are selected indicators for adult and child health with the aim of providing a snapshot of the unique disease burden of the Pacific population.

The indicators are:

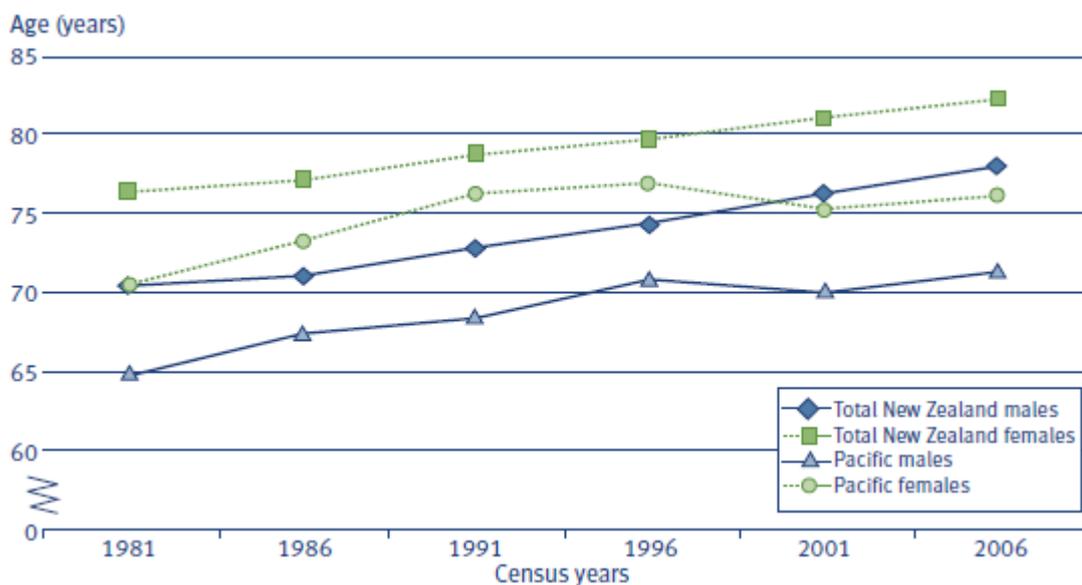
- health outcomes – life expectancy;
- disease burden – hospitalisation and mortality rates for major conditions for adults and children; and

- risk factors – obesity and smoking.

### Life Expectancy

Pacific people have a significantly lower life expectancy than the total population. In 2006, the life expectancy for Pacific males was 76.1 years, 6.7 years less than for total males in the population. For Pacific females, the gap is 6.1 years less than for total females. Figure 10 shows that the gap in life expectancy between Pacific and the total New Zealand population has not reduced over the period between 1981 and 2006. This is consistent with other New Zealand studies that report that Pacific peoples have not shown the same reduction in all age mortality seen in Maori and New Zealand European populations (Blakely, Tobias, Atkinson, Yeh and Huang, 2007).

**Figure 10 Life expectancy at birth, Pacific and total population, by sex, 1981-2006**



Source: Ministry of Health, 2012.

The Ministry of Health reports that a large proportion of the life expectancy gap between the Pacific and total population is due to cardiovascular and smoking related diseases and diabetes. Indicators for these conditions are included below.

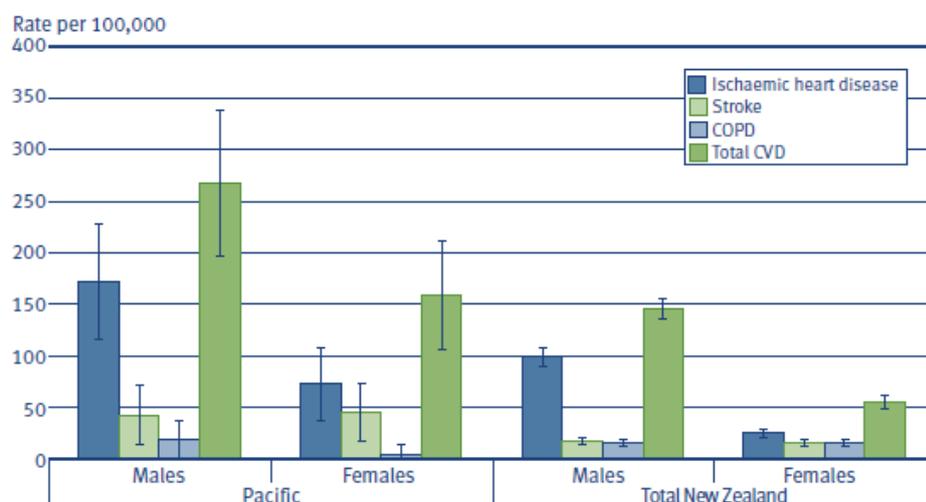
Health Indicators for adults:

- Hospitalisation rates for long term conditions for adults aged 45-64 years;
- Prevalence of diagnosed diabetes ; and
- Prevalence of smoking.

## Hospitalisation rates for major conditions affecting the health of Pacific people

Long-term conditions are the major cause of morbidity in New Zealand, and Pacific people are disproportionately affected. The high rates of lifestyle risk factors and the impact of population-aging means that chronic conditions will have a major impact on Pacific peoples health and health care needs in the future. The conditions that impact most on Pacific people, are included in Figure 11 below. The graph shows that Pacific adults had significantly higher hospitalisation rates for cardiovascular disease, ischaemic heart disease, stroke and COPD than the total population.

**Figure 11 Hospitalisation rates for major conditions affecting the Pacific and total adult population (aged 45-64 years) by sex, 2009 and 2010 (age standardised)**



Source: Ministry of Health (National Minimum Dataset)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Total CVD covers the whole cardiovascular disease chapter in ICD-10 disease classification (ICD-10 codes I00–I99). Ischaemic heart disease and stroke are subgroups of the CVD chapter (ICD-10 codes I20–I25 and I60–I69). Chronic obstructive pulmonary disease (COPD) is one of the respiratory conditions (ICD10 codes J40–J44), not a cardiovascular disease. Therefore the sum of ischaemic heart disease (IHD), stroke and COPD will not equal Total CVD.

Source: Ministry of Health, 2012.

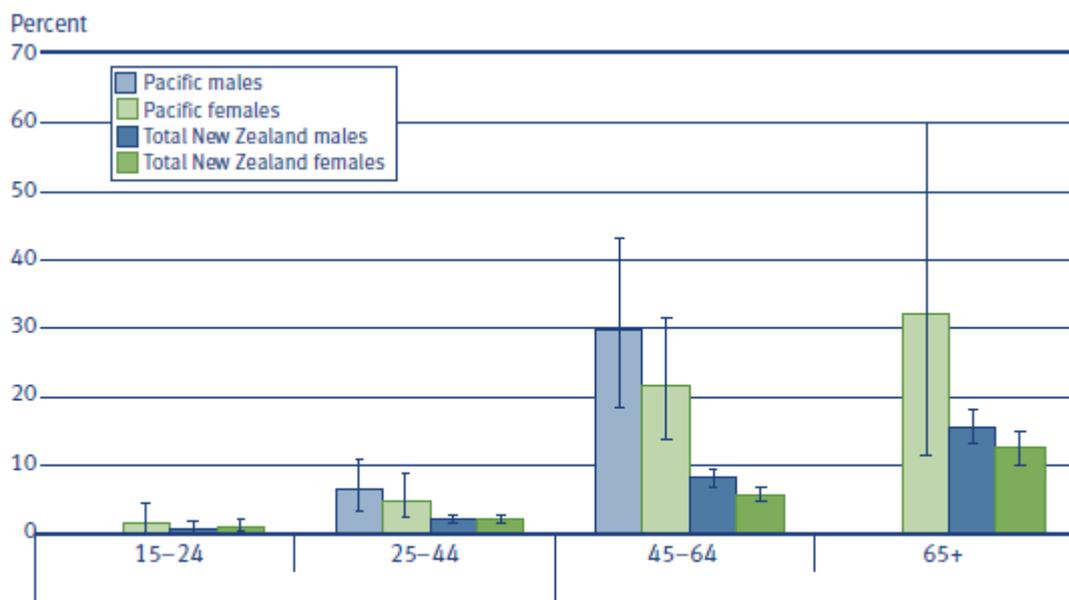
## Diabetes

Diabetes is one of the most important health issues for Pacific peoples. Figure 12 below shows in 2006/07, 10 percent of Pacific peoples aged over 15 years reported a diagnosis of diabetes. This is approximately three times the rate for the total New Zealand population<sup>69</sup>. Pacific people are diagnosed with diabetes ten years before European New Zealanders, and have higher rates of mortality and complications including renal failure and foot amputations<sup>70</sup>.

<sup>69</sup> Ministry of Health, 2008

<sup>70</sup> MPIA and Statistics New Zealand, 2011

**Figure 12 Prevalence of diagnosed diabetes, Pacific and total population, by age and sex,**



Source: New Zealand Health Survey 2006/07

Note: Rates were suppressed when the denominator was less than 30.

Source: Ministry of Health, 2012

### Smoking

Smoking is the leading modifiable risk factor for morbidity and mortality in New Zealand. In addition to the health impacts on the individual, second hand cigarette smoke is also a significant health hazard. The prevalence of smoking in Pacific people is significantly higher than the total New Zealand population. The prevalence of smoking in Pacific adults aged over 25 years is 29 percent for females and 32 percent for Pacific males<sup>71</sup>.

### Child health indicators

Pacific children experience poorer health than other New Zealand children. Key issues which are included here are:

- Hospitalisations for asthma, lower respiratory tract infections, serious infectious diseases; and
- Prevalence of obesity.

### Hospitalisations for infectious diseases

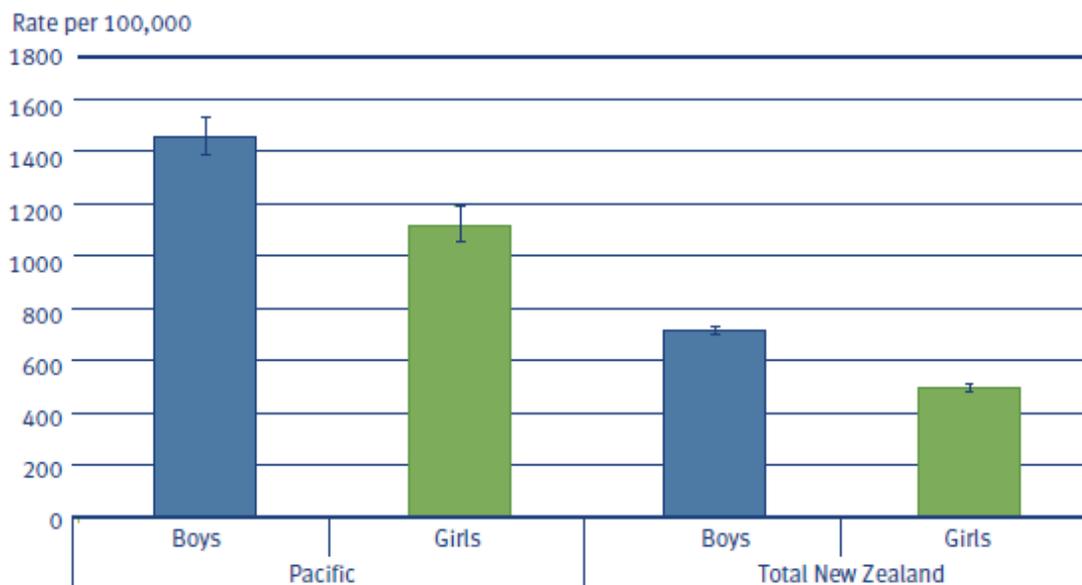
Pacific children's rates of hospitalisations are the highest in New Zealand, being twice that of Maori and four times that of European New Zealanders<sup>72</sup>. Recent analysis of Pacific

<sup>71</sup> Ministry of Health, 2012

<sup>72</sup> Percival, 2011

children’s hospitalisations in the metropolitan Auckland region shows that 54 percent of hospital admissions during 2009-2011 were for infectious diseases<sup>73</sup>. The most common cause of hospitalisations for Pacific children was lower respiratory tract infections. The significant difference in hospitalisation rates for lower respiratory tract infections for Pacific children compared with the total population is shown in Figure 13.

**Figure 13 Hospitalisation rate for lower respiratory tract infection, Pacific and total children (aged 0-14 years), by sex, 2009 and 2010 (age standardised)**



Source: Ministry of Health (National Minimum Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Source: Ministry of Health, 2012.

### Asthma

New Zealand has one of the highest prevalence of asthma in the world, and most hospital admissions occur in children aged under five years<sup>74</sup>. New Zealand studies indicate that Pacific children have lower prevalence rates, but higher rates of severe asthma symptoms<sup>75</sup> and high rates of avoidable hospital admissions (ASH rates) for asthma; which points towards issues with disease management and timely diagnosis in primary care<sup>76</sup>.

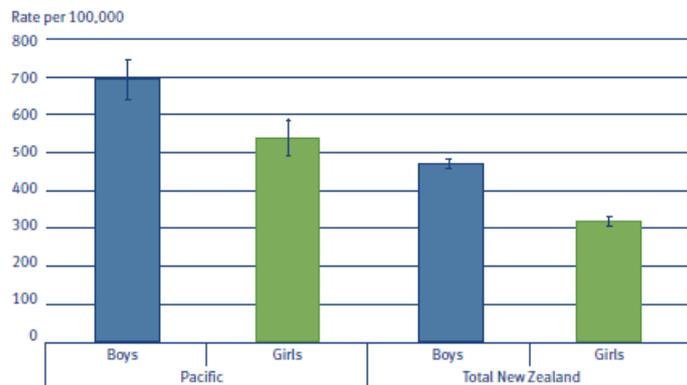
<sup>73</sup> Health Partners Consulting Group, 2012

<sup>74</sup> Ministry of Health, 2008

<sup>75</sup> (Pattermore, 2004)

<sup>76</sup> (Craig et al., 2011)

**Figure 14 Asthma hospitalisation rate, Pacific and total children (aged 0–14 years), by sex, 2009 and 2010 (age standardised)**



Source: Ministry of Health (National Minimum Dataset)

Note: A prioritised ethnicity method of classification is used for ethnicity.

Source: Ministry of Health, 2012

Figure 14 shows that, after adjusting for age, Pacific children were 1.5 times more likely to be hospitalised due to asthma compared with the total population.

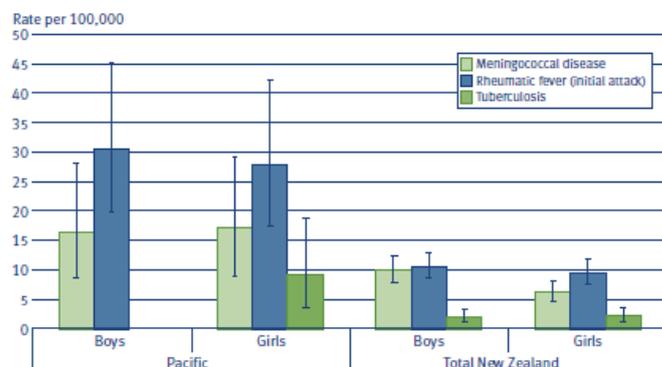
### Serious infectious diseases

Pacific children have higher rates of hospitalisation for serious infectious diseases. We have included here hospitalisation rates for meningococcal disease, rheumatic fever and tuberculosis. Figure 14 shows that after adjusting for age, Pacific boys and girls had significantly higher disease notification rates for rheumatic fever than children in the total population. For rheumatic fever, the rate was 30.7 for Pacific boys and 27.9 for Pacific girls compared to 10.6 and 9.6 respectively for girls and boys in the total population. This potentially preventable condition with serious long term sequelae is associated with poverty<sup>77</sup> and overcrowding<sup>78</sup>.

<sup>77</sup> (Craig et al., 2009)

<sup>78</sup> (Jaine, Baker & Venugopal, 2011)

**Figure 15 Infectious disease notification rates for meningococcal disease, rheumatic fever (initial attack) and tuberculosis, Pacific and total children (aged 0–14 years), by sex, 2007 and 2008 (age standardised)**



Source: Institute of Environmental Science and Research Ltd

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Tuberculosis notification rates for Pacific boys were suppressed as the count was less than five.

Source: Ministry of Health 2012

## Obesity

Overweight and obesity are major risk factors for the health of Pacific peoples. Pacific children have the highest rates of overweight and obesity of all ethnic groups. The 2006/07 New Zealand Health Survey found that Pacific children aged 2-14 years were more likely to be overweight (31.4 percent) and obese (23.3 percent) compared with non-Pacific children (19.6 percent and 6.4 percent respectively).

This pattern of overweight and obesity in Pacific children reflects the health profile of their parents with nearly 90 percent of Pacific adults classified as overweight or obese in the same survey.

## Accessibility of Health Services

The limited data on accessibility and quality of health care for Pacific people indicates high unmet health needs and that there are barriers to accessing quality primary and preventive health care.

While there is currently no gold standard for measuring access to health services, we have used the definition of access as the capacity to obtain necessary health care. Hence measures of access include availability, affordability, accessibility, and acceptability of care, as well as an assessment of need<sup>79</sup>. Health need is assessed by self-reported measures as used in the New Zealand Health Survey and by using population health measures including amenable mortality and ambulatory hospital admissions (ASH).

<sup>79</sup> Mandelberg, Kuhn, & Kohn, 2000

We have included a range of measures in this section to demonstrate the mixed picture of access to health services and unmet health needs resulting in persisting poor health outcomes overall and the complex reasons for this.

There are a number of positive indicators that show Pacific people have high rates of engagement with the health system. These indicators include very high rates of Pacific enrolment in primary care (nearly 100 percent in 2007), and access to primary care at the same rates as the whole population<sup>80</sup>. For example, the adult age-standardised average number of visits in the previous 12 months to a primary health-care service was 3.6 for Pacific peoples compared with 3.1 for the whole population – and Pacific children were as likely to access care as other groups<sup>81</sup>.

In terms of comprehensiveness of health care, Pacific adults were significantly more likely than other adults in the total population to have had a discussion about smoking, nutrition, weight, exercise, oral health and alcohol use with their health provider. Other reports indicate that screening for diabetes and CVD appeared to be significantly higher for Pacific peoples than for non-Pacific Peoples. For example, screening per 100 adults for blood pressure for Pacific people was reported to be 56.1, compared to 50 for non-Pacific, and for diabetes this was reported to be 30.4 compared to 16.8 for non-Pacific<sup>82</sup>.

Child immunisation rates also demonstrate that Pacific people have effective access to some health services. In 2011, Pacific children were more likely to be fully immunised at 24 months of age compared with children in the total population. The immunisation rate for Pacific children in 2011 was 93 percent.

However, other health system indicators are less positive. The Ministry of Health's *Tupu Ola Moui Pacific Health Chart Book (2012)* includes two indicators of health system performance: amenable mortality and avoidable hospital admissions (ASH) rates. Amenable mortality is mortality that could be avoided given timely access to health care. ASH admissions are those that are preventable or responsive to treatment in primary care and are therefore used as a measure of the quality of primary care.

The Ministry of Health data comparing ASH rates for Pacific, Maori and the total population in Figure 16 shows the increases in ASH rates for Pacific people between 2000/01 and 2009/10, compared to decreases in the rate for the total population. The Ministry states that the increase in the gap between Pacific and Maori ASH rates are an indication of disparity in access to effective primary care for Pacific people.

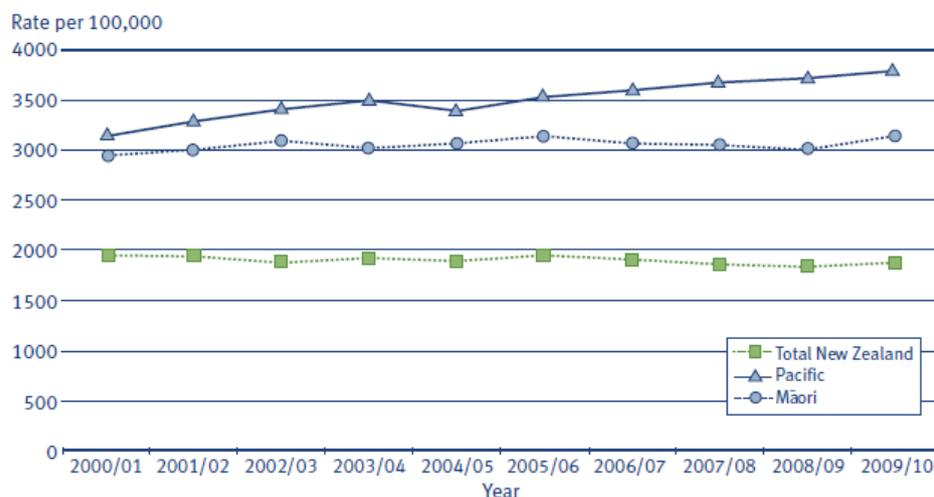
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<sup>80</sup> National Health Survey, 2009.

<sup>81</sup> Ibid

<sup>82</sup> Minister of Health and Minister of Pacific Island Affairs, 2004

**Figure 16 Ambulatory-sensitive hospitalisation rates, Pacific (across seven DHBs), Maori and total population (aged 0-74 years), 2000/01 to 2009/10 ( age standardised)**



Source: Ministry of Health (National Minimum Dataset)

Notes: A prioritised ethnicity method of classification is used for ethnicity.

Pacific rates are across the seven DHBs with the largest Pacific populations: Waitemata, Auckland, Counties Manukau, Waikato, Capital & Coast, Hutt Valley and Canterbury.

These indicators show that Pacific people have high levels of unmet health needs and experience barriers to accessing and utilising the health care they require.

Recent studies in Pacific people’s access to primary care identify that these barriers include cost, transport and communication problems including language and health literacy and quality of care issues related to cultural competence<sup>83</sup>.

<sup>83</sup> Pacific Perspectives, 2011

## The Misi Family

The Misi family clinical scenario is not a fictitious or composite case study. Names of family members have been changed to protect their privacy. The complexity of this scenario is a reality for some Pacific families in high deprivation areas. It also reflects the strong correlation between socio-economic status as determinants of health and health outcomes. Pacific people are overrepresented in low socio-economic areas and this is closely associated with poor health status<sup>84</sup>.

### Introducing family members

There are five adults and five young people/children living in the Misi family dwelling. They live in a three-bedroom house.

- Sulu Misi is a 68 year old Samoan male who migrated to New Zealand from Samoa in 1960. He worked at the Mitsubishi Motors factory in Porirua until he was made redundant in 1987, he has not worked since. He married Logo who is 56, three years ago. After they married Logo migrated to New Zealand to live with Sulu. He receives government superannuation.
- Logo Misi is 56 years old. She migrated to New Zealand from Samoa three years ago. It was the first time she has left Samoa. She is a skilled fofu<sup>85</sup>. She has found living in New Zealand difficult and at times was overcome with homesickness. This improved when she met a Pacific community support worker at church. Logo is waiting for her application for permanent residency to come through, so is not eligible for any benefit support.
- Silesa Misi is 44 years old. She is the eldest of Sulu's children. She moved back home after her relationship broke up 14 years ago. She is currently employed as a kitchen aide at a local rest home.
- Mary (18), Lise (16), Peka (14) Misi are Silesa's three daughters. Mary works at Countdown. Lise and Peka go to school.
- Tomasi Misi is 34 years old. He is the third born of Sulu's four children. He is New Zealand born. Tomasi does shift work at a call centre in Porirua. He has two children with his partner Regina who is 6 months pregnant with their third child.
- Regina Johns is 27 years old. Until recently she worked at Countdown as a checkout operator. Regina is Cook Island Maori. She is pregnant with her third child.
- Junior and Sila Misi are 4 and 2 years old. They are Tomasi and Regina's sons. They do not attend early childhood education.
- Sione and Siaki Misi are Sulu's other sons. They no longer live at home.

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<sup>84</sup> Tukuitonga, C. (2011)

<sup>85</sup> Samoan traditional massage.

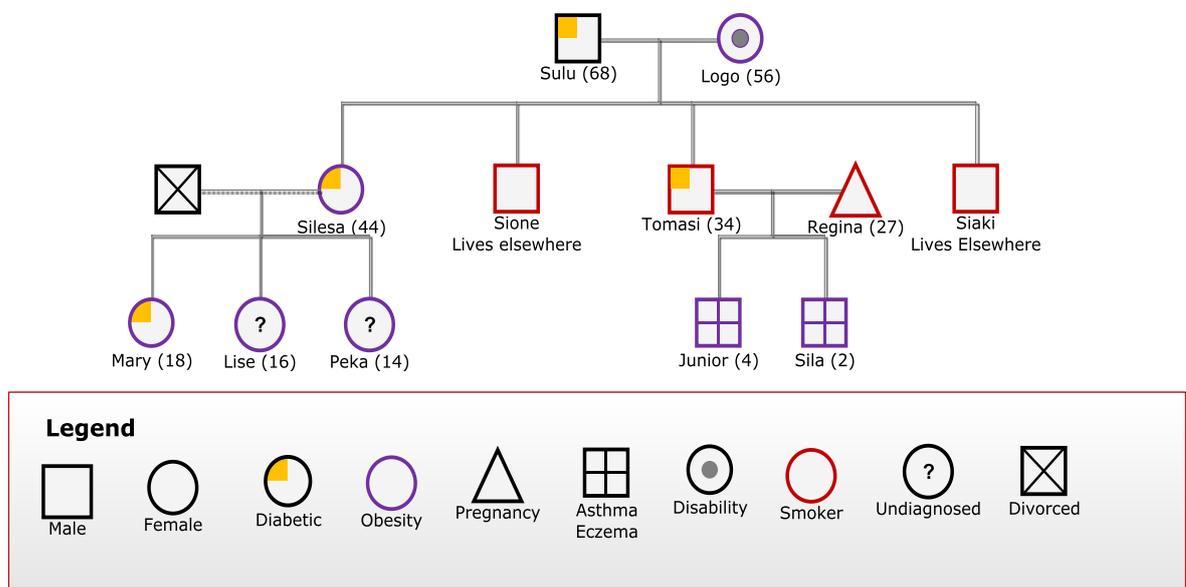
Figure 17 below provides a summary of the health related issues within the Misi Family.

**Figure 17 Summary of health related Issues within the Misi family**

Long term conditions	Maternity/Child health	Risk Factors	Disability
<ul style="list-style-type: none"> <li>•Diabetes</li> <li>•Renal failure</li> <li>•Asthma</li> <li>•Eczema</li> <li>•Gout</li> </ul>	<ul style="list-style-type: none"> <li>•Hypertension</li> <li>•History of preeclampsia</li> <li>•Pregnancy</li> <li>•Behind with immunisation</li> </ul>	<ul style="list-style-type: none"> <li>•Smokers</li> <li>•Obesity</li> <li>•Oral health issues</li> <li>•Low income</li> <li>•Overcrowding</li> <li>•Transportation</li> <li>•Multiple primary care providers</li> <li>•Literacy</li> </ul>	<ul style="list-style-type: none"> <li>•Neck injury</li> </ul>

Figure 18 below depicts the Misi family genogram and disease map.

**Figure 18 Misi Family genogram and disease map**



### Misi Family Health Needs

There are a wide range of clinical issues facing the family including long-term conditions, child/maternity health, and disability. There are also a significant number of risk factors influencing the ability of the family to manage their health issues.

<b>Sulu</b>	<p>Two years ago Sulu started to experience blurred vision, dizziness and would become easily fatigued. He thought his tiredness was because he was being woken up several times a night by itchiness and needing to go to the toilet.</p> <p>He did not seek medical treatment instead preferring to have Logo fof<sup>86</sup> him. His diabetic friend told him it sounded like diabetes but Sulu ruled this out because he is 5ft 11in and 98 kilos. He said only fat people, like his daughter Silesa, get diabetes.</p> <p>Six months ago Sulu blacked out while driving. Both Sulu and Logo were injured in the accident and the car was written off.</p> <p>Sulu was in the high dependency unit for two weeks. When he started to get better he was diagnosed as having type 2 diabetes and was in chronic kidney failure. He was immediately given a gortex graft. He is required to go to Wellington Hospital four times a week, for five hours each time for kidney dialysis.</p>
<b>Logo</b>	<p>Until the accident Logo was healthy. Aside from severe homesickness, Logo had no known medical conditions. After the accident Logo began to experience neck and shoulder pain. She was told she had whip lash and needed to lose weight.</p>
<b>Silesa</b>	<p>Silesa is diagnosed with type 2 diabetes and high blood pressure. She receives medication for both. She is extremely overweight. She would like to have better control of her diet but does not know where to start. She has no molars on her top jaw.</p>
<b>Mary</b>	<p>Mary has type 2 diabetes. Mary weighs 128kgs. She is on medication to manage her diabetes.</p>
<b>Lise and Peka</b>	<p>Lise and Peka at 16 and 14 years of age are both over 90kgs. They have both indicated health issues but have not had these diagnosed further.</p>
<b>Tomasi</b>	<p>Tomasi also has type 2 diabetes. He discovered he was diabetic when he went to the doctor to seek help to manage the pain from gout. He said his boss would often ask him if he felt ok because on some days he looked really 'puffy'. Tomasi is a smoker.</p>
<b>Regina</b>	<p>She had to stop work because she was diagnosed with hypertension. She also had hypertension with her previous pregnancies, with the last pregnancy progressing to preeclampsia. Regina has smoked throughout all pregnancies. Regina doesn't have a midwife, she prefers to go to the Doctor because access is easier.</p>
<b>Junior and Sila</b>	<p>Junior and Sila both have severe eczema, they are also both asthmatic.</p>

<sup>86</sup> Samoan traditional massage

	Both children have had their 6 and 12 week immunisations. Neither have had their 18 month immunisation and Junior is now overdue for his B4school check and 4 year old immunisation. At 4 years old, Junior weighs 40 kilos.
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### Misi Family Engagement with the Health System

Table 22 outlines the engagement each member of the Misi family has had with health professionals over the preceding 12 months.

**Table 22 Misi Engagement with the Health System**

Family Member	Illness	Health System Engagement in previous 12 months	Notes
Sulu 68 yrs	Type 2 diabetes Chronic Renal Failure	Wellington Free Ambulance Paramedic (x1) Accident and Emergency registrar (x1) General Practitioner 1 Diabetes Nurse 1 Renal Specialist Ophthalmologist Podiatrist Traditional healer	Did not regularly see GP prior to chronic renal failure diagnosis and operation
Logo 56 yrs	Neck Injury Intermittent signs of homesickness	Community Support worker with Pacific provider	Not registered with Primary Care provider
Silesa 44 yrs	Type 2 diabetes Hypertension Obesity Oral health issues	General Practitioner 2 Diabetes Nurse 2 Hospital based dentist for extraction	
Mary 18 yrs	Type 2 diabetes Obesity	General Practitioner 2 Diabetes Nurse 2	
Lise 16 yrs	Obesity Other undiagnosed issues	Nil	
Peka 14 yrs	Obesity Other undiagnosed issues	Nil	
Tomasi 34 yrs	Type 2 diabetes Gout Smoker	General Practitioner 3 Receptionist (for script renewal)	
Regina 27 yrs	Pregnant Hypertension History of preeclampsia Smoker	General Practitioner 3 Receptionist (for script renewal)	Has not seen a midwife
Junior 4 yrs	Eczema Asthma Overweight Behind B4 school check Behind immunisation	General Practitioner 3 Practice Nurse 3 Wellington Free Ambulance Paramedic (x3) Accident and Emergency registrar (x3) Paediatric registrar (x3)	Has not had Wellchild/Tamariki Ora checks
Sila 2 years	Eczema Asthma Overweight Behind immunisation	General Practitioner 3 Wellington Free Ambulance Paramedic (x1) Accident and Emergency registrar (x1) Paediatric registrar (x1) Radiographer	Has not had Wellchild/Tamariki Ora checks

## **Summary of engagement with health services**

Over a period of 12 months the Misi family engaged with approximately 30 separate health professionals to have their health needs met. Despite this, immunisation for the children was not up to date, Regina has not had her pregnancy monitored and there have been five visits to hospital accident and emergency services. All visits were made by ambulance. Furthermore, two teenage members of the family have had no visits to the doctor. They are likely to have undiagnosed health issues.

Sulu is registered at the local Union Health Centre.

Logo is not registered with a primary care provider.

Silesa and the girls are registered with a local Maori provider because they have the cheapest rates. They can get new scripts for Metformin without having to go into see the doctor.

Regina has registered Tomasi and the boys at the GP practice that her parents took her to when she was a child. She makes the most of visits while she is pregnant because it is free. When she goes to the doctor for herself, she will always take Tomasi and the kids and ask the doctor to have a quick look. This way she does not have to pay for any of them.

## **Relevant Social Factors**

### ***Housing***

There are five adults and five children living in the three bedroom state house. Silesa and Mary share a room. Lise and Peka sleep on the floor in the lounge. Tomasi, Regina, Junior and Sila share another room. When the baby arrives it will sleep in the same room in a bassinet. Sulu and Logo share a room.

### ***Transport***

The family have no vehicle after Sulu had his accident. It wasn't insured so it was not replaced.

The Renal clinic funds a taxi to pick up Sulu to take him for dialysis. If there is room in the cab, Logo will go too.

Siaki has a car but because he works and lives in town, the family can only access it during the weekend.

If anyone gets sick, they normally call an ambulance and go straight to hospital. When Regina goes into labour they are planning to call an ambulance.

### ***Employment***

Silesa, Mary and Tomasi are employed. Their combined income is \$126,000.

The family income was supplemented by gifts that people who came to get a fofo from Logo brought. Gifts usually came in the form of cash or food. Since the accident, Logo has been unable to fofo so this source of income has not been available.

### ***Childcare***

Until recently, when Regina finished work, Logo looked after the children at home. Now they share this duty so Logo can keep Sulu company at the dialysis unit.

### ***Religion***

Logo is Catholic, Sulu has started attending the local Catholic parish. Logo met a Pacific community support worker at church.

Silesa and her daughters attend the Samoan Christian Congregational Church.

Tomasi and Regina do not attend church.

## **Mapping the Pacific patient journey through health services and recommended innovative workforce approaches**

The Misi family case scenario demonstrates the burden of disease in Pacific communities and families, with many individuals with multi-morbidity. It also demonstrates the pervasive nature of poverty which interacts with every other facet of living and is a key determinant of health care seeking behaviour and the 'choices' that individuals and families make.

The Misi family have high levels of engagement with the health system and a range of health workers in primary and secondary care. The case study demonstrates however that their health needs are not being met, due to a complex array of factors which include for the Misi family socioeconomic determinants, health literacy, cultural beliefs and collective worldviews. The barriers which are evident in their journey through health services are that the system approach is to manage in a reactive manner with individuals accessing single episodes of care, which are not coordinated across different organisations. This is particularly evident in the system delivering high cost, complex (and life prolonging) treatments like renal dialysis, but failing to deliver effective preventive services like immunisation and smoking cessation. This is especially notable for the most vulnerable members of the family – the young children. Furthermore there is a growing literature on the origins of health and disease in utero and infancy and the lack of care the lack of care that Regina is receiving in her pregnancy demonstrates the system's failure to prioritise this essential period to influence the health of future generations.

We have outlined below a summary of the key issues for the Misi family, innovative workforce approaches which would better meet their health needs.

### Summary of key issues for the Misi Family

- The Misi family have multi-morbidities affecting many members of the family. The treatment regimens are complex and require high levels of health literacy, self-efficacy and the ability to navigate primary, secondary and diagnostic health services.
- The Misi family receive primary care from three separate primary care practices with varying degrees of engagement. They also make frequent use of hospital after-hours and emergency services. Although the system responds to immediate and urgent health needs as these arise, the Misi family have not accessed effective health protection and prevention services, which could make a longer term difference to their health outcomes. This is especially important for the most vulnerable members of the family- the children, and the mother who is in need of high quality antenatal care.
- The Misi family are accessing services as individuals yet they operate on a collective basis in the home environment, that is, they share the family income, medication, meals, and childcare arrangements. Their worldviews and collective approach are poorly understood by the health professionals they engage with.
- The Misi family appear to be casualties of cultural incapacity, that is, the system does not intentionally seek to be culturally destructive but rather lacks the capacity to help high need and ethnically diverse clients or communities. The Misi family spans three generations and includes migrant and NZ born family members. English and Samoan are the main languages spoken at home. There are three teenagers living in the home. The pervasive impact of poverty on all aspects of life is a major determinant of health system engagement and effectiveness.
- The Misi family have significant risk factors which would be very difficult to assess in a health care provider setting. Without a full understanding of these risk factors, such as living conditions, proximity to public transport, employment demands, cultural and family obligations; assessing the health needs of the family and identifying appropriate solutions may be difficult.

### Proposed health system response

The model of care which would better meet the health needs of the Misi family includes the following key components:

- Community based, culturally competent care that integrates preventive, primary, and secondary care services which is highly skilled in the priority areas for Pacific health. These areas are:

- child and maternal health;
  - long term conditions; and
  - modifiable risk factors for health including obesity and smoking.
- Knowledge, understanding and skills that can leverage multi-sector responses to address the wider determinants of health, for example housing, education and social services sectors.
- A family based approach to well-being. This includes the ability to develop a family health management plan, with specific contributions and roles for each family member. This plan requires understanding of the dominant culture; any sub cultures as well as the multi-generations within the household, recognising each generation will require different approaches. Effective approaches move beyond treating family members equally to treating everyone with his or her best interests in mind<sup>87</sup>. This approach requires services that are highly mobile and can respond to the need for services in the homes of families.

The workforce required for this model of care is discussed in the final section of this report.

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<sup>87</sup> *ibid*

## Section seven: Strengthening the current workforce

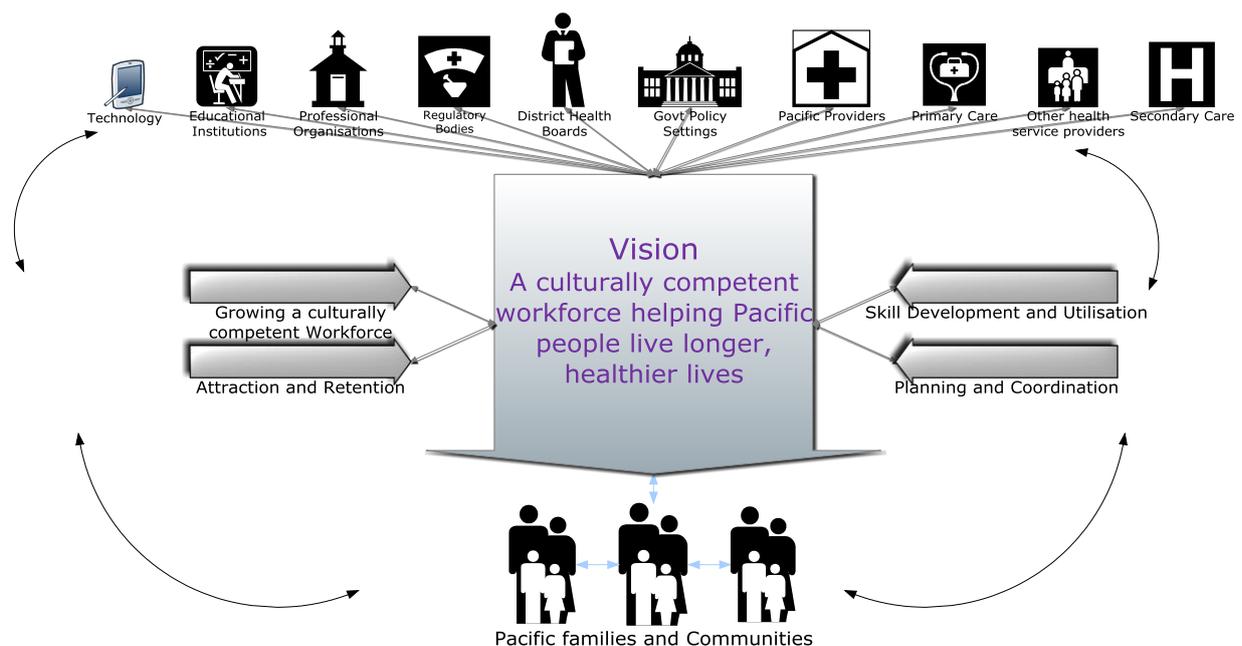
### Overview

This section provides a summary of significant issues and opportunities for the way in which the health workforce is supported and developed.

### Getting to Pacific Health Workforce Vision 2020

Figure 19 below depicts the complexity of the influencers and the numerous interdependencies and interactions between stakeholders required to achieve the vision for the Pacific health workforce. The model is intended to be dynamic with integrated planning and coordination across multiple dimensions.

Figure 19 Pacific Health Vision 2020 and Dynamic Influences



### Recommendations

The Pacific population is youthful in structure, culturally and ethnically diverse, and highly urbanised. The ways in which Pacific communities interact with healthcare services are influenced by familial and community structures and worldviews which are not well understood by the health system or the general health workforce.

The health profile for Pacific peoples shows high rates of chronic and infectious diseases, and a high prevalence of risk factors linked to poor health. Uptake of preventive health services is low, whilst avoidable hospital admissions are high. Emerging evidence indicates the failure to address the complex array of factors<sup>88</sup> underpinning disparities in Pacific health outcomes is indicative of a lower quality care experience and less than adequate health system responsiveness.

A culturally competent health workforce has the capacity to address the barriers that Pacific people face in accessing high quality health services that meet their needs; and improving health outcomes and wellbeing, by integrating cultural practices and concepts and diverse world views into high quality, evidence informed health services.

Health workforce planning is one of the most important challenges facing policy makers in New Zealand over the next decades. Current economic conditions mean that establishing an affordable and sustainable health system that fully meets the needs of Pacific populations requires a health workforce with the skills to deliver services which are responsive to the evolving demographic, epidemiological, cultural and socioeconomic profiles of that population, whilst at the same time changing user expectations of services and technological innovations.

### **Recommendation One – implement an improved model of care, initially through establishing demonstration sites in Auckland**

A comprehensive change is required to the current model of care in order to meet the health needs of most Pacific people. The improved model of care needs to have the following features:

- the family group (rather than the individual patient) is the focus of planning and service delivery, and preventative, primary and secondary health care service design and implementation are integrated to achieve an holistic people and family-centred health service delivery model;
- health funding models underpinning the model of care are configured to enable a family focussed model of integrated care;
- system performance indicators measure variables that incentivise practitioners to focus on a family focussed model of integrated care delivery;
- all of the workforce supporting delivery of the model of care have the capability and cultural competence to work with diverse Pacific families that are experiencing multiple and complex health and social challenges;

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<sup>88</sup> Socioeconomic determinants, health literacy, cultural beliefs and collective worldviews – see clinical scenario, on page 88.

- delivery organisations undertake workforce development and training focused on skills development to achieve coordinated responses at a family, community, social services and health system level, and
- delivery organisations also ensure their workforce development and training is focused on improved technical competencies as well;
- delivery organisations achieve integration between the roles of community health workers and the medical workforce and explore “new” roles for health workers, which utilise skills and abilities of employees without the constraint of current professional practice expectations.; Workforce development for these new roles and for community health workers leads to change in training and role expectations; and
- Clinical leaders have the technical competencies needed to deliver services that address the priorities for Pacific health (i.e. they have a range of expertise and knowledge including child and maternal health, long term conditions and preventative health). In addition, they have the leadership skills to manage and coordinate multidisciplinary health service teams. They also enjoy the respect, trust and credibility with the Pacific families and communities they serve.

This report recommends that demonstration sites be established so that the improved model of care and the associated workforce and leadership developments can receive the necessary support for their establishment, operation and evaluation. It is most appropriate that these sites be established at existing Pacific providers in Auckland as these are serving the bulk of the Pacific population and they are already progressing toward similar models of care. The need for a focus in the Auckland metropolitan region is discussed in more detail in recommendation four.

### **Recommendation Two - leadership and coordination is required to effect an improved model of care**

Emerging (yet isolated and fragmented) service innovations currently underway in Auckland Pacific primary care providers in Auckland and Auckland District Health Boards indicates that an improved model of integrated preventative, primary and secondary care, tailored to meet the needs of Pacific peoples can only be achieved if leadership development and mentoring of clinical leadership takes place. A learning approach that is adaptable and flexible learning occurs where engagement with Pacific stakeholders takes place. It needs to ensure frontline health workers and clinicians are integral to the development of strategies, processes, planning, delivery and evaluation of an improved model of care.

Given the small scale of the Pacific health workforce, the scope of health service roles and the diversity of the Pacific population the service response needs to be targeted, evidence based, informed by careful problem definition and supported by comprehensive monitoring and evaluation.

In the recent past, this leadership role for Pacific issues in the health sector has been contributed to by Pacific leadership at the Ministry of Health and General Manager Pacific positions at District Health Boards however these roles are less prominent.

There has also been small network of senior Pacific clinicians, researchers and managers who have multiple roles in the sector. This report recommends this small leadership pool is increased, actively supported and strengthened to achieve the changes required.

Such an approach would include:

- Strengthening the Pacific led governance and monitoring of Pacific health workforce development at a national level will overview and consolidate real progress for a small and often dispersed area of workforce development. The quality of information pertaining to Pacific health workforce is variable in both scope and quality. This is addressed in greater detail in recommendation three.
- The development of the Pacific health workforce and the implementation of the programme of work outlined in this report require leadership which is also strongly culturally-centred. It further requires better alignment of systems and processes so that information about the Pacific health workforce can be collected and monitored and appropriate system responses are initiated.
- Upskilling the Pacific nursing workforce - Pacific nurses make up the largest group in the Pacific health workforce but this report indicates that they are less likely to be engaged in clinical and academic leadership roles. A comprehensive programme is needed that ensures that Pacific nurses develop the skills need to exercise clinical leadership, particularly to support the improved model of care proposed herein. Clear leadership roles for nurses are required within the clinical teams for the new improved model of care. Training of nurses to achieve nurse practitioner or advanced nurse practitioner status should be a priority for investment and initiatives to achieve this support.

This recommendation is made in the context of on-going and longer term initiatives that support increases in the numbers of medical and other health professional workforces.

### **Recommendation three – Issue to do with the Pacific workforce training pipeline and its monitoring need to be addressed**

Underpinning efforts to improve the quality of health services and increase health system responsiveness to the needs of Pacific people is the understanding that Pacific people make up a very small proportion (2.3%) of the health professional workforce. The importance of ensuring that the health workforce pipeline and health workforce in training reflect the ethnic and socioeconomic realities of the communities they serve is well recognised<sup>89</sup>.

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<sup>89</sup> Crampton,2012

Recent research into primary care for Pacific peoples<sup>90</sup> found that Pacific health workers make a significant contribution to Pacific health improvement through frontline roles offering linguistic and cultural skills, and at every level of the health system providing insights in to the realities of the health system for Pacific peoples and Pacific worldviews. Pacific professional leadership is required to maintain a focus on the evidence for and advocacy for system improvement for Pacific peoples.

Addressing the historical imbalances in the health workforce and the numbers of Pacific students in tertiary education requires comprehensive information systems on the actual number of Pacific health care workers and their distribution in the health system. At a national level, limited data or analysis on the Pacific health workforce is available and there is substantial variation in the data collected. Included in this report is stock data, using headcount data from a range of sources. However active workforce and full time equivalents could only be estimated. The status and reliability of data in the system needs to change.

While difficult to obtain, flow data is critical for addressing the substantial challenges in working with very small numbers of Pacific health workers. Systems to report and model the data need to be put in place especially for small and vulnerable workforce groups such as Pacific.

Crampton (2012) states unequivocally that overcoming these historical deficits will also require changes to “...elitist educational institutions which have developed within the context of socially and ethnically stratified societies...”<sup>91</sup>

Based on this report, detailed recommendations on pipeline initiatives are grouped under the headings **Attraction and Retention** and **Skill Development and Utilisation**.

### *Attraction and Retention*

- The rate at which Pacific school leavers attain university entrance and NCEA Level 3 requirements for entry to degree level training for careers in the health professions, has been growing rapidly over the past several years. However the actual number of Pacific students progressing to degree level study remains too low. This sharply constrains the capacity to increase the numbers of Pacific people in the health workforce. The longer term performance of schools and the education system to feed health workforce training programmes requires monitoring and public reporting, and outcomes reporting (that is careers achieved).
- There are opportunities to improve the information for secondary school students, tertiary students, and potential adult learners about the pathways toward employment in the regulated health workforce. Improving information and careers

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<sup>90</sup> Southwick et al, 2012

<sup>91</sup> Crampton, 2012

advice about the options that are available, and providing role models and mentorship to inform decision-making could influence decisions about study options that are available, and the preparation required (including what subjects to choose at secondary school to achieve career entry UE and NCEA and the options for adult learners).

- There is a reasonably substantial group of Pacific tertiary students (equivalent to 2,521 students) who are undertaking study toward programmes at Bachelor degree level or equivalent in health-related fields of study. There are opportunities to channel more of these students towards careers in the regulated health workforce, particularly in degrees leading to careers in the ‘other’ regulated health professions where enrolments appear to be particularly low for example applied degrees and diploma such as medical laboratory assistants and dental therapists etc. The largest number of Pacific tertiary students at degree-level (other than medicine and nursing) are studying towards degrees in population health related fields. While desirable there may be opportunities to enable students to transition more smoothly into training and learning that leads to roles in the nursing, and the other health professions.
- A significant proportion of Pacific students enrolled in the Bachelor of Nursing and Bachelor of Nursing (Pacific) degrees are adult learners. Older Pacific people particularly those employed in the unregulated health workforce represent a significant opportunity to increase the number of Pacific people in the regulated health workforce provided they are able to access tertiary education that suits their needs and circumstances.
- Care needs to be taken to ensure that initiatives aimed at increasing participation do not lose sight of the importance of maintaining a clear focus on the multiple pathways of the results required. As well as the opportunity cost associated with the Government’s contribution to tertiary education, students should expect that the private investment they make to training and learning leads to employment outcomes. This should be part of tertiary education organisations public performance accountability.
- Admission and selection processes across the tertiary education system, workforce development and training, and clinical placements in health related fields must place greater priority on people achieving/gaining the competencies to work effectively with Pacific people. Many organisations report Equal Employment Opportunity (EEO) and affirmative action policies exist, but the implementation of policies and programmes is not monitored or incentivised and “...inequity [continues] to be built in to health systems...” This needs to be addressed in education in training for health careers.

### *Skill development and utilisation*

The majority of the 2020 Pacific health workforce is either currently employed in the health sector or is now in the workforce training pipeline. Ensuring that the talents, skills and

experience of the current Pacific health workforce are effectively utilised in the services which can make the most impact on meeting the health needs of Pacific people can be achieved by:

- Developing a pathway for Community Health Workers to clinical or paraprofessional roles. This report confirms that there is limited information about the non-regulated health workforce generally. However but that Pacific unregulated health workers make up a significant proportion of the overall Pacific health workforce. Developing a career pathway leading to speciality care roles for Pacific peoples for Community Health Workers is an important step in developing this workforce, and resourcing the improved model of care.
- A specific focus is required on supporting registered Pacific nurses to achieve postgraduate qualifications that are well aligned to the health needs of Pacific people and the improved model of care which this report recommends. This will require more work to develop and align the appropriate education pathways and clinical placements.
- Providing opportunities for senior Pacific nurses and Pacific doctors to pursue professional advancement as specialists (nurse practitioners and general practitioner leaders) in primary and integrated care. This will enable the health system to leverage off an area of existing strength and provide the Pacific leadership required to develop the complex system responses and model of care recommended by this report.
- A co-ordinated approach to clinical placements in primary health care that places appropriate priority on ensuring that the emerging Pacific health workforce has opportunities to be exposed to the kind of team-based clinical environments envisaged by this report is essential. A strong focus on the Auckland region will be essential given the high demand for primary health care services in that region.

#### **Recommendation four- a focus in Auckland**

Better co-ordination at a national level with a particular implementation focus on the Auckland region. An estimated 71% of the Pacific population lives in Auckland and 39% of the NZ Pacific population live in Counties Manukau District Health Board (CMDHB). Within CMDHB, Pacific populations are clustered in only a few suburbs, with 77% percent of the Pacific population resident in Mangere, Otara and Manurewa. In Otara and Mangere, Pacific people make up the more than half of the population.

The clustering of Pacific peoples by area of residence and by practices they choose to attend, provides the opportunity for learning, not available in the rest of the country where Pacific numbers are often too small for analysis, and ethnic specific numbers smaller still. For example, a review of the CMDHB Chronic Care Management Programme for diabetes which includes 9717 Pacific people, found that 97 percent of these patients were enrolled in 3 (of 11) PHOs. Additionally 46% of these patients access 2 practices and 81% go to 10 (of

125) practices<sup>92</sup>. This concentration of Pacific populations in South Auckland and the provision of their health services through a small number of primary care practices create the opportunity for system improvements to be effected. It follows that focused investment in a small number of providers is likely to yield the greatest benefits for this population group.

A focussed approach is likely to also be beneficial to maximising the benefits of Pacific workforce development.

Bader Drive Health Care is a Pacific owned and operated GP practice with clinics in Mangere and Manurewa. Bader Drive Health Care is leading the implementation of a Pacific Clinical Training Support Programme in which Pacific doctors who are enrolled in the Royal New Zealand College of General Practitioner's Vocational Training Pathway are provided with additional support, mentoring and career advice and planning. The purpose of the Pacific clinical programme is to increase the number of General Practitioners of Pacific ethnicity in primary health care. The CTS programme approaches Pacific RMOs/locums to provide information about the GP pathway and vocational training. It also supports candidate's access to adequate employment opportunities with Pacific GP practices. There are currently 15 Pacific registrars participating in the Pacific CTS programme. They are working towards completing GPEP 1, GPEP 2, through to Fellowship training with the Royal New Zealand College of General Practitioners. Dr Siro Fuatai is the Director of the Pacific clinical programme and states that "a significant challenge retaining registrars is the inability to connect and share learning because of geographic isolation. On top of that the significant barrier of accessing financial support during their training to address challenges faced

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<sup>92</sup> Southwick et al

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**Appendix one – Innovation in the Pacific health workforce**

## Introduction

This section of the report summarises the evidence base gathered to inform the decision-making of the Pacific External Steering Group for the Pacific Workforce Service Forecast. The aim of the evidence base was two-fold: (1) to summarise models of care that utilise the current Pacific health workforce in innovative ways, and (2) to summarise the relevant available literature, focusing on innovations that seek to address issues facing the future of health care and service delivery.

This section of the report has three components:

- i. A stock take of Pacific workforce innovations in New Zealand
- ii. A review of the international literature on Pacific workforce innovations. Because of the paucity of literature on Pacific workforce innovations, the review was expanded to include workforce innovations for high needs and/or ethnic minority groups;
- iii. An outline of the key component of success for the Pacific workforce innovations identified in the stock take, and the key themes identified from the international literature.

## Stocktake of Innovation Practice for the Pacific Workforce

This stocktake of Pacific workforce innovations is divided into four subsections relating to innovative practice at: a National level; District Health Boards; Tertiary Education Organisations; and Primary Health Organisations.

### National innovations

#### ***Futures That Work***

Futures That Work is the recent amalgamation of all of Te Pou's<sup>93</sup> Pacific health workforce development projects. The new programme takes a pipe-line approach – supporting workforce development from training, through to employment (Le Va, 2012a). Pacific health students are supported to: successfully complete their study programmes; plan their careers in the health workforce; and be ready to transition into a job in the health sector.

Futures That Work was developed to help increase the number of Pacific students entering the health workforce and enhance the knowledge and skills of the existing workforce. The programme aims to achieve a more competent and qualified Pacific health workforce who are well connected with Pacific communities. Futures That Works includes:

- i. Mental Health and Addiction Scholarships: a scholarship that pays for the course fees (for the year applied), of the eligible students enrolled in mental health and addictions training programmes. Successful applicants participate in the Le Va<sup>94</sup> mental health and addictions

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<sup>93</sup> *Te Pou* is the organisation that supports and develops mental health and addictions, and disability workforces.

<sup>94</sup> *Le Va – Pasifika within Te Pou* supports and develops the Pacific health workforce, and provides a coordination role for the disability support sector. *Le Va* is the national centre for Pacific mental health and addictions workforce development.

academic coaching and/or a professional development programme. There are 50 successful applicants receiving funding in 2012 (Le Va, 2012b).

- ii. Pacific Health Workforce Awards Scheme: an award for eligible students enrolled full-time in health programmes. The award pays the student's course fees for one year.
- iii. Le Tautua Emerging leaders: a programme supporting new and emerging Pacific health leaders. Two initiatives are currently being implemented under this programme (1) Le Tautua Emerging Leaders, which focuses on management capacity development, and (2) Le Tautua Evolving Leaders Alumni, which provides ongoing professional and leadership development, networking opportunities, and group-learning opportunities (through workshops) for Emerging Leaders graduates (Le Va, 2012b).

The Futures That Works programme uses 'Pacific connectors' – a group of current Pacific students and respected leaders of the Pacific health workforce. The connectors group mentors a selected pool of Pacific health students. The connectors provide students with first-hand knowledge and experience in a wide range of areas (e.g. clinical practice, research, management, funding and planning). Together, the group possess a wide range of clinical and academic networks within the health sector, and strong links with Pacific communities.

A variety of support tools will be delivered under the programme. Examples include resources and workshops to help increase pass rates of enrolled students; career planning, career assessment, job brokering and work placements, to help transition graduates into the health workforce (Le Va, 2012).

Over 500 scholarships and awards have been granted to Pacific people studying towards a qualification in mental health, addiction, or general health since 2009. Applications for the awards have increased markedly since their introduction. Recent achievements include:

- i. Over half of the recipients of 2011 awards and scholarships have already reported a final grade point average of B or better.
- ii. Over 60 Pacific medical students and 55 Pacific nurses were funded to undertake health studies in 2010 (an increase of over 200 per cent from the previous provider).
- iii. Over 50 Pacific health workers have completed the Le Tautua Emerging Leaders programme providing a pool of health workers ready to progress into more senior roles. Eighteen participants completed the programme in 2010 (Le Va, 2012b).

### ***Pacific Addiction Workforce Strategy (2011-2014)***

The Pacific Addiction Workforce Strategy was developed by Le Va, and guides the Pacific addiction workforce development. The strategy has three main priorities (Le Va, 2011):

- i. Build Capacity. To address this priority, Le Va will undertake the following actions: (1) Lead Integration by reducing duplications, sharing innovations, and acting as a hub for Pacific mental health and addictions sector workforce development (e.g. convening four integrated sector forums over 3 years); (2) Facilitate Up skilling, by providing up to five scholarships and mentoring to the current Pacific addiction workforce, prioritising those working with youth; (3) Enhance Service Responsiveness, by providing cultural competency training,

capability training and support, through the Le Va Engaging Pasifika training programme (targeting the non-Pacific workforce).

- ii. Recruitment and Retention. To address this priority, Le Va will: (1) **Attract new workers** by providing up to five scholarships to tertiary education providers with relevant addiction courses of study, and offer mentoring support through the Le Va Futures that Work programme; and (2) support Career Movement, by providing up to five places in the Le Tautua Emerging Leaders programme, and tailoring a career support pathway for participants.
- iii. Resources and Tools. To address this priority, Le Va will: (1) Provide effective tools for the sector, including promoting the Matalafi Matrix cultural assessment tool and adapting Pacific resources for the addiction sector; and (2) Ensure Quality Resources and tools are available, particularly for primary care, that apply Pacific worldviews and perspectives.

### ***Pasifika Medical Association (PMA) programmes***

The PMA was established in 1996 to provide a forum for people from all areas of the Pacific health workforce, including clinicians, students, and the allied health workforces. The PMA's mission is to strengthen the capability and capacity of the Pacific health workforce. PMA delivers two programmes that help support young Pacific students to pursue careers in the health sector. These are (PMA, 2011):

- i. Healthcare Heroes: a mentoring programme that aims to increase the number of Pacific school leavers entering into health science study, by supporting their engagement, participation and achievement in school science subjects. The programme was established in 2010, and uses a variety of methods for supporting secondary students and teachers (e.g. workshops, presentations, providing work experience opportunities, tutoring and helping students develop study skills).  
A recent evaluation of the Healthcare Heroes programme demonstrated some successes, with increases in Pacific students enrolling in NCEA Level 1 science (10.8% increase) and Level 2 science (5.2%), as well as increased achievement levels. Of a small sample of the Healthcare Heroes participants, 70 percent reported they would study health science (PMA, 2011).
- ii. Students Are Our Future: a mentoring programme established in 2010 that aims to increase the number of Pacific health science students completing their degrees. The programme targets around 320 Pacific students studying at graduate or post-graduate level. Support is delivered through one-on-one and group mentoring with Pacific health professionals.

A recent evaluation of Students Are Our Future also revealed some successes, with an overall pass rate of 90% among participants. In total, 30 Pacific students graduated from a health science degree in 2010 (PMA, 2011).

In addition, PMA coordinates the Pacific Health Professional Organisations programme. This involves increasing linkages and networks and collaboration amongst Pacific professional health organisations, and working with other professional organisations in the health sector to help increase the responsiveness and quality of health services for Pacific people (PMA, 2011).

## **Aniva Leadership Career Development Programme (Pacific Health)**

The Aniva Leadership Career Development Programme ('Aniva') contributes to the Ministry's overall strategy to increase the Pacific health and disability workforce by ensuring we have the right Pacific people with the right skills in the right places (Serau, Focus 1). The Ministry has supported Pacific leadership development as part of the Pacific Provider Development Fund since 2002. Aniva continues the development of leadership in the Pacific health workforce, and provides networking opportunities for 110 people who have participated in the Ministry's Pacific leadership programmes. .

The objectives of Aniva are to:

- i. facilitate and strengthen clinical and cultural networks across the Pacific health sector to support peer learning, enable access to trusted sources of advice, and facilitate more efficient sharing of information
- ii. support participants career planning and development pathways and facilitate career advancement opportunities to increase Pacific people are available for senior roles. This is important for growing Pacific representation available in strategy design, policy making and service delivery
- iii. support participants to develop specific leadership skills for Pacific health including: clinical leadership; management and leadership; and cultural and community leadership
- iv. increase the pool of Pacific expertise available to mainstream and Pacific health sectors for communicating Pacific issues, teaching and mentoring, conference presentations and publications.

Aniva also has a specific focus on development and support for career advancement and support for Pacific nurses, and to ensure that there are pathways for emerging leaders and others to access the Aniva network. Recent achievements include:

- i. establishment of the Aniva Whireia Pacific Nursing Leaders Fellowship Programme. Thirty two senior Pacific nurses are involved in this programme which leads to the attainment of the Postgraduate Certificate in Specialty Care Pacific Health. Leadership development occurs through a programme of study based on research based practice in health care delivery, with a focus on Pacific health.
- ii. 18 Pacific senior managers, clinicians and researchers supported to attend the Pacific Senior Public Service Managers Programme run by the Ministry of Pacific Island Affairs (MPIA) and the Leadership Development Centre (LDC). The programme provides opportunities for Pacific staff from across the state sector who aspire to senior management roles in the public sector to access LDC programmes and participate in a 12 month Pacific focussed leadership programme. Aniva supported the establishment of the inaugural programme and contributed to the steering group. The programme is being evaluated..
- iii. establishment of the Aniva Fellowship programme, providing scholarships for outstanding candidates to pursue an advanced programme of leadership study. There have been four fellows and one study award. The programmes of study have included:
  - MSc Health Economics, York University UK;
  - participation in international health meetings e.g. the Salzburg Global Seminar –Healthcare Seminar Series with world leaders in health, WONCA General Practice world conference;

- Harvard Kennedy School of Government and Business School Leadership Programmes;
- practicum in chronic care with international expert Professor Bodenheimer in San Francisco;
- linkages with Australian public service health workforce organizations; and
- cultural competency training and mentoring in Samoan and Te Reo as part of a leadership programme in the tertiary sector.

The Aniva programme supports the development of the evidence base for Pacific health as a key tool for leadership in governance, policy, planning, service delivery, research and teaching. The Aniva programme includes production of the online publication Pacific Health Research Review. The review summarises recent and relevant research for Pacific health and includes commentary by Aniva members and experts in the topic areas. Four issues are published a year. Aniva also worked with BPAC, the general practice journal, to produce the first Pacific focused edition, which included input from a range of Pacific clinicians, managers and health workers.

### District Health Board innovations

A number of workforce innovations are being led by DHBs across New Zealand. Some of these innovations have not yet been evaluated, possibly because the smaller scope of the programmes mean there is inadequate capacity or funding to channel into research and evaluation.

### ***Auckland DHB***

Auckland DHB (ADHB) runs three Pacific health workforce innovations:

- i. Pacific Nursing Workforce Development programme: a wrap-around support service for its Pacific nursing staff. The programme helps support career progression and build clinical leadership
- ii. Healthy Village Action Zone training: a programme to support Pacific church members to become NetFit trainers and coaches that deliver exercise classes in Pacific churches. The programme uses a ‘train-the-trainer’ type model.
- iii. ADHB clinical network of Pacific doctors

### ***Counties Manukau DHB***

Counties Manukau DHB (CMDHB) runs a number of workforce innovations, aimed both at high school students and the DHB’s active health workforce. These programmes rely on partnerships between health professionals, CMDHB, the education sector, and communities. The CMDHB Pacific workforce innovations include the Grow Our Own Workforce initiative.

This programme was founded in 2010 with funding from the Tindall Foundation. The funding was donated to help grow the DHB’s Maori and Pacific health workforces using a ‘pipeline’ approach – where workforce development is considered to be a pathway that requires targeted interventions from secondary school level, through to tertiary, graduate, and existing workforce levels (CMDHB, 2011; The Werry Centre, 2008).

As part of CMDHB's pipeline approach, High School Health and Science Academies were trialled at two low decile South Auckland schools (Tangaroa College and James Cook High). To create the academies, selected teachers collaborated with career advisors, the DHB programme manager, and school principals, to reconfigure the curriculum to have greater emphasis on health and science. Academy teaching began in 2011, with one fifth form level class per school (CMDHB, 2011).

Since February 2011, the PMA funds an academy at Otahuhu College (through the PPDWF from the Ministry of Health, with support from ASB Community Trusts and the Todd Foundation). Those delivering the Otahuhu College health science academy work closely with those running the other academies in the CMDHB schools. The Otahuhu College programme student cohort is limited to Pacific students only; whereas, the CMDHB academies are for Maori and Pacific students. Like the CMDHB programmes, the Otahuhu College academy prepares secondary students for tertiary study and entry into health science careers. This is achieved through one-on-one meetings with an academy tutor; academy workshops and study skills tutorials; supporting the academy science teachers to strengthen their teaching; and promoting health science as a career (PMA, 2011a).

The lack of DHB funding available for evaluation has been noted in a recent report, although plans for a formal evaluation were due to begin in late 2011 (CMDHB, 2011).

- i. Train the Trainer in Diabetes Prevention: CMDHB has nearly twice the incidence of diabetes compared to other DHBs (CMDHB, 2011). The Train the Trainer in Diabetes Prevention programme is run by The Diabetes Projects Trust. The programme was specifically designed in consultation with Maori and Pacific communities and is aimed at teaching those who work with at-risk groups in the CMDHB region. Four training sessions have been delivered to community and mental health workers, nurses and midwives over the past few years.
- ii. Matua Role – Faleola Services: a new role established within Pacific culturally-tailored mental health service for Pacific people. The Matua role involves working with Pacific families and with mainstream adult mental health services, ensuring service provision is culturally appropriate. Anecdotal evidence suggests the role is working well for Pacific clients and families. The role is currently being expanded to include a consultation/liaison role across the wider mental health services division. This expanded role involves supporting the services provided by other mental health teams working with Pacific clients and families (CMDHB, 2011).
- iii. Pacific Return to Nursing programme: a pilot programme that was set up to help support Pacific-trained nurses to achieve NZ Nursing Council registration. The initial cohort of 75 nurses has since been split into two groups because one of these groups needed additional support to help pass the language requirements for registration. Each group had a tutor who provided clinical and cultural support, as well as career mapping and support for transition into a Competency Assessment Programme (CAP) before registration (CMDHB, 2011). An evaluation of the pilot in 2010 revealed that, of the cohort, 14 nurses achieved registration and employment, 14 were in a CAP programme; and 13 were in the process of sitting their English language requirements test. The level required to pass the language requirements was noted as a significant barrier to the programme's success (CMDHB, 2011).
- iv. Pacific Implementation Programme: The MoH funds two Pacific Nurse Practitioner positions in CMDHB.

## **Capital & Coast DHB**

Capital & Coast DHB (CCDB) had a recent innovation that focused on developing Pacific nurses and midwives by having existing Pacific nurses and midwives mentor new graduates entering the workforce (CCDHB, 2010).

## **Hutt Valley DHB**

A number of culturally tailored services for Pacific people have been set up in the Hutt Valley DHB region. These include (1) Vakaola – a community mental health provider set up primarily to serve Pacific people in Porirua and Hutt Valley; (2) community physiotherapist at the Pomare Medical Centre that serves Maori and Pacific people; (3) dietician at Pomare Medical Centre.

## **Waikato DHB**

The Waikato DHB has a Nursing and Midwife Recruitment Strategy that also targets Maori and Pacific nurses and midwives, actively recruiting them for hard to fill places (e.g. rural hospitals, neonatal unit). As part of the strategy, mentors are offered to support nursing/midwifery students. This support can be continued after graduation.

## Tertiary Education Organisation innovations

A number of tertiary education organisations deliver programmes specifically designed for Pacific people.

### ***Pacific Foundation Programme and POPO (University of Otago)***

The Pacific Foundation Programme (PFP) is a 33 week foundation programme at The University of Otago. The PFP supports Pacific school leavers interested in pursuing a career in the health, to transition between secondary school to tertiary education. The programme prepares the students to enter the first year of a health science, or science-related programme. The PFP year is a common pathway for Pacific students entering professional programmes such as medicine, dentistry, pharmacy and physiotherapy. Students receive subsidised accommodation, ongoing support and tutorials, and have their tuition and course resources paid in full (University of Otago, 2012).

POPO is the Pacific Orientation programme at the University of Otago. It is funded by the MoH and runs for 13 weeks during the first semester of each year. The programme involves peer educators (PEs), who are senior Pacific health science students, meeting with the POPO students weekly. PEs help ensure the POPO students are benefiting from available resources at the university. POPO student's academic performance is closely monitored by staff at The Student Learning Centre and the Associate Dean Pacific. Extra tutorial sessions are also offered to POPO students (University of Otago, 2011).

### ***New Child Health Centre (IMAC, TAHA, Werry Centre and Whakawhetu) – University of Auckland***

Three programmes run from the New Child Health Centre at the University of Auckland include:

- i. IMAC: a programme supporting and helping grow the Pacific immunisation workforce
- ii. TAHA: a Well Pacific mother and infant service provider focussing on parenting and pregnancy programmes, and increasing the number of Pacific child birth educators and

midwives. TAHA also has a cultural competency education module included in the Olaga Pele train-the-trainer type programme it is rolling out.

- iii. The Werry Centre: the national centre for child and adolescent mental health is increasingly focusing on developing the Pacific child and adolescent mental health workforce.

### ***Pacific Return to Nursing (Unitec New Zealand, Auckland)***

Unitec New Zealand provides evening mentoring classes for Pacific nurses who are mothers and are looking to return to the workforce. A homework session is run in parallel for their children.

### ***Bachelor of Nursing Pacific (Whitireia, Porirua)***

The Bachelor of Nursing Pacific is tailored specifically for Pacific students. The course focuses on both Pacific and non-Pacific community health needs in New Zealand.

### **PHO innovations**

#### ***Bader Drive Healthcare (Counties Manukau District Health Board region)***

Bader Drive Healthcare offers a Clinical Training Support programme for 3 Pacific GPs and 3 Pacific nurses entering primary care. An evaluation of the programme is in its final stages.

#### ***K'aute Pasifika Trust (Midland Clinical Network, Hamilton)***

K'aute Pasifika Trust is supporting 5 Pacific nurses on post-graduate training programmes to become Nurse Practitioners (NPs). The aim is to have NPs (with specialist training and skills) deliver home-based services to Pacific families (e.g. chronic conditions management, immunisation, diabetes and asthma education).

## **Relevant Literature on International Workforce Innovations**

Health care expenditure is increasing at a higher rate than economic growth in most OECD countries. With increasing population growth and ageing, there are growing pressures being placed on the health workforce and health systems. The increasing demand for healthcare means that future models of care need to adapt to manage shortages in the workforce (Health Workforce Australia; HWA, 2011a).

In response to the demand facing the future health workforce, there is an international trend towards increasing productivity and efficiency of existing workforce (HWA, 2011). This trend recognises that addressing workforce demands requires more than increasing the numbers of workers alone. Rather, addressing workforce shortages requires reconfiguring the existing workforce. Workforce reconfigurations which are increasingly being adopted internationally include:

- i. using existing workforce efficiently (e.g. matching service models of care to the population needs);
- ii. re-designing roles and matching the skill-mix to the population's care needs; and
- iii. increasing the skill-mix of existing workforce (developing skills of existing workforce further), and increasing flexibility of the workforce (HWA, 2011; HWA 2011a)

Each of these key themes is discussed in detail below.

## **Using the existing workforces more efficiently: community health workers, non-regulated and allied health workforces**

Making efficient use of the health workforce requires closely matching the workforce to the needs of the populations they serve. For high-needs and ethnic minority groups, the international literature suggests allied and non-regulated workforces play an important role in addressing their healthcare needs.

In particular, there is a growing body of evidence that community health workers (CHWs) can be effective for high-needs groups. CHWs fulfil a wide range of support roles; they are community leaders, health facilitators, service integrators, and health advocates. CHWs are important for delivering culturally competent and effective services (Balcazar et al., 2009). There is an increasing body of studies which shows CHWs can effectively deliver culturally tailored programmes that help improve diabetes management among ethnic minority groups (Beckham et al., 2008; Boyd et al., 2006; Chen et al., 2010; McElmurry et al., 2009).

Because of their strong networks within their communities, CHWs can build effective links between consumers and service providers, and also help build coalitions for action within their community. These community ties place CHWs in an optimal position for helping design, and deliver culturally appropriate health education programmes (Boyd et al., 2006; English et al., 2010; Granillo et al., 2010; Rhodes et al., 2007).

The allied health workforce is also increasingly being used to address future workforce supply shortages. Models of care and service delivery that use allied health professionals have been shown to: reduce waiting times (Petrova et al., 2010); improve care quality; increase clinical contact time available to clinicians (Lizarondo et al., 2009); increase continuity of care (Salisbury et al., 2010); and increase patient satisfaction (Lizarondo et al., 2009; Chief Health Professions Office, 2008).

Much like the allied health workforce, the care and support workforce and other non-regulated workers (e.g. healthcare assistants, disability support workers) are increasingly being incorporated into models of care to make more efficient use of the existing workforce. Non-regulated workers, such as healthcare assistants, can undertake tasks and activities that can free up space for clinicians to see patients, and reduce waiting times. The close management of patients offered by healthcare assistants can also improve the quality of care they receive (Royal College of Nursing et al., 2006).

It is important to note that making more use of allied health workforces and non-regulated workforces requires defining roles clearly and having clear guidelines around how regulated, allied and non-regulated workforces can operate together (Bosley and Dale, 2008). Evidence suggests delegation of roles for these workforces varies widely. This is because delegation of tasks and role responsibilities lies within registered workers (e.g. registered nurses, doctors) and there are often no clear guidelines outlining suitable activities for delegation (Royal College of Nursing et al., 2006).

## **Redesigning roles and matching the skill-mix**

There is a trend towards redesigning roles in the health workforce internationally. Role redesign involves creating 'assistant' roles in the workforce, with the aim of freeing higher-skilled parts of the workforce from activities that can be undertaken by a lower-skilled worker. These assistant

roles help maximize return on investment in specialist training (HWA, 2011). There is a growing body of evidence on two assistant roles are increasingly being used to manage workforce shortages: Medical Assistants and Physician Assistants.

Medical Assistants carry out administrative and clinical assisting duties in ambulatory care environments. They are an innovative solution for reducing work pressures facing GPs, and they can help reduce waiting times by freeing up space for GPs to see patients (e.g. Anderson et al., 2009).

Studies have shown Medical Assistants can improve the quality of care patients receive. For example, Medical Assistants have been shown to: increase screening of patient's health risk behaviours (smoking) and offer interventions (Aspy et al., 2008); increase colorectal cancer screening (Baker et al., 2009); increase dementia screening (Boise et al., 2010); and make more referrals for patients with risk behaviours (Ferrer et al., 2009).

A recent evaluation of the Physician Assistant model in New Zealand found that they positively impacted productivity in hospital settings, and there was evidence to suggest that patient safety was enhanced by the presence of these clinicians. In general, the presence of Physician Assistants was associated with improved communication, team cohesion, communication, teamwork, organisation, trust, stress levels, and risk of burnout and the resultant improvements in team productivity and patient care/safety, and patient satisfaction (Siggins Miller (2012)).

A recent evaluation of an Australian Medical Assistant training programme, after four years, revealed some important key points: (1) there is a need to consult widely within health workforce when developing the new role to ensure fit for all those involved, and (2) there is a need for flexible course delivery and defining role boundaries more clearly.

Physician Assistants are health care assistants with generalist training, allowing them to work in a variety of settings. Physician Assistants spend longer time with patients, and also deliver patient education. An evaluation of a Physician Assistants pilot programme in Scotland showed that, Physician Assistants are cost-effective and are seen as being complementary even though some of their skills overlap with other workforces Farmer et al., 2009).

Physician Assistants in Australia provide safe high quality care in surgery units (Ho et al., 2010) and help save time and costs for surgeons (Bohm et al., 2010), although Supervision time needed from the doctor is a potential cost (Farmer et al., 2009). One study showed Physician Assistants can free up time for clinicians to see patients for acute medical care in emergency departments (Hooker et al., 2011). As with the Medical Assistant role, studies note the need clear role definitions to reduce confusions and conflict among workers (Ho et al., 2010).

"Skill-mix" is a term that usually refers to mixture of occupations within an organisation (Buchan & Dal-Poz, 2002). Redesigning roles and creating new roles like the Medical Assistant and Physician Assistant is one way of increasing the skill-mix of the workforce. A systematic review of the evidence on increasing skill-mix emphasises that there is no universal optimal skill-mix. Instead, it is important to identify the health care needs of the population and match the skill-mix to those needs (Buchan & Dal-Poz, 2002).

## **Increasing the flexibility of the health workforce**

Having a flexible workforce enables it to adapt to changing service delivery models in a timely manner. Increasing the skill-mix of the workforce, by developing their skills further builds flexibility within the workforce. Competency-based training, in particular, enables mobility across different

health careers, and can help prevent members within the health workforce from switching to non-health careers (HWA, 2011).

## **Key Themes**

### **Future workforce demands**

With the projected Pacific population growth and ageing population in New Zealand, a number of key future workforce issues need to be considered. In particular, the high burden of chronic and long-term conditions among Pacific people will require increased use of the care management and support workforces. The high rates of ambulatory sensitive hospitalisations (ASH) among Pacific people also signal the need for improving quality of care delivered by the primary care workforce.

### ***Need for robust research and evaluation***

Aside from the grey literature presented in the stock take of workforce innovations, there is very little formal evaluation research on New Zealand Pacific health workforce innovations. This is likely due to a numbers of factors such as lack of available funds to undertake evaluations, and measureable outcomes not being built into programmes before implementation. Lack of evaluation funding and capacity is particularly an issue for smaller scale and local innovations.

A key learning from the Grow Our Own Workforce health academies project evaluation (at CMDHB) was the need to build in long-term plan for secondary level interventions (i.e. monitor and track success of a cohort over 3 years, from high school through to university study). Innovations need to be specific about the deliverables and outcomes from the start; and collect both qualitative and quantitative information for in-depth evaluation to be possible. These processes need to be built into the project structure from implementation and planning stages on (CMDHB, 2011).

Structuring comprehensive robust research and evaluation into innovation design ensures the key components of successful programmes are identified. There are some current workforce innovations that are incorporating monitoring and evaluation arms in their structure. A tracking and monitoring system has been, for example, integrated into the action plan for the Futures That Work programme (Le Va, 2012).

Existing innovations such as Healthcare Heroes, Students are Our Future (PMA) and Grow Our Own Workforce (CMDHB), also incorporate monitoring of students academic performance into their structure. However, there is still a need to make evaluation more comprehensive by including more narrative and qualitative research on the innovations. This would help identify key success components of the innovations in more detail, including from the perspectives of participants.

### **Pacific models of care incorporate Pacific health perspectives, and this requires a broad cross-section of the health workforce**

It is evident from the stock take of Pacific workforce innovations that Pacific models of care are underpinned by Pacific values and health beliefs. All of the innovations in stock take incorporated Pacific worldviews and leadership into their design. This was achieved by:

- i. building Pacific cultural competency and understanding of the role of Pacific culture in health (e.g. Futures That Work programmes);

- ii. delivering programmes in Pacific community sites (e.g. using the Pacific health workforce for home-based, or church-based interventions);
- iii. strengthening Pacific health networks (including clinical networks) through leadership and alumni programmes, and student mentoring programmes; and
- iv. creating Pacific roles in the health workforce (e.g. the Matua role in CMDHB)

A relevant study recently explored Pacific perceptions of Pacific models of mental health service delivery in New Zealand (Suaalii-Sauni et al., 2009). Researchers interviewed Pacific service providers, community advisors, Pacific mental health service consumers and their families. Perceptions of mental health service delivery varied widely and were overlapping. The key findings were that (1) having family and community support networks and good living environments and (2) having access to culturally competent mental health workers were perceived as being important for effective service delivery (Suaalii-Sauni et al., 2009).

This study illustrates that, consonant with Pacific health beliefs, Pacific models of care and service delivery are holistic, and this requires coordinated services from a broad range of health, social, and allied health workforces (i.e. community health workers, cultural support workers, social, and family support workers).

### **Pacific workforce innovations target multiple levels of the workforce**

The innovations presented in the stock take targeted different levels of the health workforce, from students to existing health workers. The 'pipeline' approach – where multiple levels of the health workforce are targeted from secondary students, through to tertiary students, recent graduates entering the workforce, and the existing workforce – is increasingly being used to develop specific health workforces (e.g. mental health) (The Werry Centre, 2008). The Futures That Work innovation (Le Va) uses the pipeline approach to develop the Pacific health workforce nationally. This innovative approach also being applied to the CMDHB programmes.

Many of the Pacific programmes identified from the stock take use mentors and group workshops as key elements in their programme structure. Fostering clinical and academic networks for the Pacific health workforce and health students is also a key component of many of the workforce development innovations. These networks are vital for information sharing and strengthening linkages between the health sector and the Pacific community, as well as within Pacific communities.

It should be noted that the majority of Pacific health workforce innovations were scholarships, awards, and mentoring aimed at secondary students, tertiary students, graduates entering the workforce. Innovations that were aimed at developing the existing workforce focussed either on building management and leadership (e.g. Pacific alumni and leadership programmes), or on more specific issues (e.g. the Return To Nursing pilot). These innovations aimed at existing workforce generally had fewer participants (e.g. alumni programmes) than other innovations.

The stock take suggests there is still scope to develop the skills of the existing Pacific health workforce. Workforce statistics showed very few Pacific nurses are Nurse Practitioners (NPs) – specialised nurses with important roles for health promotion, disease prevention, disease management, and informing policy. NPs are important to help address the future workforce needs to care for Pacific people living with chronic conditions (diabetes, CVD). They are also important for reducing the future burden of long-term conditions through health prevention, promotion and education (i.e. improving health literacy). Only 2.5 percent of NP workforce identified as being Pacific NPs in 2011 (NCNZ, 2011).

## Key themes from international literature

Key themes from the literature review (discussed in section 4.0) that are relevant for the future Pacific health workforce are:

- i. The need to use existing workforce efficiently (e.g. matching service models of care to the population needs). For high-needs and cultural groups, using community health workers (CHWs), other non-regulated workers (e.g. care assistants, support workers), and the allied health workforces can help improve quality of care. Using these workforces can also free up space for the clinical workforce. These workforces are particularly important for delivering culturally appropriate care to high-needs and ethnic groups internationally.
- ii. Re-designing roles (matching the skill-mix to the population's care needs). Internationally, there are trends towards redesigning assistant roles, such as Medical Assistants and Physician Assistants to address workforce shortages. These roles involve working more closely with patients and undertaking lower-level support and administrative tasks, thereby freeing up time among the clinical workforce. Medical Assistants and Physician Assistants can therefore also help improve quality of care. As such, they are well-suited to helping reduce the high ASH rates among the Pacific population. It is important to note that increasing the educational infrastructure for Nurse Practitioners and Physician Assistants requires coordinated planning and infrastructure (Cooper, 2007). Having clear role definitions and guidelines may be needed to help reduce any overlapping of Nurse Practitioner and Physician Assistant roles with the existing workforce. Innovations aimed at role redesign also need to take into account the time required for the clinical workforce to supervise these assistant roles.
- iii. The need to increase the skill-mix and flexibility of existing workforce (HWA, 2011; HWA 2011a). This will enable mobility across health careers and may improve workforce retention.

## Conclusions

Bringing together the themes summarised in this evidence base, future planning for the Pacific health workforce may need to:

- i. Closely match the care needs of the Pacific population. Pacific models of care are holistic and this requires a broad cross-section of the health workforce. The high burden of long-term conditions, such as diabetes, will require an adequate care and support workforce in future.
- ii. Recognise the important roles that non-regulated and allied health workers can play in improving quality of care, especially for high-needs and ethnic groups. Improving quality of care is particularly important for helping reduce the high ASH rates among the Pacific population. If used effectively, the non-regulated and allied health workforces can help improve health service efficiency (e.g. reduce wait times) by freeing up time for clinicians to see more patients.

- iii. Recognise the important role that community health workers (CHWs) play in delivering culturally appropriate and effective health care for high-needs, and ethnic groups internationally. CHWs provide linkages between Pacific communities and health services, which may help increase their access to health services
- iv. Continue pipeline approaches to workforce development (developing the Pacific health workforce at multiple levels from secondary school through to the existing workforce). There is scope to explore more development options and career pathways for the existing Pacific health workforce. Future planning could consider increasing gaps in the skill-mix by targeting specific members of the workforce for up-skilling (e.g. targeting Pacific Enrolled Nurses for training as Nurse Practitioners).
- v. Consider developing assistant roles (i.e. role redesign) such as Medical Assistants and Physician assistants to help improve quality of care, and reduce ASH rates for Pacific people.
- vi. Ensure adequate monitoring is incorporated into innovative practice in early planning or implementation stages, and provide for systems-level monitoring. Where there is little capacity, particularly for smaller providers, to conduct research/evaluations, they could seek to collaborate with existing Pacific health research bodies at academic institutions.

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## Appendix two –Project components

### Project Components

The brief for this review was organised in to four phases of work.

#### **Phase 1 Establishing a vision and current state assessment for the Pacific health workforce**

Phase 1 of this project involved:

- Undertaking a current state assessment which documented and synthesised the limited range of information and data including policy, practices and research studies which are relevant to the development of the Pacific health workforce. In doing so, the current state assessment 1) reviewed the health needs of Pacific peoples; 2) identified existing information relating to the Pacific health workforce; 3) identified existing Pacific models of care that utilize the current workforce in an innovative way. The current state assessment had two broad areas of focus:
  - high level considerations which influence the design of and demand for the Pacific health workforce including the policy context; and health workforce specific issues including the profile of the Pacific health workforce, education and training supply pipeline
  - Establishing a vision for the 2020 Pacific health workforce.

#### **Phase 2 Clinical Scenarios and Workforce Requirements**

Phase 2 involved:

- mapping the current Pacific patient journey through health services and identifying the workforce groups involved at each stage
- establishing clinical scenarios that account for the bulk of the patient workload and which describe innovative workforce approaches to health care including hospital, primary care and community approaches; and take account of the proposed 'future state' for health service delivery anticipated by current government policy.

#### **Phase 3 Pacific Workforce Modelling**

This phase involved:

- modelling and forecasting supply of the Pacific health workforce
- training pathways and needs required for each scenario
- analysing workforce skills in relation to the clinical scenarios representing demand.

#### **Phase 4 Pacific Workforce Development Policy Settings and Recommendations**

This final phase reflects on aspects of workforce policy settings required to meet future demand. This phase involved:

- Seeking input from key stakeholders including senior officials from the Ministry of Health, Health Workforce New Zealand and District Health Boards, Auckland and Otago Medical Schools, the Nursing Council of New Zealand, Pacific medical clinicians and leaders within the Pacific health sector, Professor Des Gorman and Brenda Wraight from Health Workforce New Zealand.

## Appendix three –Definition of Cultural Competence

Tiatia (2008) states cultural competence is the capacity of a health system to improve health and wellbeing by integrating cultural practices and concepts into health service delivery. Generally it is considered a behavioural approach based on the principle that behavioural changes can be achieved by changes in attitudes and behaviours. Changes in attitudes and behaviours are influenced by a number of factors including leadership in the field, access to information, goodwill, informed decision making, a learning environment, best quality practices, and organisational processes and procedures.

For a more in depth discussion of Pacific cultural competencies see Ministry of Health. (2008) *Pacific cultural competencies: A literature review*. Wellington: Ministry of Health.

## Appendix four – Pacific people employed at District Health Boards as at 31 March 2012

Ethnicity/role	Allied and scientific	Care and support	Corporate and other	Junior medical	Midwifery	Nursing	Senior medical	Not defined	Total
Pacific	207	661	734	76	20	627	30	6	2355
Total	10470	8886	15046	4098	1713	27226	4597	381	72036
Pacific (%)	2.0%	7.4%	4.9%	1.9%	1.2%	2.3%	0.7%	1.6%	3.3%

Source: Health Workforce New Zealand, 2012b

## Appendix five – Ethnicity of doctors and nurses

Ethnicity	Nurses (Enrolled)	Nurses (Registered)	Nurse Practitioners	All nurses	Doctors	Total
All Pacific	113	1,637	2	1,752	180	1,932
NZ European	2,639	30,347	66	33,084	7,400	40,484
NZ Māori	347	3,133	7	3,487	416	3,903
All other	525	14,783	14	10,240	5,886	16,126
Total	3,624	49,900	89	48,563	11,478	60,041
Total known individuals	3,156	45,318	89	48,563	13,883	62,446
Effective response rate	100%	100%	100%	100%	82.7%	96.1%
Pacific individuals	105	1,520	2	1,627	180	1,807
Pacific (%)	3.3%	3.4%	2.2%	3.4%	1.3%	2.9%

**Source:** Figures given for nurses relate to the 2011 year (Nursing Council of New Zealand (2011)). Figures for doctors relate to the 2010 year (Medical Council of New Zealand (2011)). **Note:** Pacific (%) refers to percentage of total known individuals. ‘All Pacific’ counts each time an individual declares a single Pacific ethnicity. All Pacific individuals for all nurses provided by the Nursing Council of New Zealand. Numbers given for each nursing role inferred from these.

## Appendix six – Ethnicity of other health professionals

Ethnicity	Chiropractors	Dentists	Dental hygienists and auxiliaries	Dental technicians	Dental therapists	Dieticians	Dispensing Opticians	Medical Laboratory Scientists	Medical Laboratory Technicians	Medical Radiation Technologists
All Pacific	3	20	4	6	5	5	1	44	33	30
NZ European	253	1,121	297	195	537	397	99	1,789	658	1,583
NZ Māori	15	58	19	10	74	19	4	51	53	74
All other	143	899	58	176	31	120	83	1,168	379	673
Total respondents	321	2,011	378	364	652	448	157	1,312	1,123	1,719
Total known individuals	414	2,098	378	387	647	541	187	3,053	1,123	2,360
Effective response rate	77.5%	95.9%	100.0%	94.1%	100.8%	82.8%	84.0%	43.0%	100.0%	72.8%
All Pacific	3	20	4	6	5	5	1	44	33	30
Pacific (%)	0.6%	1.0%	1.1%	1.7%	0.8%	0.9%	0.6%	1.4%	2.9%	1.3%

Ethnicity	Midwives	Occupational therapy	Optometrists	Osteopaths	Pharmacy	Physiotherapists	Podiatrists	Psychologists	Psychotherapists	Total
All Pacific	40	Not available	9	1	21	42	0	19	Not available	<b>283</b>
NZ European	1,591	Not available	331	157	1,810	2,671	212	1,249	Not available	<b>14,949</b>
NZ Māori	218	Not available	12	10	49	183	22	93	Not available	<b>963</b>
All other	1,055	Not available	282	216	1,300	1,271	80	731	Not available	<b>8,665</b>
Total respondents	2,639	Not available	542	281	3,223	2,488	173	1,345	Not available	<b>19,176</b>
Total known individuals	2,903	2,141	634	384	3,180	4,166	313	2,092	562	<b>27,563</b>
Effective response rate	90.9%	Not available	85.5%	73.2%	100.0%	59.7%	55.3%	64.3%	Not available	<b>69.6%</b>
All Pacific	40	Not available	9	1	21	42	0	19	Not available	<b>283</b>
Pacific (%)	1.4%	Not available	1.5%	0.4%	0.7%	1.0%	0.0%	0.9%	Not available	<b>1.03%</b>

**Source:** Figures sourced from the relevant registration bodies or provided by Health Workforce New Zealand. All figures given relate to the 2010 year.

## Appendix seven – Percentage of Pacific school leavers with university entrance standard (2010), geographic and ethnic view

Regional Council	Total Pasifika
Northland Region	28.9
Auckland	32.0
Waikato Region	17.7
Bay of Plenty Region	34.1
Gisborne Region	33.3
Hawkes Bay Region	23.8
Taranaki Region	38.1
Manawatu-Wanganui Region	29.5
Wellington Region	29.7
Tasman Region	x
Nelson Region	29.4
Marlborough Region	21.4
West Coast Region	20.0
Canterbury Region	24.2
Otago Region	38.6
Southland Region	18.2
Correspondence School	8.6
<b>New Zealand Total</b>	<b>30.5</b>

Pacific Island Group	Male	Female
Tokelauan	6.4	13.5
Fijian	33.6	49.1
Niuean	29.8	28.9
Tongan	21.7	37.6
Cook Islands Māori	19.2	27.8
Samoan	25.7	38.2
Other Pacific Peoples	17.4	37.4
<b>Total Pasifika</b>	<b>24.2</b>	<b>36.8</b>

Year	Total Pasifika
2005	14.5
2006	16.8
2007	20.2
2008	23
2009	27.8
2010	30.5

Quintile	Total Pasifika
Quintile 1	23.1
Quintile 2	21.5
Quintile 3	25.8
Quintile 4	37.8
Quintile 5	46.2

Pacific Island Group	National Value
Tokelauan	9.5
Fijian	41.1
Niuean	29.3
Tongan	29.9
Cook Islands Māori	23.6
Samoan	31.9
Other Pacific Peoples	25.9
<b>Total Pasifika</b>	<b>30.5</b>

Source: Ministry of Education (2012b).