RAURINGA RAUPA

RECRUITMENT AND RETENTION OF MĀORI IN THE HEALTH AND DISABILITY WORKFORCE

A report prepared for the Ministry of Health and the Health Research Council of New Zealand
by Taupua Waiora Centre, National Institute for Public Health and Mental Health Research,
Faculty of Health and Environmental Sciences, AUT University

Taupua Waiora Centre for Māori Health Research

AUT UNIVERSITY HEALTH + ENVIRONMENTAL SCIENCES

MINISTRY OF HEALTH
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LIST OF ABBREVIATIONS

APC	Annual practicing certificate
AUT	AUT University
BHSc	Bachelor of Health Sciences
BNurs	Bachelor of Nursing
BOP	Bay of Plenty
BPharm	Bachelor of Pharmacy
BUSP	Biology Undergraduate Scholars Program
CEO	Chief executive officer
CertHSc	Certificate of Health Sciences
CTA	Clinical Training Agency
CV	Curriculum vitae
DID	Disability Issues Directorate, Ministry of Health
DHB	District Health Board
DHBNZ	District Health Boards New Zealand
FTE	Full-time equivalent
GP	General practitioner
HFA	Health Funding Authority
HMSP	Hauora Māori Scholarship Programme
HRC	Health Research Council of New Zealand
HWAC	Health Workforce Advisory Committee (disestablished September 2006)
HWIP	Health Workforce Information Programme
ID	Identification
IT	Information technology
ITMOSS	Integrated Team Model of Student Success
KATTI	Kei a Tātou te Ihi
Man/Wan	Manawatū / Wanganui
MAPAS	Māori and Pacific Admissions Scheme
MAPO	Māori coordinated care and co-purchasing organisation
MBChB	Bachelor of Medicine and Bachelor of Surgery degrees
MDO	Māori development organisation
MEd	Ministry of Education
MHDW	Māori health and disability workforce
MOH	Ministry of Health
MSD	Ministry of Social Development
N/A	Not applicable
NCNZ	Nursing Council of New Zealand
N.E.C	Not elsewhere classified
N.F.D	Not further defined
NZHIS	New Zealand Health Information Service
NZPA	New Zealand Psychotherapists' Association.
NZQA	New Zealand Qualifications Authority
NZSCO	New Zealand Standard Classifications of Occupations
PECT	Post entry clinical training
PhD	Doctor of Philosophy

PHD	Public Health Directorate, Ministry of Health
PHO	Primary health organisation
RHA	Regional Health Authority
STEAM	Science, Technology, English, Architecture and Maths Programme
TEC	Tertiary Education Commission
Te ORA	Te Ohu Rata o Aotearoa
WHO	World Health Organisation

EXECUTIVE SUMMARY

Introduction

Raranga Tupuake (Ministry of Health, 2006b), the Māori Health Workforce Development Plan, was launched in April 2006 to facilitate a co-ordinated approach to addressing the stark under-representation of Māori within the New Zealand health and disability workforce. It is the strategic framework for Māori health and disability workforce development over the next 10-15 years, and identifies three goals; to increase the number of Māori in the health and disability workforce, to expand the skill base of the workforce, and to enable equitable access for Māori to training opportunities. Two specific tasks identified in the Plan, and aligned to the goal of increasing the number of Māori in the workforce are to; "Examine barriers and influences which increase Māori participation in the health and disability workforce", and "Examine retention issues for the Māori health and disability workforce" (p2). Consistent with these goals and tasks, this research was contracted by the Ministry of Health and the Health Research Council of New Zealand to explore the factors that influence Māori entry into the health and disability workforce and retention issues facing the Māori health and disability workforce (MHDW).

Research objectives

The objectives of the research are to:

1. Identify what influences Māori in choosing a career in the health and disability workforce;
2. Identify barriers to Māori taking up a career in the MHDW;
3. Identify what information is available to Māori about careers in the health and disability sector;
4. Identify support mechanisms for Māori,
    a. students who are still at secondary school and/or second-chance students wanting to develop a career in health science,
    b. community and voluntary workers already working in the sector, and
    c. those enrolled in health and disability education and training programmes;
5. Identify successful Māori recruitment programmes in the health and disability sector and other sectors and analyse whether these models could work in the health sector based on the knowledge gained from objectives 1-4;
6. Provide an overview of the retention statistics for the MHDW;
7. Describe what keeps Māori in the health and disability workforce;
8. Describe what prevents Māori from staying in the health and disability workforce;
9. Identify what careers Māori move into when they leave the health and disability workforce; and,
10. Identify successful Māori retention programmes in the health and disability sector and other sectors and assess whether these models may work in the health sector based on information gained in objectives 6-9.

Approach

The research is located within a Māori inquiry paradigm, and therefore takes a non-deficit approach which emphasises Māori strengths. The research has incorporated both qualitative and quantitative components. Multi-methods are used including a review of MHDW and health field tertiary education statistics, key informant interviews, interviews with former Māori health professionals, focus groups in three regions, and surveys of Māori tertiary health field students and the Māori health and disability workforce.

Research participants included Māori secondary school students, Māori tertiary health field students from a variety of programmes and institutions, Māori health professionals, tertiary education provider representatives, members of health professional bodies, and health care providers.

Māori participation in the workforce

Despite improvements over time, this research reinforces previous work by the Health Workforce Advisory Committee (HWAC – disestablished in September 2006) and others that demonstrates major and enduring under-representation of Māori in the health and disability workforce. In many occupational groups or specialist areas Māori are either not-represented or are vastly under-represented. Māori tend to be clustered in areas that require lower levels of formal qualifications, such as service workers (13.2% of service workers are Māori). The Māori health and disability workforce is very under-represented in the 'professional' occupational group with only 5.7% of the 'professional' workforce being Māori. Of particular concern is that this grouping includes the nursing and counsellor categories, in where Māori have 'reasonable' representation and these groups equate to approximately 50% of the 'professional' workforce. In the remaining 'professional' occupational categories (e.g. surgeon, dentist and dental surgeon) Māori account for only approximately 2% of the workforce. In terms of retention in the workforce, where workforce data enabled measurement, it appears that there are generally moderate levels of retention (60%-80%) across health professions.

Progress across occupational categories is varied and this may reflect differences in the level of commitment to MHDW development across professions, including training institutions and professional bodies.

There are strong mainstream and Māori specific rationale for increasing Māori participation in the health and disability workforce at all levels and in a range of professional roles. Mainstream arguments are concerned with projected excess health and disability workforce demand overall, and recognition that increasing and strengthening the Māori workforce is part of a sustainable long-term solution to addressing the shortfall. Equitable health outcomes for Māori are, however, a fundamental rationale for Māori health and disability workforce development, though this does not imply a 'one size fits all' approach.

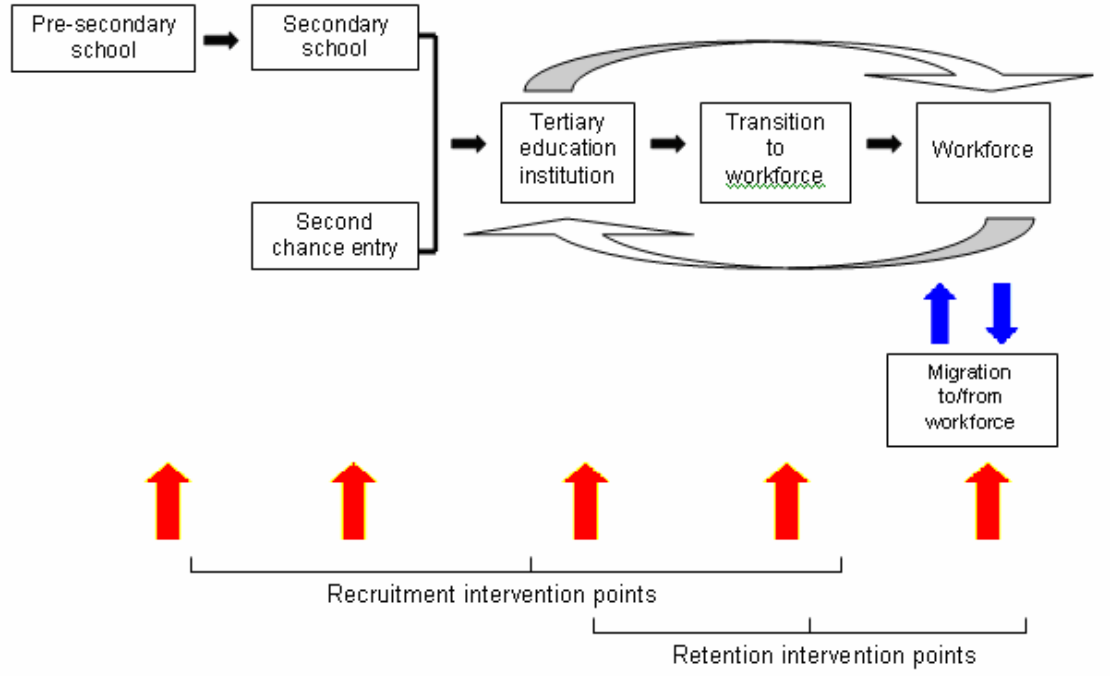
A MHDW development pathway

MHDW development is the process of strengthening the capacity and capability of the Māori health and disability workforce in order to maximise its contribution to improved health outcomes for Māori. The primary purpose of MHDW development is to contribute to building a representative New Zealand health and disability workforce that through evidence-based practice facilitates the best possible health outcomes for Māori.

International literature refers to a 'pipeline' for the generation and recruitment of the health workforce (Council on Graduate Medical Education, 2005a, 2005b; World Health Organisation, 2006). Essentially, the concept is that individuals progress through educational institutions and graduate with the qualifications and skills that enable them to then be recruited by employers into the health and disability workforce. According to this model, the number of entrants into the health workforce is determined by criteria for entry into training institutions, training attrition, and the health-related labour market (World Health Organisation, 2006). The 'pipeline' has typically focused on the role of educational institutions, mainly at the tertiary level but also at the secondary school level, in workforce development.

Data from this research suggests an expanded 'pipeline' or 'pathway' for Māori health and disability workforce development (Figure 1). The pathway would extend through five distinct phases: pre-secondary school; secondary school and second chance entry; tertiary education, transition to the workforce, and the workforce phase.

Figure 1. A Māori health and disability workforce development pathway



Importantly, the pathway explicitly accommodates tertiary level professional development opportunities that may facilitate workforce retention and are consistent with a 'life-long learning' approach to professional development. It is recognised, however, that there are many other legitimate MHDW professional development opportunities outside of tertiary education institutions. The last three phases of the pathway encapsulate the health workers career lifespan, including potential migration in and out of the health workforce. This acknowledges that health sector skill sets are transferable and that there is much demand in other sectors for Māori competencies.

Careers outside of the health sector

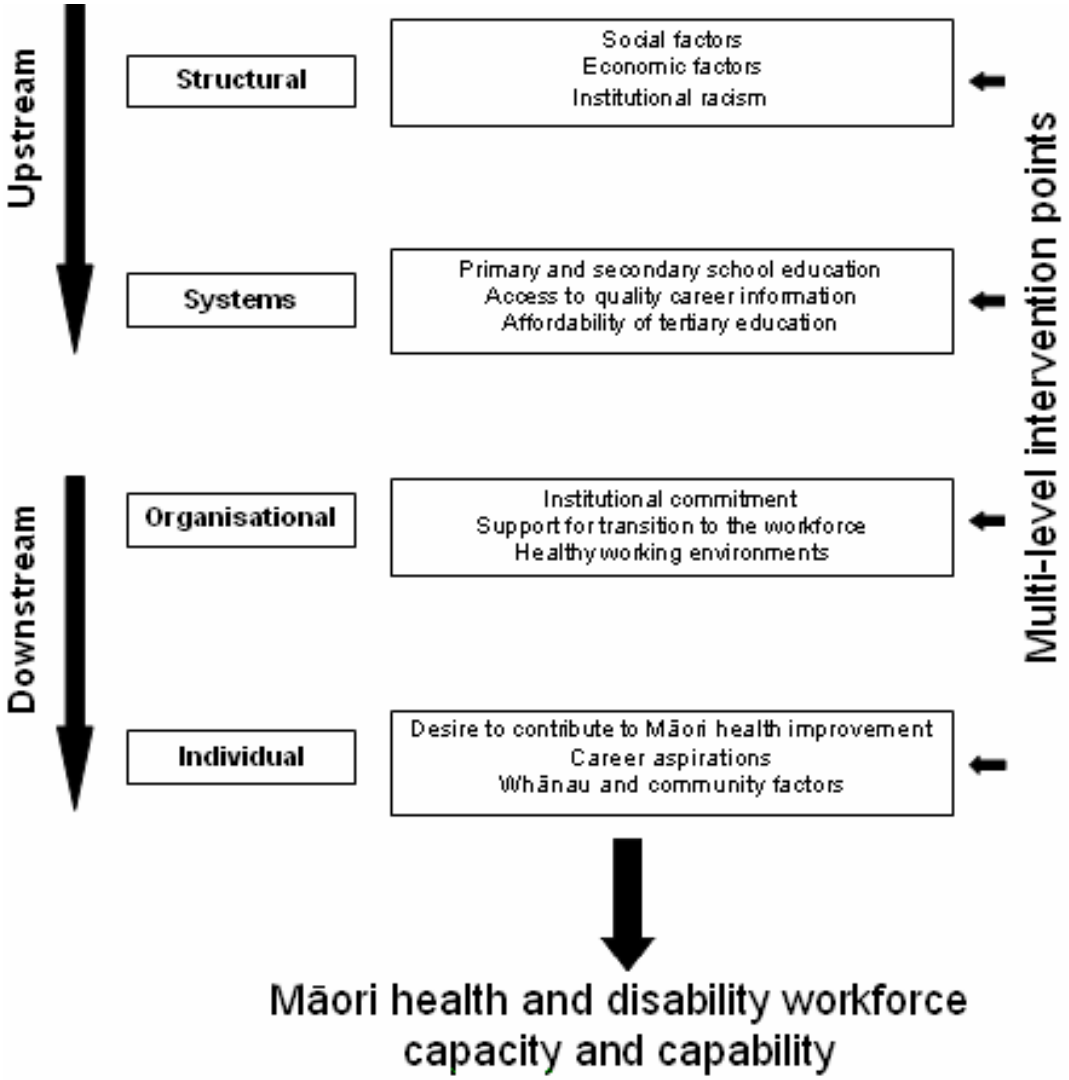
Findings from this research indicate that when Māori leave the health and disability workforce they move into a wide variety of roles across sectors dependent on personal priorities and interests. The main areas identified by participants in this research, in particular ex-workforce survey respondents, were Māori and iwi development, education, social services, management, business development and community level work. It appears that often the new roles may be linked to health and/or Māori development. Respondents indicated that those that leave the sector often continue to work with, and make a difference for, Māori. There was some indication that those moving into other sectors may consider that their work outside of what is conventionally considered the health field may have a greater impact for Māori, for example in addressing the determinants of health.

Determinants of MHDW development

A range of barriers and facilitators of Māori recruitment and retention in the workforce, and therefore progression along the workforce development pathway, have been identified in this research. These factors influence the extent to which Māori are able to access tertiary health field education programmes, and thereby have the option of entering the health workforce. Access, as it is used here, refers not only to enrolment in tertiary programmes, but also to the successful and timely completion of qualifications.

The barriers and facilitators identified in this report can be broadly grouped into the following four categories: structural factors; health and education system factors; organisational factors; and, individual level factors. Structural factors (e.g. historical, social, economic, political and cultural factors) are the fundamental drivers of Māori participation in New Zealand society generally and therefore of MHDW participation. Health and education system factors relate to the health or education system as a whole, rather than to the characteristics of individual institutions. Organisational factors relate to specific health and educational institutions and services. Individual factors operate at the level of the person. Figure 2 provides examples of influencing factors identified in this research that fall within each of the categories.

Figure 2. Determinants of Māori health and disability workforce participation



The first two categories (structural and systems) include upstream factors that are distal influences on workforce participation, while organisational and individual level factors are downstream determinants that impact more directly on the person. Factors that fit within each of the four categories generally have the potential to act as either a barrier or facilitator of workforce recruitment and/or retention. Further, there is a degree of overlap and some factors interact across categories. For example, the relative economic deprivation of Māori is a structural barrier that is linked to the education system barrier of affordability of tertiary education.

Barriers to recruitment

Structural barriers to workforce recruitment and retention were identified by key informants, in particular the socio-economic position of Māori and institutional racism. Structural factors are to a large extent outside the control of the health sector. However, health (and education) is part of the structure and is well positioned to take

a leadership role in advocating for an integrated approach that marries social, economic and cultural dimensions.

Health and education system recruitment barriers were identified that related to: primary and secondary school educational barriers; poor access to quality career information; the tertiary education system (e.g. high cost of tertiary education and distant location of institutions); the low Māori presence in the health and education sectors; lack of clear career pathways, and workforce entry qualification requirements. At the organisational level, low educational institution commitment to Māori workforce development was identified as a barrier to Māori participation in health field tertiary education and the health workforce. These barriers include that tertiary education institutions are not 'Māori friendly', programmes are not 'Māori friendly', lack of Māori specific study pathways, and limited Māori specific course content.

In terms of the working environment, personally mediated racism in the workplace was identified by health workers as a recruitment barrier. There were also indications among tertiary student survey respondents of perceptions of limited employment opportunities.

At the individual level, tertiary student survey respondents indicated that not knowing someone working in the health professions is a barrier to taking up health field study. Almost half of the workforce survey respondents identified limited whānau experience in tertiary education and whānau commitments as a medium or large barrier. Pressures to meet high Māori community expectations of constant availability were also identified in workforce focus groups as recruitment barriers.

Recruitment facilitators

Addressing ethnic inequalities with regard to the socioeconomic position of Māori in New Zealand society and institutional racism were indicated to facilitate MHDW recruitment.

Health and education system recruitment facilitators identified were; measures to enhance primary and secondary school education systems; improved access to quality career information; enhancement of the tertiary education system; a strong Māori presence within the health and education sectors; the high status of health professions; career development opportunities in the health sector; flexible workforce entry qualification requirements; and, formal Māori support mechanisms and recruitment interventions. As well, over half of the workforce survey respondents indicated that career development opportunities and earning potential provided quite a lot or a major encouragement to initially choose a career in health. Earning potential was also identified as at least important for most tertiary survey respondents in terms of influencing their decisions to take up health field study.

At the organisational level, tertiary education institution bridging courses were identified as recruitment facilitators. Also within tertiary institutions, opportunities to incorporate Māori papers and non-science papers into study programmes and access to childcare facilities were identified as recruitment facilitators.

In terms of the working environment; employer expectations and support for study, culturally safe and supportive workplaces, the recognition and valuing of Māori competencies, and clear Māori health career pathways were identified as recruitment facilitators.

Individual level drivers were identified that facilitate recruitment into health field tertiary education programmes by tertiary student survey respondents. Career aspirations was the most highly rated, followed by family/whānau encouragement, practical experience in the health sector, and knowing someone working in health.

A personal desire to contribute to Māori development and Māori health improvement was identified as a key motivator to take up a career in health by workforce survey respondents. That is, to make a difference for Māori health, to work with Māori people, to work with hapū and iwi, and to help address the underperformance of the health system for Māori.

Barriers to retention

Institutional racism was identified by key informants as a structural barrier to MHDW retention. Health system retention barriers identified were; health sector funding mechanisms, low levels of flexibility within the system, a low Māori presence in the sector, poor pay rates and opportunities in other sectors.

Current health sector funding mechanisms were considered by key informants and ex-workforce interviewees to disadvantage Māori providers to the extent that low levels of funding do not enable these providers to pay salaries equitable with mainstream and to fully support workforce development. As well, short term funding was considered to undermine Māori provider planning for strategic workforce development.

The following organisational barriers to Māori workforce retention were identified by workforce survey respondents, key informants, focus group participants and ex-workforce interviewees: high expectations placed on Māori in mainstream roles to be expert in and deal with Māori matters; dual responsibilities to employers and Māori communities; a lack of value given to Māori cultural competencies; lack of or low levels of Māori cultural competence of colleagues; and, limited or no access to Māori cultural support/supervision. Ex-workforce interviewees noted that high expectations, unrealistic workloads and the limited numbers of culturally competent Māori health professionals were factors leading to ‘burnout’. Ex-workforce interviewees commonly referred to ‘burnout’ as a reason for their decision to leave the sector. Some workforce survey respondents indicated concerns regarding racism and/or discrimination in the workplace, isolation from other Māori colleagues, and the difficulty of ‘being Māori’ in the workplace.

The following factors relating to general work conditions were identified as retention barriers; inadequacies of managers, low flexibility, poor access to professional development opportunities, heavy workloads, lack of clear career pathways.

Whānau commitments and the high expectations of Māori communities were identified as barriers to retention. Whānau commitments, as a barrier, imply the need

for flexible working conditions to enable those with family responsibilities to move into and remain within the health sector.

Retention facilitators

Within the health system, a strengthening Māori presence, supported transitions from study to work, and adequate pay rates were identified as retention facilitators. Workforce survey respondents indicated that having Māori colleagues, opportunities to network with other Māori health professionals and Māori role models encourage them to keep working in the sector. According to tertiary student focus groups the period of transition from study to the workforce could be better supported to facilitate the retention of new Māori graduates.

Key factors influencing Māori workforce retention at the organisational level relate to the provision of culturally safe and reinforcing working environments, and rely on institutional commitment to Māori workforce development. The following retention facilitators are consistent with a positive working environment: a culturally safe work environment; recognition and valuing of Māori cultural competencies and practice models; access to cultural supervision and Māori resources; paid professional development opportunities to gain and strengthen cultural competencies; opportunities to work in Māori settings and to use Māori practice models in Māori contexts; culturally safe management; and, flexibility to work within known Māori frameworks and practice models.

The following factors relating to general work conditions were identified as retention facilitators; paid professional development opportunities generally (some participants indicated the value of scholarships and grants) and clear career pathways.

At the level of the individual, four factors were identified by workforce survey respondents as providing a major encouragement to them to keep working in the health and disability workforce. These factors relate to making a contribution to Māori, specifically; making a difference for Māori health, being able to work with Māori people, making a difference for their hapū or iwi, and being a role model for Māori. There was also an indication from focus group participants that the capacity for Māori health professionals to both receive and provide whānau, hapū and iwi support facilitates workforce retention.

Career information available to Māori

It is apparent that access to quality health career information underpins the recruitment of Māori into the health and disability workforce. There is extensive career information available in the public domain, relating to all aspects of developing a career in health. However, it is an issue that knowledge and skills are often required in order to access information, including determining what material is both relevant and accurate. Further, there are relatively few examples of Māori specific health career resources that specifically target Māori school students or second chance learners, use Māori role models, describe careers in health in relevant terms that are likely to engage Māori, and, incorporate Māori images, language and other cultural features.

While there is clearly limited access to health career information, around half of the tertiary student survey respondents indicated that they had accessed information about careers in health. The types of information accessed by respondents related to: education and training options; funding and scholarships; career planning; career advancement and pathways; career opportunities in the Māori health field; opportunities for Māori people in the sector; potential employers; the range and types of jobs; and, salary ranges.

Tertiary student survey respondents were asked to rate the extent to which a variety of information sources had encouraged them to take up study or a career in the health and disability sector. The highest rated information source was 'word of mouth from Māori networks' (including information provided by friends and whānau), which indicates the importance and potential of informal networks in disseminating health career information and perhaps the value of targeting not only individuals but also whānau and the wider Māori community. It may also, however, be an indication of gaps in career information availability. Other highly rated information sources were career expos and university or educational institution open days (particularly for younger Māori and those considering extramural studies), the internet, iwi and Māori community organisations (especially for those with experience working in the sector) and pamphlets. Print media and television also rated reasonably well.

Support mechanisms for Māori

A limited number of support mechanisms were identified for Māori secondary school students and second chance students wanting to develop a career in the sector, Māori community and voluntary workers already in the sector and Māori enrolled in health and disability education and training programmes.

The main support mechanisms for secondary school students identified by key informants and focus group participants were school career advisors, which were noted to be of variable quality, and recruitment programmes run by tertiary institutions. Whānau support was mentioned by tertiary student focus groups as a major informal support mechanism.

There were some concerns among research participants that tertiary education institutions are better equipped to recruit students directly from school, and are less adept at targeting and providing support for mature students considering a career in health.

Bridging courses were identified by key informants and focus group participants to be of particular value for Māori second chance students in providing staircasing opportunities. Hikitia Te Ora (Certificate in Health Sciences) which is part of Vision 20:20 and offered by the University of Auckland, the Certificate in Māori Health offered through Mauri Ora Associates, and Te Manu Toroa kaupapa Māori pre-entry nursing programme were specifically mentioned.

Few support mechanisms for community and voluntary workers already working in the sector were identified, and those that were tended to be informal supports.

Community level support, such as kaumātua (both koroua and kuia) support, were identified as a necessary part of successfully operating at the local level. Collegial support was also considered important. Other support that is available tends to come from employers as well as Te Whiringa Trust, the Māori community health workers network. Some key informants identified regional initiatives that support voluntary and community health workers to undertake further training, such as a joint venture between the Manukau Institute of Technology and Counties Manukau DHB, whereby voluntary and community workers are encouraged to upskill at the institution and to do field placements at the DHB. One key informant referred to the provision of financial support by Te Tai Tokerau Māori Rural Health Training Consortium.

Community and voluntary workers in focus groups identified the need for 'on the job' support and noted the value of a buddy system to provide collegial support, especially for new staff.

Tertiary student survey respondents indicated that there are a variety of support mechanisms, particularly Māori specific mechanisms, that are likely to encourage Māori to enrol, be successful in, and complete tertiary study in health fields. The availability of Māori scholarships and grants was identified as the most important support mechanism.

Responses demonstrated the value placed on Māori specific interventions in the areas of career guidance, dedicated facilities, liaison services, comprehensive support programmes, increased support for student networks, learning support, recruitment programmes, and tutorials. Key informants acknowledged that there are comprehensive generic student support services available through universities, the challenge identified was to connect Māori students to that support.

Some key informants noted that support is provided to Māori health students by Māori professional bodies such as Taeora Tinana3 and Te Kaunihera o Ngā Neehi Māori o Aotearoa/the National Council of Māori Nurses.

Tertiary student focus group participants indicated that the informal support provided by other students, whānau, and workplaces is important. Workforce survey participants also emphasised the importance of employer support for tertiary education.

Characteristics of successful interventions

Interventions should not only be concerned with enabling Māori to 'cope' within existing educational and health institutions, but also with societal, systemic and organisational change to produce healthy learning and working environments for Māori that support workforce recruitment and retention. No one programme will address the range of determinants that influence Māori recruitment and retention within the health and disability workforce. Multiple interventions that target Māori are required that work across the MHDW development pathway and at the structural,

[3] Taeora Tinana is a standing committee of the New Zealand Society of Physiotherapists (the professional body), which on a voluntary basis undertakes activities to strengthen the profession's contribution to improving Māori health outcomes.

systems, organisational and individual levels. This will necessarily include both phase-specific and comprehensive interventions that operate across the length of the pathway. Importantly, links between the phases should also be emphasised. For example, partnerships between tertiary education health field programme providers like university faculties of health and secondary schools with high Māori enrolments should be encouraged. As well, opportunities for secondary school students and tertiary students to gain practical experience with health providers would be of high value. While a culture of success and achievement should be nurtured, a core aim will be to not only develop leaders but to support the successful qualification completion and movement into the workforce of all Māori enrollees. Consistent with Māori preferences, interventions should be Māori-led but draw on the range of relevant expertise and experience.

Progress has been made in recent years in terms of increased co-ordination of workforce development activities. However, strong national Māori leadership will be required to facilitate formal co-ordination of what are largely discrete and somewhat isolated projects. This will facilitate a strategic and evidence-based approach to MHDW development that avoids duplication, and will ultimately contribute to improved health outcomes for Māori.

The field of mental health has been identified as an area that has had the most consistent and comprehensive investment in Māori health and disability workforce development in the previous decade. Māori mental health workforce development intervention provides a model for MHDW recruitment and retention generally, to the extent that there has been consistent investment over a prolonged period that has focused on workforce capacity and capability building (emphasising dual competencies). There is a comprehensive national strategy for Māori mental health workforce development, though it has been developed after the initiation of some key interventions, it draws together the range of activities underway in a coherent manner and seeks to guide and provide a framework for future co-ordination.

Māori mental health workforce development has been Māori led and seeks to stimulate positive change at multiple levels, though particularly at the level of health and education institutions, to foster learning and working environments that are more conducive to Māori recruitment and retention.

The range of workforce development activities in the Māori mental health field are fairly broad, and this is a key to success as work to strengthen the infrastructure is required in order to provide a suitable context for the flourishing of specific recruitment and retention interventions. Te Rau Puawai (comprehensive university-based support programme for Māori studying towards tertiary mental health field qualifications) and Te Rau Matatini (Māori mental health workforce development organisation) are Māori mental health workforce recruitment and retention programmes that provide models that may be readily applied to other health fields.

Four intervention components emphasised by Te Rau Matatini and Te Rau Puawai that are particularly promising are the experience of clinical placements for students, inclusion of students in communities of learning, preceptorships for new employees, and positive relationships between health providers and tertiary education institutions.

There are other interventions which also have high merit and could be readily transported to work in other settings or fields, in particular Vision 20:20 and the HRC Māori Career Development Awards. Outside of the health sector, Te Mana, Futureintech, Te Kotahitanga, TeachNZ Scholarships, Rangatahi Maia, Te Ohu Kaimoana 'Fish Fingers', and Manaaki Tauira provide models that include elements applicable to Māori health workforce recruitment and retention.

A number of intervention components are identified in this research that may be integrated into phase specific or comprehensive initiatives to support MHDW recruitment and retention.

Progressing MHDW development

Achieving an optimal MHDW relies on a comprehensive approach whereby interventions span the MHDW development pathway and address determinants at all levels. Recruitment and retention programmes are a critical element of that comprehensive approach. While Raranga Tupuake provides a good strategic framework for MHDW development overall, currently interventions (including recruitment and retention interventions), are somewhat disconnected and there is not a sense of co-ordination and cohesion. Achieving a comprehensive and co-ordinated approach to Māori health workforce development will rely upon strong leadership that builds on the substantial progress that has already been made. The establishment of an independent Māori health workforce development commission has been raised in the past as one mechanism to provide strong national leadership with a strategic and co-ordinating function with regard to policy, interventions and funding. While strong Māori leadership in health workforce development has underpinned successful interventions to date and is clearly consistent with Māori preferences, this does not enable the many other stakeholders to abdicate their responsibilities for MHDW development. There are a wide range of stakeholders that include government, independent workforce development organisations, health service providers, professional bodies, educational organisations and key players in other sectors. All of these stakeholders have a critical role to play. Therefore, there should be collaboration between health sector stakeholders (both Māori and mainstream) and partnerships between sectors (in particular the health, education and labour sectors) to facilitate MHDW recruitment and retention.

Importantly, effective MHDW recruitment and retention relies on strategic investment of adequate and dedicated resources. Further, there is a need for ongoing strengthening of data collection, management and reporting to inform decision-making and action, including with regard to resource decisions.

Overall, however, there has been substantial progress made in MHDW development in the past 15 years as reflected in the range of interventions currently in place and increasing numbers of Māori health professionals in a variety of health sector roles. The remaining wide and sustained disparities in Māori workforce participation provide opportunities for immediate and ongoing action to address inequities.

There is sufficient understanding of the MHDW development pathway and barriers and facilitators to recruitment and retention, as well as local and international experience in indigenous workforce development to enable strong action to address

inequities. The Māori mental health sector in particular provides models for an overall approach to Māori workforce development, as well as specific recruitment and retention interventions that may be applied in other areas.

Political will is a vital ingredient in the formula to address disparities, and there are strong political incentives to encourage that support. While the direct benefits of equitable Māori participation in the workforce are likely to be measured in improved Māori health outcomes and thereby greater capacity for Māori to contribute to the prosperity of the country, increasing the numbers and proportion of Māori health professionals also provides part of the solution to the rapidly rising excess in demand for health professionals in New Zealand.

There are opportunities to have both an immediate impact and to embed longer term strategies for the sustained participation of Māori as health professionals. It will be for the benefit not only of Māori, but for all New Zealanders, that these opportunities are seized.

Implications of the research

In order to address the wide-ranging barriers and facilitators of MHDW recruitment and retention identified in this research, six overlapping areas for action have been identified – leadership and collaboration, monitoring and research, policy, funding, technical and cultural competence, and recruitment and retention interventions. Findings of the research indicate that MHDW recruitment and retention would benefit from additional work in these areas.

Specific actions within these categories are identified and are directed towards key stakeholders in both the health and educations sectors. The identified actions are intended to build on progress made by the Ministry of Health, HWAC, DHBs, professional bodies, Māori, the education sector and other MHDW development stakeholders, and to inform the ongoing implementation of Raranga Tupuake.

Leadership and collaboration

1. Findings of the research indicate that MHDW recruitment and retention would benefit from more consistent and coordinated leadership and intra and intersectoral collaboration, specifically:

a. Give consideration to the establishment of a body charged with providing national leadership for MHDW development, that would have a strategic and co-ordinating function with regard to Māori health and disability workforce development. - Government
b. That the Ministers of Health, Education and Tertiary Education instruct their respective Ministries to work together to facilitate MHDW development through the alignment of relevant policies and recruitment and retention interventions. - Government

c. Evaluate established and proposed health workforce development bodies in terms of their capacity to address inequities in Māori workforce recruitment and retention, and as required facilitate strengthening of that capacity including ensuring effective Māori participation. – Ministry of Health
d. Put in place formal mechanisms for inter-sectoral and intra-sectoral collaboration to address MHDW recruitment and retention. An inter-sectoral MHDW development forum of key stakeholders is one potential mechanism. The Forum could include representatives from the Ministry of Health, the Ministry of Education, the Tertiary Education Commission, Te Puni Kōkiri, the Department of Labour, the Ministry of Social Development and the Ministry of Economic Development. These mechanisms should also facilitate Māori health professionals' input into training and education programmes to better ensure their relevance to the workforce and Māori health needs. – Ministry of Health, tertiary education institutions, TEC, Te Puni Kōkiri, professional bodies
e. Facilitate formalised collaboration and communications between the Māori health sector and the education sector. This should contribute towards the goals of enhancing the performance of pre-school, primary school and secondary school educational institutions in terms of strengthening the academic preparedness of Māori students to take up a career in health and to develop an interest in the health professions. This could also include facilitating Māori health professional bodies input into secondary school science curriculum development and health field training and education programmes to better ensure their relevance to the sector and Māori health needs. As well, it should encourage opportunities for outreach between education and health institutions. – Ministry of Health, DHBs, health sector NGOs
f. Māori stakeholders, in particular rūnanga and Māori authorities, promote the relevance and value of science and careers in health to Māori students, whānau and communities. - Māori stakeholders
g. Hauora.com, Māori health professional bodies, Māori authorities and other Māori stakeholders consider the recommendations provided in this report and as appropriate advocate for their implementation by relevant stakeholders. – Māori stakeholders
h. Recognise the value and support the critical role of Māori health professional bodies in MHDW development, and ensure close relationships and open lines of communication. Support Māori health professional bodies in identification of and advocacy to address the specific training requirements for Māori health professionals. – Professional bodies

Monitoring and research

2. Improve the quality and scope of MHDW workforce data collection, management and reporting and strengthen MHDW research in order to inform decision-making and action, specifically:

a. Continue work to strengthen systems for the routine monitoring, analysis and reporting on Māori workforce participation (including retention) across the range of health professions. The Ministry of Health should work with the Ministry of Education and the Tertiary Education Commission to strengthen systems for the routine monitoring, analysis and reporting on Māori secondary school science participation and achievement rates, and Māori health field tertiary education enrolments, attrition, achievement and completions. – Ministry of Health, Ministry of Education, TEC
b. Routinely collect, analyse and report on the ethnicity profile of the relevant professional workforce and compile a database of Māori health professionals to facilitate information dissemination and targeted support for Māori practitioners. – Professional bodies
c. In terms of health workforce development research, prioritise research with regard to the MHDW to reflect inequalities in Māori participation and disproportionately high Māori health needs. – Ministry of Health, Health Research Council of New Zealand
d. Investigate mechanisms for organisational change to facilitate culturally safe and reinforcing working environments conducive to the recruitment and retention of Māori health professionals. – Ministry of Health, Health Research Council of New Zealand

Policy

3. Improve MHDW development policy frameworks and processes to facilitate a comprehensive approach across the Māori workforce development pathway that is more fully informed by Māori perspectives and aspirations, specifically:

a. That, consistent with He Korowai Oranga, the Māori Health Directorate expand the scope and coverage of Raranga Tupuake to more comprehensively address issues and action across the full length of the Māori workforce development pathway and determinants of workforce development at all levels. Identified actions arising from this research should be considered for incorporation into Raranga Tupuake and to inform the development of implementation activities. – Ministry of Health
b. Ensure consistent and quality Māori input into workforce development strategic planning and policy. This may include the establishment of a formal mechanism for input from Māori health policy advocates such as Hauora.com, Te Rau Matatini, and Māori health professional bodies. – Ministry of Health

Funding

4. Effective MHDW recruitment and retention will rely upon strategic investment of dedicated, secure and adequate levels of funding, specifically:

a. Provide dedicated resources for MHDW development and ensure consistent and quality Māori input into Māori workforce development funding decisions. – Ministry of Health
b. Assess current and proposed funding decisions for differential effect discrimination and/or the potential to contribute to or reduce inequalities in Māori workforce recruitment and retention. – Ministry of Health
c. Recognise the critical contribution of Māori health providers to workforce recruitment and retention through the provision of secure and adequate funding such that they are able to support strategic MHDW development. – Ministry of Health
d. Ensure adequate levels of resourcing for Māori health professional bodies and Hauora.com to facilitate recruitment and retention through Māori advocacy for workforce development and peer Māori health professional support. – Ministry of Health
e. Resource curriculum revision to better ensure the responsiveness and relevance of health programmes to Māori, particularly with regard to the use of Māori models and frameworks in practice settings. – Tertiary education institutions, TEC

Technical and cultural competence

5. Ongoing and increased attention is required to supporting the development and strengthening of dual technical and cultural competencies among the MHDW, specifically:

a. Ensure recognition of health professionals' dual technical and cultural competencies through, for example, compensation in respect of pay rates and opportunities for progression. – Ministry of Health, DHBs, health sector NGOs
b. Continue to support and resource technical and cultural competency training (e.g. te reo Māori, use of Māori practice models) for Māori health professionals, so that they are able to fully contribute to addressing Māori health needs. – Ministry of Health, DHBs, health sector NGOs
c. Prioritise the development of guidelines and competency standards that will address Māori priorities for workforce development. – Ministry of Health
d. Ensure Māori health professionals have access to cultural supervision. – DHBs, health sector NGOs

e. Incorporate dual competency learning outcomes into tertiary health field programmes. – Tertiary education institutions, TEC
f. Proactively recruit Māori teaching and research staff, and ensure that pay scales and opportunities for progression reflect recognition of dual competencies. – Tertiary education institutions, TEC
g. Support the explicit identification of the cultural competencies required of practitioners in professional standards for competence. Standards should fully integrate the principle of cultural competence, and therefore clinical competencies will explicitly incorporate cultural components. – Professional bodies

Recruitment and retention interventions

6. There is sufficient understanding of the MHDW development pathway, factors that influence progression along the pathway, and interventions to facilitate that progression, to enable increased action to strengthen Māori participation in the health and disability workforce. Findings of this research indicate that the following specific actions could facilitate MHDW recruitment and retention.

a. Apply successful models for Māori recruitment and retention interventions more widely across health professions and disciplines. Te Rau Puawai and Vision 20:20 provide successful models for recruitment intervention, and Te Rau Matatini provides a successful model for Māori health policy advocacy and retention intervention. – Ministry of Health, tertiary education institutions, TEC
b. Consistent with the barriers and facilitators of MHDW recruitment identified in this report and HWAC recommendations (Health Workforce Advisory Committee, 2006c), the Ministry of Health in collaboration with education sector stakeholders initiate a comprehensive and co-ordinated project to improve Māori engagement in science and access to accurate and targeted quality health career information (including information on scholarships and grants for Māori). Key recommended components of the programme would be a marketing campaign targeting students, whānau, and Māori communities; enhanced access to accurate and relevant career advice in schools; an ambassadors programme; a website tailored to Māori; and, the development of quality Māori specific health career resources. – Ministry of Health, Tertiary education institutions, TEC
c. Increase the use of Māori health professional role models and mentors in promoting workforce development. – Ministry of Health, DHBs, tertiary education institutions, TEC
d. Better promote the Hauora Māori Scholarship Programme and other funding sources for potential and current Māori health field tertiary students. – Ministry of Health

e. Undertake further work to develop and/or clarify career pathways for Māori health practitioners across professions. – Ministry of Health, DHBs, health sector NGOs
f. Prioritise piloting of workforce development interventions with Māori, consistent with the wide disparities between Māori and non-Māori workforce participation and disproportionately high Māori health needs. – Ministry of Health
g. Encourage emphasis on the goal of reducing inequalities in workforce participation in the implementation of HWAC National Guidelines for the Promotion of Healthy Working Environments through reorienting working environments towards cultural criteria to ensure culturally safe and/or culturally reinforcing working environments. This could be achieved through integration of the concept of reducing inequalities within each of the identified principles for a healthy working environment. These environments should be sufficiently flexible to accommodate Māori health professionals' whānau and community responsibilities. As well, activities in this area could include strengthening training for managers to enhance their capacity to provide culturally safe management for Māori staff. – Ministry of Health
h. Develop and implement health career marketing and outreach programmes that target Māori primary, secondary and tertiary students and Māori communities. Provide practical opportunities for Māori secondary school students, second chance learners, and tertiary students with an interest in health to gain practical experience in DHBs. - DHBs
i. Introduce preceptoring programmes for Māori entering the health and disability workforce. -DHBs
j. Review and broaden admissions criteria to limited entry health programmes (e.g. medicine and dentistry) to better reflect predictors of success as a health professional able to provide quality services to all New Zealanders, including Māori. Criteria should facilitate the admission of Māori students who have the mix of academic and personal qualities and experience to successfully complete programmes. This will best ensure that the profile of programme graduates is representative (consistent with university charters) and most likely to meet the needs of communities. The Vision 20:20 MAPAS should be used as a model and applied across a range of health disciplines. – Tertiary education institutions, TEC
k. Establish and strengthen formal initiatives to increase Māori health field student recruitment and completions. – Tertiary education institutions, TEC
l. Develop formal Māori outreach programmes to secondary schools with high Māori rolls and Māori communities to facilitate recruitment. The programmes should aim to engage Māori in science, promote and provide quality information about careers in health, provide practical opportunities for school students and second chance learners to participate in placements, and support schools to academically prepare Māori students for careers in health. - TEC

m. Strengthen and better integrate culturally effective learning support for Māori health field tertiary students. – Tertiary education institutions, TEC
n. Increase access to bridging programmes and foundation courses that target Māori. – Tertiary education institutions, TEC
o. Promote a positive and relevant image of professions to Māori communities using targeted resources. – Professional bodies
p. Advocate for the establishment of postions similar to the Director of Māori Training used by the Royal New Zealand College of General Practitioners and the Australasian Faculty of Public Health Medicine. – Professional bodies

INTRODUCTION

Raranga Tupuake (Ministry of Health, 2006d), the Māori Health Workforce Development Plan 2006, was launched in April 2006 to facilitate a co-ordinated approach to addressing the stark under-representation of Māori within the New Zealand health and disability workforce. It is the strategic framework for Māori health and disability workforce development over the next 10-15 years, and identifies three goals; to increase the number of Māori in the health and disability workforce; to expand the skill base of the workforce, and to enable equitable access for Māori to training opportunities. Two specific tasks identified in the Plan, and aligned to the goal of increasing the number of Māori in the workforce are to; "Examine barriers and influences which increase Māori participation in the health and disability workforce", and "Examine retention issues for the Māori health and disability workforce" (p2). Consistent with these goals and tasks, this research was contracted by the Ministry of Health and the Health Research Council of New Zealand to explore the factors that influence Māori entry into the health and disability workforce and retention issues facing the Māori health and disability workforce (MHDW).

Research aims and objectives

The overall aims of the project are to identify and explore the factors that influence Māori recruitment into the health and disability workforce and retention issues facing the Māori health and disability workforce. The research also aims to identify successful Māori recruitment and retention intervention models in health and other sectors, and analyse the applicability of these models to the health sector. It is intended that the findings of the research will inform evidence-based policy and interventions to contribute to the development of a MHDW of optimum size, configuration and quality to meet current and future needs, and thereby improve Māori health outcomes.

The objectives of the research are to:

1. Identify what influences Māori in choosing a career in the health and disability workforce;
2. Identify barriers to Māori taking up a career in the MHDW;
3. Identify what information is available to Māori about careers in the health and disability sector;
4. Identify support mechanisms for Māori,
    a. students who are still at secondary school and/or second-chance students wanting to develop a career in health science,
    b. community and voluntary workers already working in the sector, and
    c. those enrolled in health and disability education and training programmes;
5. Identify successful Māori recruitment programmes in the health and disability sector and other sectors and analyse whether these models could work in the health sector based on the knowledge gained from objectives 1-4;
6. Provide an overview of the retention statistics for the MHDW;

7. Describe what keeps Māori in the health and disability workforce;
8. Describe what prevents Māori from staying in the health and disability workforce;
9. Identify what careers Māori move into when they leave the health and disability workforce; and,
10. Identify successful Māori retention programmes in the health and disability sector and other sectors and assess whether these models may work in the health sector based on information gained in objectives 6-9.

Theoretical framework

The research is located within a Māori inquiry paradigm. An inquiry paradigm guides conceptualisation of problems, selection of research methods, data analysis, and the standards by which quality of research is assessed. While a Māori inquiry paradigm has not yet been fully articulated in the literature, a number of themes have been identified as providing an indication of the essential features of such a paradigm and can together be used as a theoretical framework for Māori health research (M Ratima, 2003). Those themes are: interconnectedness, Māori potential, Māori control, collectivity, and Māori identity.

Table 1. Themes of a Māori inquiry paradigm and implications for the project

Themes	Implications for the research
Interconnectedness (Cunningham, 1998; MH Durie, 1996; Royal, 1992)	• links to Māori development emphasised • structural causes of inequality such as unequal power relations and institutional racism are acknowledged • recognition of the role of other sectors in addressing MHDW development issues
Māori potential (Bishop, 1994; Cram, 1995; A. Durie, 1998; M Durie, 1996; Te Awekotuku, 1991)	• contribute to Māori health workforce development • lead to positive health outcomes for Māori • non-deficit approach
Māori control (Bishop, 1994; Glover, 1997; Pomare et al., 1995; Tuhiwai Smith, 1996)	• research led and controlled by Māori • project fits with Māori defined priorities • research outputs will contribute to increased Māori control over their own health development
Collectivity (Irwin, 1994; Pomare et al., 1995)	• return information in accessible form to Māori collectives • produce positive outcomes for Māori collectives • Māori human, indigenous and Treaty of Waitangi rights are recognised
Māori identity (Durie, 1998a; Irwin, 1994; Pōmare et al., 1995)	• consistency with Māori cultural processes • Māori cultural competencies valued • Māori identity recognised as central to health as Māori

The themes provide the theoretical framework for this project. It is the themes, rather than particular methodologies, that are the key to the Māori research approach used in this research. Examples of the implications of each of the themes for this research project are identified in Table 1.

RESEARCH METHODS AND CHARACTERISTICS OF PARTICIPANTS

Overview of research methods

The research incorporated both qualitative and quantitative components and used multi-methods that included a literature review, mapping statistics, key informant interviews, interviews with former Māori health professionals (ex-workforce), focus groups, and surveys of Māori tertiary health field students and the Māori health and disability workforce. It should be noted, however, that there is a very limited literature base with regard to Māori and other indigenous peoples' health workforce development.

Two national surveys were carried out, and information derived from the surveys was complemented by qualitative data collected in three regions: Auckland, Manawatū/Wanganui, and the Bay of Plenty. These areas were selected in order to enable the collection of in-depth data, to incorporate areas of high Māori population, and to provide a metropolitan, urban and rural participant mix. The design and development of survey questionnaires drew on a range of sources, including the literature review, key informant interviews and focus groups.

Research participants included: Māori secondary school students; Māori tertiary health field students from a variety of programmes and institutions; Māori health professionals; former Māori health professionals; community informants; career advisors (at secondary and tertiary levels, and including Māori student liaison advisors); tertiary provider representatives (e.g. from whare wānanga, universities, institutes of technology and private training establishments); members of professional bodies; health providers (including Māori-specific and mainstream services); and, members of other stakeholder agencies (including Ministries and district health boards).

Table 2 makes explicit the links between the research objectives (refer also to pg 1), methods, and participant groups

Table 2. Research methods and links to project objectives

	Research Methods						
Research Objectives	**1. Literature review**	**2. Mapping statistics**	**3. Key informant interviews***	**4. Ex-workforce interviews**	**5. Focus groups**	**6. Tertiary students survey**	**7. Current Workforce survey**
1.	✓		✓		• Secondary school • Tertiary students • Community and voluntary workers • MHDW	✓	✓
2.	✓		✓		• Secondary school • Tertiary students • Community and voluntary workers • MHDW	✓	✓
3.	✓		✓		• Secondary school • Tertiary students • Community and voluntary workers • MHDW	✓	
4.	✓		✓		• Secondary school • Tertiary students • Community and voluntary workers • MHDW	✓	✓
5.	✓		✓		• Secondary school • Tertiary students • Community and voluntary workers • MHDW	✓	
6.	✓	✓					
7.	✓		✓	✓	• Community and voluntary workers		✓
8.	✓		✓	✓	• Community and voluntary workers • MHDW		✓
9.	✓		✓	✓	• Community and voluntary workers • MHDW		
10.	✓		✓		• Community and voluntary workers • MHDW		

Literature review

The literature review included both New Zealand and international literature relating to factors influencing Māori and indigenous entry into and retention within the health and disability workforce, and successful recruitment and retention interventions. A specific search strategy was developed (Appendix 1) to define the scope and framework of the literature search and to identify search terms and databases. Search questions linked directly to research objectives.

Mapping statistics

Official data on the number of Māori in health and disability related occupational groups and tertiary education courses have been sourced and summarised in this report. The summarised data has been interpreted and discussed with regard to the representation of Māori in the workforce and, where the data is readily available, recruitment and retention into the health and disability workforce. The available data from all sources are assessed in relation to completeness and quality, with a focus on its collecting and reporting by ethnicity.
The following data were utilised for this report:

1. Census Data. The New Zealand Census has routinely collected information on occupation and ethnicity. Data on occupation was sourced from the Statistics New Zealand website for the 1996 and 2001 Censuses and summarised in this report.

2. Workforce Registration Data. The New Zealand Health Information Service (NZHIS), a unit in the Ministry of Health, collates health and disability workforce registration data, which is collected by the various health professional bodies as part of the renewal of annual practising certificates for those occupations that require professional registration. Data on registered Māori members of the health and disability workforce for the years 2000 through 2005 were obtained from NZHIS by special order. Some of the NZHIS data for 2000 to 2003 was passed onto the researchers via HWAC.

3. Tertiary Institution Data. Data was obtained from the Ministry of Education on tertiary institution enrolments (2000 – 2004) and study completions (2001 – 2003) by special order. Retention rates of Māori students in tertiary programmes within the health and disability fields were summarized from the available Ministry of Education publications, as more detailed retention data was not readily available.

Key informant interviews

In-depth open-ended key informant interviews were underaken in June 2005 using an information sheet; consent form and interview schedule (Appendix 2). This form of interview allows for the collection of direct quotes about key issues. The advantages of using in-depth open-ended interviews as a data source are that they are able to focus directly on the topic of interest, and provide insight as to informants' perceptions. Data gathered through key informant interviews informed each of the research objectives.

The sampling technique employed was purposeful sampling, and therefore interviewees were selected who were considered to be rich information sources with regard to Māori health and disability workforce development. The Advisory Group provided input into the development of the interview schedule and selection of key informant interviewees.

Thirty key informant interviews were conducted by the researchers with stakeholders covering the following range of groups: community informants; career advisors;

tertiary providers; health service providers, professional bodies; and other stakeholder agencies. Key informants were geographically spread to enable coverage of metropolitan, urban and rural perspectives. Information was collected using an interview schedule through face-to-face or telephone interviews. The software package NVivo was used for data management purposes, and data was analysed by two researchers using thematic analysis.

Ex-workforce interviews

In-depth open-ended key informant interviews commenced in June 2005 using an information sheet, consent form, and interview schedule (Appendix 3). The sampling technique employed was purposeful sampling, and therefore interviewees were selected who were considered to be rich sources of information regarding factors influencing Māori to remain in or move out of the health and disability workforce.

Ten ex-workforce interviews were carried out in each of the three research areas – Auckland, Manawatū/Wanganui, and the Bay of Plenty. The interviewees were recruited by local researchers in the three areas through Māori community and health provider networks. Interviewees were drawn from a mix of health professional backgrounds (e.g. nursing, dentistry, counselling, psychology, speech language therapy, and physiotherapy) and had wide experience in a variety of health sector roles including clinical, public health, disability support, management, health policy and research. Data was analysed by two researchers using thematic analysis.

Focus groups

Focus groups are most useful for exploring an issue that has not previously been dealt with in a way that recognises an essential perspective of a particular population group (Morse, 1995). Twelve focus groups were planned as part of this project. One focus group was planned in each of the regional research sites (Auckland, Manawatū/Wanganui, and the Bay of Plenty) with each of the following Māori participant categories – Year 12-13 secondary school students, tertiary health field students, community and voluntary health workers, and the MHDW. The decision to hold specific community and voluntary health workers focus groups, separate from that of the wider Māori health and disability workforce focus groups, is not meant to imply that these critical workers are not a part of the Māori health and disability workforce. Rather it is to recognise that they make up a large part of the Māori health and disability workforce, and that they face distinctive issues that may require specific consideration.

The following numbers of participants took part in focus groups in the three regions. Auckland: nine secondary school students; seven tertiary students; twelve community and voluntary workers, six MHDW members. Manawatū/Wanganui: five secondary school students; eight tertiary students; six community and voluntary workers, seven MHDW members. Bay of Plenty: five secondary school students; eight tertiary students; six community and voluntary workers, five MHDW members.

Focus group sessions were held from November 2005 until February 2006. Participants were recruited by local researchers through Māori, health and education networks. Tertiary students were selected for focus groups using purposeful sampling

based on perceived richness as a data source and coverage of a range of health fields, age groups, and tertiary education institutions. Similarly, MHDW focus group participants were selected in order to provide coverage of a range of professions and health sector roles, experience within mainstream and Māori health settings, and perceived richness as a data source. Community and voluntary workers were identified through Māori community and health service provider networks using purposeful sampling to ensure a mix of participants working in a variety of areas and settings, coverage of a range of age groups, and experience in working for both mainstream and Māori providers. The research was explained to participants and informed consent was sought using information sheets and consent forms (Appendix 4). Focus group interview schedules were tailored for each of the four participant categories (Appendix 4).

Secondary school participants were recruited through secondary schools, both mainstream and kura kaupapa, by direct personal and written contact with schools (Appendix 5). Parental consent was sought via consenting schools using an information letter and a parental consent form (Appendix 4). With school and parental consent, secondary school students were approached through schools and invited to take part in focus groups. At focus group venues, the research was explained to students using an information sheet and their informed consent was sought to take part in the research using a consent form (Appendix 4).

Survey of tertiary students

A national survey of Māori tertiary health field students was undertaken in November 2005. Criteria for inclusion were that participants were Māori and enrolled in health field courses that were at level 5 and above in 2005. The researchers sought to include a mix of respondents in terms of geographical location, disciplinary spread, and undergraduate versus postgraduate enrolment status.

One thousand one hundred survey packs were distributed nationwide. Survey packs contained: a letter introducing the research and inviting participation, an information sheet, a consent form, a survey questionnaire (Appendix 6), and a pre-paid return addressed envelope. Five hundred packs were sent directly to eligible potential participants by the research team, and a further 600 packs were provided to 30 stakeholder groups for distribution. Stakeholder groups included tertiary education institutions, Māori professional bodies, DHBs, Māori and mainstream health service providers, and Māori health research centres (e.g. Te Pūmanawa Hauora, Te Rōpu Rangahau Hauora a Eru Pōmare, Māori/Indigenous Health Institute). Two hundred and eighty five eligible participants were recruited into the study.

The letter and information sheet contained in the survey packs included a website link to the online survey questionnaire. Potential participants therefore had the option of completing and returning a postal questionnaire or completing the survey online by entering responses directly into the Survey Monkey database (www.surveymonkey.com). Preliminary findings from qualitative aspects of the project were used to inform the development of the questionnaire.

Data from postal questionnaires were entered by the researchers into the Survey Monkey database. The final database was imported into SPSS statistical software

(SPSS Inc. www.spss.com) and the data were reviewed, cleaned, and coded. The data were then summarised and analysed. For key issues of concern the results were stratified into occupation, age and employment groupings. The Chi-square test statistics were used to measure for any association between factors and differentials between groups were tested utilising the non-parametric statistics; the Wilcoxon Rank-Sum statistic was utilised for comparisons between two groups and Mann-Whitney U statistic for comparisons between more than two groups.

Response rate

Of the 1100 total survey packs distributed either directly to potential participants or passed on to stakeholder organisations for distribution, a total of 27 were returned indicating incorrect mailing address and for 747 there was no response. It is likely that some of the 747 non-respondents did not receive a survey pack due to the general mobility of student populations despite all efforts being made to locate most current addresses. Further, not all of the 600 packs provided to stakeholder organisations were distributed. However, in order to minimise the burden for stakeholder organisations they were not required to track survey pack distribution or returns, therefore the esitimated response rate is likely to be an under-estimate.

A total of 326 survey questionnaires were completed, 146 (45%) were received by post, and 180 (55%) were completed online. This equates to an estimated response rate of 30%, which is fairly typical of this type of survey..

Of the total 326 questionnaires returned or entered online, 41 were eliminated due to the following reasons; respondents did not identify as New Zealand Māori, survey questionnaire was incomplete, or duplicate surveys were completed. For duplicate surveys, the second entry was eliminated. Therefore, a total of 285 (87%) survey questionnaires were eligible and analysed in this report.

For some survey questions, respondents were able to provide no answer or multiple answers, and therefore the total number of responses to a given question may not align with the total number of survey respondents.

Characteristics of respondents

Eighty two percent (n=234) of respondents were female. In terms of family status, the largest proportion of respondents indicated they were single without dependents (46%). Sixty one percent of male respondents were single without dependents compared to 43% of female respondents. Most respondents (69%) lived with others including family/whānau or relatives, spouse or partner. Few respondents identified as living alone (6% who were all female), boarding or living with others who were not family (23%), or living in a hostel or hall of residence (1%).

Respondents reported their enrolment status for the 2005 academic year. One third of respondents (33%) were enrolled part-time and two thirds (67%) were enrolled full-time. Seventy nine percent of respondents were enrolled internally, and 21% studied extramurally.

Respondents were studying at tertiary institutions throughout the country, with the largest group located in the upper North Island (64%), and followed by the South Island (17%), lower North Island (13%), and central North Island (6%). The majority of respondents were enrolled at a university (70%) or a polytechnic or institute of technology (26%). Only a small number of respondents were enrolled at wānanga (4%) or private training institutions (1%).

Fifteen percent of respondents had entered tertiary study directly from secondary school, 28% were undertaking tertiary study for the first time but not straight from school, and over half of the respondents were returning to tertiary study (56%).

Over half (59%) of respondents were working towards an undergraduate degree. The remaining participants were aiming to complete an undergraduate certificate or diploma (11%), a graduate certificate or diploma (6%), a postgraduate certificate or diploma (11%), a masters degree (8%), a doctorate/PhD (2%), or another type of qualification (3%).

Respondents indicated that they were enrolled in a wide variety of courses. The largest group of respondents were studying nursing (20%), followed by physiotherapy (10%), and medicine (10%). The next largest proportions identified Māori health (8%), sport and recreation (8%), and psychology (8%) as their courses of study.

More than half of all respondents (57%) identified as having been employed in the health and disability sector at some time. At the time of the survey, 76% (n=122) of that group were employed in the sectorThe two predominant roles identified were 'Clinical' (49%) and 'Community work' (29%).

Further detailed discussions of the characteristics of respondents, including tables and figures are included in Appendix 7.

Māori health and disability workforce survey

A national survey of the Māori health and disability workforce commenced in April 2006. Criteria for inclusion were that participants were Māori and part of the health and disability workforce at the time of the survey. The researchers sought to include a mix of respondents in terms of geographical location, range of professions, mainstream and Māori employment settings and years of experience in the health sector.

One thousand and five hundred survey packs were distributed nationwide. Survey packs contained: a letter introducing the research and inviting participation, an information sheet, a consent form, a survey questionnaire (Appendix 8), and a pre-paid return addressed envelope. Preliminary findings from qualitative aspects of the project were used to inform the development of the questionnaire.

Packs were distributed with the assistance of approximately 50 health sector organisations, including: Māori professional bodies; DHBs; Māori and mainstream health service providers; and Māori health research centres. The survey packs were therefore distributed via third parties and they were not required to track survey pack distribution or retuns. As not all survey packs that were distributed to key agencies

and organsiations would have reached eligible participants (those that met the criteria and were identified by key people within designated agencies and organizations), the estimated response rate is likely to be an under-estimate. The letter and information sheet contained in the survey packs included a website link to the online survey questionnaire. Participants were able to complete the questionnaire online, by post, or through face-to-face or telephone interviews.

Those who completed the survey online entered responses directly into the Survey Monkey database (www.surveymonkey.com). Data from postal questionnaires and face-to-face and telephone interviews were entered by the researchers into the Survey Monkey database. The final database was imported into SPSS statistical software (SPSS Inc. www.spss.com) and the data were reviewed, cleaned, and coded. The data were then summarised and analysed. For key issues of concern the results were stratified into course, age and employment groupings. The Chi-square test statistics were utilised to measure for any association between factors and differentials between groups were tested using the non-parametric statistics; the Wilcoxon Rank-Sum statistic was utilised for comparisons between two groups and Mann-Whitney U statistic for comparisons between more than two groups.

Response rate

Of the 1500 survey packs distributed 551 survey questionnaires were completed, 114 (21%) were received by post, and 437 (79%) were completed online. This equates to an estimated response rate of 37%, with is fairly typical of this type of survey. Of the total 551 questionnaires returned or entered online, 102 were eliminated due to the following reasons; respondents did not identify as New Zealand Māori, the consent form or survey questionnaire was incomplete, duplicate questionnaires were completed, or questionnaires were received after the survey closing date. For duplicate questionnaires, the second entry was eliminated. Therefore, a total of 449 survey questionnaires were eligible and were analysed.

For some survey questions, respondents were able to provide no answer or multiple answers and, therefore, the total number or percentage of responses to a given question may not align with the total number of survey respondents (449). For example, where a survey respondent provides a ‘N/A’ (not applicable) response to a given question, they are not included in analysis as this question is not applicable to the respondent and therefore is also excluded from the generation of percentages. Similarly, if a survey participant does not answer a given question, they are not included in the calculation of percentages, as with the absence of a response it can only be assumed that non-respondents will either respond in the same proportion as respondents or the question is actually not applicable to the respondent.

Characteristics of respondents

Of those respondents that reported their gender, 78% were female and 22% were male. The age distribution of respondents approximates a normal distribution peaking around the 40-44 year age group (20%), with decreasing numbers of respondents in older and younger age groups.

Respondents were asked to identify the region in which they lived at the time of the survey. High proportions of respondents were living in the Auckland (22%), Wanganui (12%), Waikato (10%) and Canterbury (10%) regions at the time of the survey. Nearly one fifth of all respondents identified as residing in the South Island (18%), mainly in the Canterbury (10%), Otago (4%), and Southland (3%) regions.

Respondents were asked to select, from a pre-determined list, the category which best describes their professional background. The largest proportion of respondents reported having a professional background in 'Nursing' (27%) followed by 'Management' (14%), 'Community health work' (12%), and 'Administration' (11%).

According to the 2001 Census females account for 83% of the workers in the health and community services industry, the distribution of genders within this workforce are comparable with 79% of survey respondents being female. Women were highly represented in 'Administration' (93%), 'Nursing' (89%), 'Psychology' (83%), 'Research' (83%), 'Support work' (78%), and 'Health promotion' (78%). Males were most strongly represented in 'Education' (43%), 'Physiotherapy' (33%), 'Management' (34%), 'Cultural roles' (33%), 'Occupational therapy' (33%), 'Community health work' (32%), 'Counselling' (31%), and 'Medicine' (31%).

Respondents were asked to select from a pre-determined list, the category that best described their employment setting (e.g. DHB). Some respondents selected the 'Other' category and specified an employment setting not provided on the list. Some 'Other' category responses have been added to the list of employment settings, they are – community, government and iwi.

Half (51%) of all respondents indicated working in a Māori context, either within a Māori provider/organisation (31%) or in a Māori unit within a mainstream organisation (20%). Respondents working within Māori providers/organisations were based mainly with primary health organisations (83%) or non-governmental organisations (75%). Of those respondents who indicated working in a Māori unit within a mainstream organisation, 36% reported working in Māori units within DHBs and 26% within a mainstream tertiary education institution. Forty nine percent of all respondents indicated that they are employed in mainstream providers/organisations, and are not based within a Māori unit.

Overall, DHBs (n=165), followed by non-governmental organisations (n=65) and primary health organisations (n=54), employed the largest numbers of respondents.

Respondents identified their main professional roles within the health sector from a pre-determined list provided. Respondents also had the option to select the 'Other' category. The main roles identified were; 'Clinical' (23%), 'Community health' (19%), 'Public health' (16%), 'Management' (15%), 'Administration' (11%), 'Support' (5%), 'Academic' (4%), and 'Policy' (3%). Roles identified from the 'Other' category were - mental health, cultural, health promotion and consultancy.

The majority of respondents working in a clinical role were employed by DHBs (41%), followed by public hospitals (16%) and primary health organisations (16%). Respondents working in community health work are primarily employed by DHBs (32%), primary health organisations (23%) or non-governmental organisations (16%).

Thirty four percent of respondents have worked in the health and disability area for 0-5 years, and 45% for more than 10 years. Examination of the distribution across employment settings show that although there are similar proportions of respondents with more than 10 years experience across all settings, there are a greater proportion of less experienced respondents (0-5 years) in Māori providers/organisations (42%) in comparison to Māori units in mainstream settings (29%) or mainstream providers/organisations (32%). This may reflect a greater interest among new graduates in Māori health and disability sector employment.

Respondents were asked whether they primarily worked in the health or disability area. Seven percent of respondents indicated that they work primarily in the disability area, compared to 97% who identified health as their primary area of work. The main professional backgrounds of those who identified as working primarily in the disability area were; 'Occupational therapy' (33%), 'Support work' (26%), 'Physiotherapy' (17%), 'Social work' (14%), 'Counselling' (7%), 'Nursing' (7%), 'Management' (5%), 'Community health work' (4%), and 'Administration' (4%).

The majority of respondents (79%) reported that they had completed a tertiary qualification. Of those who had completed a tertiary qualification, one hundred and thirty four participants indicated that their highest tertiary qualification was at a postgraduate level (39%). Of the remainder, the highest qualification held was an undergraduate degree for 113 (33%) respondents, an undergraduate diploma for 50 (14%) participants, and an undergraduate certificate for a further 50 (14%) respondents.

Overall, 21% of respondents do not hold a tertiary qualification. However, 41% (n=39) of these unqualified respondents are currently studying toward a tertiary qualification.

Distinct differences exist between professional groups in relation to the proportion of tertiary qualified respondents who are currently studying towards additional tertiary qualifications. The two largest professional groups of respondents with tertiary level qualifications, nursing and management are evenly divided between those continuing tertiary study (50%) and those who are not (50%). Respondents with backgrounds in psychology (63%), medicine (62%), midwifery (60%) and health promotion (56%) are more likely to be enrolled in tertiary tertiary study while those with professional backgrounds in physiotherapy (25%), community health work (25%), administration (26%), and support work (31%) were less likely to be undertaking further tertiary study. This may reflect differences in the level of support, by profession, for ongoing professional development through tertiary education.

Overall, a total of 43% of all respondents surveyed were currently studying towards a tertiary qualification. Of the 79% of respondents who held a tertiary qualification, 44% were undertaking further study

Of the respondents who indicated they were studying toward a tertiary level qualification, 61% were studying at postgraduate level with the remainder studying towards an undergraduate degree (16%), diploma or certificate (23%). With 113

respondents studying at the postgraduate level there is evidence that the Māori health and disability workforce is strengthening its capability.

Of the 44% of respondents currently undertaking tertiary study, nearly half (44%) were self-funded and just over one third (39%) had their study financially supported by their employer. Overall the largest proportion of respondents with study being paid for in any given employment setting were public hospital employees (62%) and the largest number (n=30) were DHB employees. In contrast, 71% of those employed in private practice and undertaking tertiary study indicated that they were personally funding their studies. Scholarships were the most common (n=15) reported source of 'Other' funding for study, followed by funding from government sources (n=13). Seven respondents indicated that no funding was required as courses were provided free of charge, and three indicated financial support from multiple sources.

Further detailed discussions of the characteristics of respondents, including tables and figures are included in Appendix 9.

Review of recruitment and retention interventions

Māori and indigenous workforce development interventions in the health and other sectors were identified through literature review, key informant interviews, focus groups and surveys. A limited number of interventions were identified for which programme information, and in some instances evaluation reports, were available. Where sufficient information about programmes was available, initiatives were considered in terms of their relevance to Māori health workforce recruitment and retention. Relevant interventions were assessed to identify key success factors that were transportable and could inform strategies for improved MHDW recruitment and retention. The assessment took account of the complex nature of Māori health and disability workforce development, the range of activities that are currently underway, barriers and facilitators of MHDW recruitment and retention identified in this research, and the likely applicability of assistance mechanisms to the health sector.

THE MĀORI HEALTH AND DISABILITY WORKFORCE DEVELOPMENT CONTEXT

Māori participation in the workforce and tertiary education

Health professional councils, registration boards and the New Zealand Health Information Services are the main sources of regularly collected information on registered health practitioners. However data quality and ethnicity data in particular are variable across professions (Health Workforce Information Programme Steering Group, 2005; Ministry of Health, 2006e). However, based on available data, the 2001 HWAC stocktake of New Zealand health workforce capacity estimated that there were a total of 100,000 health workers (Health Workforce Advisory Committee, 2002a). Of this number approximately 67,000 were registered health practitioners and 30,000 were support workers. Approximately 10,000 alternative or complementary health workers also provided services to the public (Health Workforce Advisory Committee, 2002a). Around 40% of the registered health practitioners were nurses and 25% were medical practitioners. More recent 2004 data from the New Zealand Institute of Economic Research (2005) estimated that the size of the health workforce had increased to 130,000. The Institute's health care workforce demand projections to the year 2021 show an excess in workforce demand of between 28-42% depending on the method of calculation.

The HWAC stocktake concluded that there were shortages in both the regulated and unregulated Māori health workforce. Although Māori made up around 15% of the New Zealand population (Statistics New Zealand, 2002), they comprised only 5% of the regulated health workforce at that time (Health Workforce Advisory Committee, 2002a). Māori were under-represented across almost all health professions, particularly in frontline clinical roles. For example, Māori made up approximately 3% of the medical workforce (Medical Council of New Zealand, 2001), 6% of nurses (Nursing council of New Zealand, 2002a, 2002b) 2% of dentist (Thomson, Denk, Miller, Ochoa-Shargey, & Jibaja-Rusth, 1992), 4% of psychologists, 1% of physiotherapists, 1% of occupational therapists, and 1% of medical radiation technologists (New Zealand Health Information Service, 2005). In some other regulated professions, the numbers of Māori in the workforce were also very low or non-existent. For example, there were five Māori dieticians (1.6% of the workforce), nine Māori medical laboratory technologists (0.8%), three Māori optometrists (0.7%), and no Māori dispensing opticians (New Zealand Health Information Service, 2005).

Increasing and maintaining an appropriately qualified MHDW will rely upon the recruitment of Māori into tertiary education health-related programmes from secondary school students and second-chance learners, the recruitment of suitably qualified individuals into the workforce, and the retention and ongoing skill development of the current professional MHDW. As well, community health workers and voluntary workers should have the opportunity to gain tertiary level qualifications

that will enable them to be more effective in their role, and some may choose to move into other health sector roles.

Although tertiary education enrolments, including Māori enrolments, have increased overall (largely due to the growth of wānanga) Māori rates of participation in the health sciences remain relatively low (Ministry of Education, 2003a). Ten percent of Māori enrolments in tertiary education in 2004 were in health-related fields, less than the overall proportion of all tertiary students enrolled in health related courses (Ministry of Education, 2005c). Further, the profile of Māori tertiary students differs from that of non-Māori. In 2004, the majority of Māori students were enrolled at institutes of technology and polytechnics (39%) and whare wānanga (35%), with only 14% of total Māori enrolments at universities (Ministry of Education, 2005c). Māori are more likely to be mature students and to be studying at sub-degree level (85% of Māori enrolments at sub-degree level compared to 65% for Asian and European students), and are less likely to be enrolled at bachelors and postgraduate levels (Ministry of Education, 2005a). The proportion of Māori students studying at the bachelor's level (16%) is relatively small compared with the overall average of 28% of all tertiary students.

Rationale for workforce development

There is compelling rationale for increasing the participation of Māori within the New Zealand health and disability workforce. These relate to; the Treaty of Waitangi, projected excess health and disability workforce demand overall, New Zealand's changing demographic profile and increasing demand for Māori health professionals. As well, Māori health need and the wide and enduring inequalities between the health status of Māori and non-Māori provide further compelling reasons along with evidence of treatment disparities. The positive health impact of ethnic concordance between practitioners and patients, and the likely wider intergenerational and socio-economic benefits provide further justication for developing the Māori health and disability workforce.

The Treaty of Waitangi provides an excellent rationale for ensuring that there is a representative health workforce and this has the potential to contribute to ongoing improvements in Māori health. Article 2 guarantees tino rangatiratanga (self-determination) and the Treaty principles of partnership and participation provide for the leadership role of Māori in Māori health development. Further, the Treaty provides for the Māori right to good health through Article 2, the guarantee of protection of those things that Māori consider to be precious (including health) and this is reinforced in the Treaty principle of active protection (Durie, 1998). Article 3 guarantees equity between Māori and non-Māori, and this directly supports equitable Māori representation within the workforce as well as equitable health outcomes for Māori.

Increasing the capacity and capability of the MHDW is also important in the context of a projected excess in New Zealand health workforce demand by the year 2021 (New Zealand Institute of Economic Research, 2004). At the global level, the World Health Organisation (WHO) estimates a current worldwide shortage of approximately 4.3 million health workers (World Health Organisation, 2006). Maximising the potential of the MHDW will be an important part of the solution to excess workforce demand for mainstream services in this country.

New Zealand's changing demographic profile provides additional impetus for strengthening the MHDW. Statistics New Zealand population projections for the period 2006-2021 predict a 20% growth in the size of the Māori population, compared to a 10% increase in the same period for non-Māori (Statistics New Zealand, 2006b). Further, mainstream services are required to respond to the needs of Māori, Māori providers have increased in number from around 20 in 1993, to 220 in 2000 (Mantell, 2005), and Māori consumers expect the health sector to recognise and value Māori service delivery preferences and processes (Health Workforce Advisory Committee, 2002b). It is clear that the demand for Māori health professionals who are able to facilitate Māori access to culturally safe mainstream health services and health services designed to meet the specific needs of Māori will increase substantially.

There is overwhelming evidence of substantial Māori health need and the wide, and in some instances increasing, disparities between the health status of Māori and non-Māori (Ajwani, Blakely, Robson, Tobias, & Bonne, 2003; Ministry of Health, 2006e). For the period 1980-1999 there has been a progressive widening of the gap in life expectancy at birth between Māori and non-Māori non-Pacific ethnic groups (Ajwani et al., 2003). The over-representation of Māori in lower socio-economic strata accounts for at least half of the ethnic disparities in mortality for Māori of working-age (Fawcett et al., 2006). Therefore, disparities in health status between Māori and non-Māori cannot be fully accounted for by socio-economic inequalities. The implication is that being Māori in itself leads to differential experiences and exposures that put health at risk. Racism has been proposed as one mechanism which contributes to ethnic disparities in health (Harris et al., 2006; Jones, 2000).

There is substantial international and local evidence of differential access to health care by ethnicity (Cormack, Ratima, Robson, Brown, & Purdie, 2005; Institute of Medicine of the National Academies, 2003; Kressin & Petersen, 2001). For both Māori and non-Māori the most commonly accessed health practitioner was the general practitioner. According to data from the New Zealand Health Survey 2002/03 (Ministry of Health, 2006e), Māori adults were less likely than non-Māori adults to have seen a general practitioner in the previous 12 months (74% compared to 79% respectively). Māori adults were more likely than non-Māori adults to self-report an unmet need for a general practitioner visit in the previous 12 months (20% compared to 12% respectively). This is particularly concerning given disparities in health need.

The Cervical Cancer Audit report (Sadler, McCowan, & Stone, 2002) identified that Māori women with a high-grade smear were more likely to experience delays in obtaining timely investigation and diagnosis. Māori women were more likely than non-Māori women with cervical cancer to wait for more than the recommended 12 weeks between first high-grade smear and colposcopy, for more than six months between first high-grade smear and diagnosis, and for more than two months between high-grade biopsy and diagnosis. These findings are consistent with strong international evidence of disparities in the receipt of investigations and treatment by ethnicity (Haynes & Smedley, 1999a, 1999b; Shavers & Brown, 2002).

There is international evidence that ethnic concordance between health care professionals and their patients leads to improved health outcomes for patients (Cooper & Powe, 2004; LaVeist, Nuru-Jeter, & Jones, 2003; Stevens, Mistry, Zuckerman, & Halfon, 2005). Further, practitioners from ethnic minority groups are

five times more likely to provide health care to poor and underserved patients, and are more likely to practice in underserved areas (Finkbonner, Pageler, & Ybarra, 2001). These practitioners are therefore more likely to have a greater positive impact on the health status of minority populations. This evidence supports the value of strengthening the MHDW as a legitimate strategy to improve health care for Māori, adherence to treatment, and Māori health outcomes (Jansen & Sorrensen, 2002). This approach is consistent with the preferences expressed by Māori for Māori health professionals (Dyall et al., 1999).

It is also important to acknowledge that the benefits of MHDW development are likely to extend beyond the health sector. There are likely wider intergenerational and socio-economic benefits for Māori whānau of increased Māori participation within the professional health workforce, and this will also have positive impacts for the wider New Zealand society.

The policy context

Māori and the Government agree that steps must be taken to address Māori under-representation in the health and disability workforce (Ministry of Health, 2002a). MHDW development has been identified in the two health sector overarching policy documents, the New Zealand Health Strategy (Ministry of Health, 2000a) and the New Zealand Disability Strategy (Minister for Disability Issues, 2001), as a priority area. He Korowai Oranga (Ministry of Health, 2002a) is the Government's overarching policy framework for Māori health development. One of the four Māori health pathways for action identified in He Korowai Oranga is to increase Māori participation in the health and disability sector, including the objective of increasing the number and improving the skills of the MHDW at all levels. Whakatātaka, the associated Māori Health Action Plan 2002-2005 (Ministry of Health, 2002c), provides additional detail as to how this objective may be achieved.

In April 2006 the Government launched Raranga Tupuake: Māori Health Workforce Development Plan 2006 (Ministry of Health, 2006d). Raranga Tupuake is the strategic framework for Māori health and disability workforce development over the next 10 to 15 years. The vision for Raranga Tupuake is to build a competent, capable, skilled and experienced MHDW. Three associated goals are identified.

Goal 1: Increase the number of Māori in the health and disability workforce by attracting secondary school leavers, mature students, and those who have had careers in other sectors.

Goal 2: Expand the skill base of the Māori health and disability workforce, and support them to take up learning opportunities and seek further qualifications.

Goal 3: Enable equitable access for Māori to training opportunities.

The priority accorded to MHDW development is also reflected in a range of other key health sector workforce development policy documents. These documents provide detail as to how health sector strategies for workforce development are to be achieved. The documents include Tauawhitia te Wero - the National Mental Health and Addiction Workforce Development Plan 2006-2009 (Ministry of Health, 2005) and

the New Zealand Health Workforce, Framing Future Directions (Health Workforce Advisory Committee, 2002b).

Stakeholders

The New Zealand Public Health and Disability Act 2000 (Ministry of Health, 2000) defines the health sector structure, and provides the legislative framework for Māori health development within the sector. Section 1 Subsection B of the Act requires the sector "…to reduce health disparities by improving the health outcomes of Māori". The Act also requires the sector to "…enable Māori to contribute to the decision-making on and to participate in the delivery of, health and disability services".

There are a range of organisations involved in MHDW development, including Māori and mainstream health service providers, Māori purchasing organisations, Māori development organisations, health professional bodies, and iwi and other Māori community organisations. The Ministry of Health, DHBs and the Workforce Taskforce have a key role in developing and/or implementing Government MHDW development policy.

The Ministry of Health has responsibility for developing the overall strategy for the health sector. In terms of MHDW development, the major role of the Ministry is to advise the Minister of Health as to policy that will meet the Government's objectives for the MHDW as outlined in He Korowai Oranga (Ministry of Health, 2002a). The Ministry produced the Māori health workforce development plan Raranga Tupuake (Ministry of Health, 2006c) as a strategic framework for MHDW development. As well, generic health workforce development policy documents and plans developed by the Ministry identify specific objectives and/or strategies for MHDW development.

The Ministry also has a leadership role and provides strong support in some specific areas of MHDW development, for example, in administering the Māori Provider Development Scheme. The Māori Provider Development Scheme was established in 1997 and one of its objectives is to accelerate MHDW development. The Scheme provides funding to a range of workforce development related initiatives including the Hauora Māori Scholarship Programme and the University of Auckland's MAPAS programme. As well, the Scheme supports organisational development for Māori providers and national Māori organizations (e.g. Māori health professional bodies and networks) that is important in facilitating supportive work cultures and processes that strengthen the workforce. The Ministry also provides funding through DHBs to recruitment and retention initiatives including Hauora.com, Te Rau Puawai and Te Rau Matatini.

HWAC, which was established in April 2001 under the provisions of the New Zealand Public Health and Disability Act 2000, was an advisory committee to the Minister of Health. The Committee's role was to provide independent advice with regard to health workforce capacity, national health workforce development goals and strategies, and future requirements to address policy goals. The Committee was also charged with facilitating co-operation between health workforce education bodies to support a strategic approach and to report on the effectiveness of health workforce development strategies. In 2004, the Committee established the Māori Health and Disability Sub-Committee to provide advice on Māori health and disability workforce

issues (Health Workforce Advisory Committee, 2004). HWAC (including the Māori Sub-Committee) was disestablished in September 2006.

On September 7 2006 the Minister of Health established a new body, the Workforce Taskforce. The Taskforce is charged with developing plans to streamline workforce planning and address training, recruitment and retention issues for health professionals. The initial work of the Taskforce will be to streamline medical education and clinical training within a six month timeframe (Hodgson, 2006).

DHBs were established as part of the 2000 health reforms, which intended to move the sector towards a more planned and community-oriented health system (Ashton, 2005). The major responsibility of the 21 DHBs is to meet the health needs of those living within their region through purchasing health services on behalf of the Crown. The DHBs jointly established District Health Boards New Zealand (DHBNZ) as a body charged with providing national coordination of collective DHB strategic interests, including workforce development.

The 2003 DHB/DHBNZ Workforce Action Plan (District Health Boards New Zealand, 2000) is intended to facilitate a co-ordinated approach to DHB workforce development across regions. The plan emphasises action in three areas – information, relationships, and strategic capacity. Consistent with the Action Plan, in 2004/05 the Future Workforce project was carried out and identified DHB priorities and action for health and disability workforce development for the period 2005-2010. The two main themes identified in the project are 'nurturing and sustaining the workforce' and 'developing workforce/sector capability'. Each of these themes has a number of associated priorities. Māori health workforce development is one of the five priorities associated with 'developing workforce/sector capability'. This priority area emphasises adequate resourcing for workforce planning and information, engagement with the Tertiary Education Commission to support Māori participation in education, engagement with the school sector, facilitating workforce access to hauora Māori competency training opportunities, and investing in the development of Māori workforce capacity in primary care, rural health, public health and community health work. The DHBNZ Workforce Development Group was established to oversee implementation of the Future Workforce framework.

Alongside the health sector, the education sector has a critical role to play in increasing Māori participation and success in tertiary health-related fields of study, as a pre-requisite to entry into the MHDW and for ongoing workforce skill development. The Ministry of Education, Tertiary Education Commission, and tertiary education institutions are key education sector structures involved in MHDW development.

Each of the organisations identified above have had specific objectives and strategies in place to strengthen the MHDW. The extent to which those strategies have been implemented varies, and while progress has been made, there is clearly much to be done to address the current under-representation of Māori within the health and disability workforce.

MAPPING WORKFORCE AND TERTIARY EDUCATION PARTICIPATION

Data issues

Official data on the number of Māori in health and disability related occupational groups and tertiary education courses have been sourced and summarised in this section of the report. The summarised data have been interpreted and discussed with regard to the representation of Māori in the health and disability workforce and, where the data is readily available, recruitment and retention in the health and disability workforce. The available data from all sources are assessed in relation to completeness and quality with a particular focus on availability and collection methods with regard to ethnicity. This is a review of all readily available data from 1996 – 2005. It should be noted that for many of the occupational groups of interest, Māori are present in small numbers; therefore, it is important not to over-interpret trends and rates.

Ethnicity data

To report accurately on the number of Māori in health and disability occupational groups or training at tertiary institutions it is important that ethnicity data collected by the various sources are accurate, comprehensive, consistent and continuously recorded and updated. Because these factors cannot be guaranteed under the current data collection methods, it was not possible to conduct a full audit of ethnicity data for all the sources of data within the scope of this project.

Data were collated from agencies that routinely collect, categorise and analyse the relevant data, i.e. NZHIS, Ministry of Education and Statistics New Zealand. In all cases the collection of ethnicity data is reported as being collected and categorised in a standard manner, where individuals are able to choose multiple ethnicities and these are then categorised by a hierarchical process where any individual who chooses Māori as one of their ethnicities is then classified as Māori. However, in the case of the Ministry of Education all the data are collected by tertiary institutions under Ministry guidelines, and NZHIS collates registration and survey data from the health and disability professional or regulatory bodies, some of whom only provide already categorised or summarised data, i.e. medicine, dentistry and nursing regulatory bodies.

NZHIS does not collate data from all health and disability occupational groups, and there is evidence that many professional bodies in the health and disability area have very poor quality ethnic data, in some cases no ethnic data at all is collected. It is important that professional bodies collect ethnicity data in accordance with national guidelines to enable informed planning and action for New Zealand health workforce development.

While there are official policies that require the use of ethnicity data protocols and guidelines for the collection of the ethnicity data, there is undercounting of Māori in

official health datasets. This occurs in patient data, and relates to the wording and structure of the question/s on ethnicity and to the extent to which ethnicity data standards are implemented (Robson & Reid, 2001). While the health workforce data is collected in a separate process from patient data, similar issues arise with regard to ethnicity collection practices and standards. However, health and disability workers are likely to recognise the importance of collecting accurate data including ethnicity. The official method of ethnicity classification for Māori is hierarchical classification, as utilised in all data collated for this research. However, the uncategorised ethnicity data from all data sources is not readily available to review.

All percentages relating to active Māori workforce figures are based on the proportion of Māori in the active workforce who reported ethnicity (where this total is available), i.e. those who did not report ethnicity are excluded from the calculation of proportions. Some official reports have quoted rates or proportions based on the whole population, including those who did not report ethnicity or did not respond to surveys. Those official figures are likely to underestimate the actual proportion of Māori in the health and disability workforce, as there is no reason to assume that Māori are any less likely to report ethnicity or take part in workforce surveys than the rest of the population.

Workforce registration data

NZHIS, a unit in the Ministry of Health, collects health and disability workforce registration data as part of the renewal of annual practising certificates for those occupations where professional registration is required. Data on registered Māori members of the health and disability workforce for the years 2000 through 2005 were obtained from NZHIS by special order.

The only available information to directly estimate the health and disability workforce retention is the workforce registration data. Where individual records were available and individuals were able to be identified from unique registration identifiers, their registrations were followed from year to year to estimate rates of retention in the different professions by calculating the percentage of individuals who had been been licenced in the previous year who were also licenced in the current year. However, there were often gaps of 1-2 years where individuals were not registered as active practitioners, either due to not identifying themselves as Māori or as active practitioners, or not participating in the workforce survey. Therefore, there can be considerable difference in estimations of retention rates utilising registrations from year to year, or based on the assumption that practitioners were still retained in the workforce during the interim years that they were not registered or did not complete the annual survey (i.e. during gaps in registration). Tables with both estimations of retention rates can be found in Appendix 10. Estimation of retention rates assumes any gaps in licence data are missing due to either survey non-reponse, misclassification of ethnicity and/or active status, or dropping out from the active workforce for a period of time and are therefore have been added within tables in the following section.

In some cases unique registration identifiers were not reported for a few individuals in a workforce for a particular year. In this instance, where other personal information (i.e. gender, age, geographic location, and qualification year) matched individuals in previous years, they were linked for analysis purposes.

Health and disability related occupational groups

HWAC data

In April 2002, HWAC undertook a stocktake of the New Zealand health and disability workforce as of 2001 (Health Workforce Advisory Committee, 2002a). Table 3 presents a summary of this stocktake which shows the estimated number and percentage of Māori within each workforce group, as well as gaps in ethnicity data. For the regulated workforce groups, data is sourced from annual workforce surveys compiled by the NZHIS, or by regulatory bodies. For the unregulated groups, the profile used the most recent and reliable data available from various sources including: the Ministry of Education; NZHIS; the Clinical Training Agency; professional societies, associations and colleges; career services; and, the 1996 Census. However figures reported in the stocktake are approximately only and being collated for various sources with differing collection methods, these figures should be considered as rough estimates only.

Under-representation of Māori within the health and disability workforce is clearly reflected in Table 3. Although Māori account for 14.7% of the population as measured by the 2001 Census, the proportion of Māori within any of the measured health and disability workforce groups is below 7% (with the exception of social workers at 18%) and in many of the groups the proportion is below 1%. The following sections will update and review these figures with the most recent information available.

Census data

Table 4 summarises data from the 1996 and 2001 Censuses. In each Census Māori accounted for approximately 15% of the total population, but for less than 10% of the workforce employed in health and community service. The 'industry of employment' relates to the area that an individual is employed in, but does not necessarily reflect their actual occupational group. The overall workforce numbers in the health and community service industry have increased by 30% from 1996 to 2001, and the Māori health and community service workforce has increased by 46% in the same period. Therefore, Māori increased from 9% to 10% of the health and community service workforce during this period.

The 2001 Census has categorised occupations by the New Zealand Standard Classification of Occupations 1999 (NZSCO). NZSCO is a skills-based classification system used to classify all the occupations and jobs that exist in the New Zealand labour market. Occupations are categorised based on what has been recognised as the skill component of an occupation or job. The skill component used to define an occupation in NZSCO is an attribute of the occupation and not an attribute of the individuals who hold jobs in those occupations. It is the amount of skill *usually* considered necessary to perform that occupation. The major occupational groups are therefore generally categorised as follows:

- Managers - experience and/or formal qualifications
- Professionals - university degree
- Technicians and Associate Professionals - New Zealand Certificate or other advanced vocational qualification
- Service Workers - on-the-job training

Table 3. Overall Māori health workforce representation and data gaps

Workforce group	Estimated number	% Māori	Source[1]/date
Alcohol and drug workers	785		Survey 96
Audiologists	70		Member count 01
Chiropractors	218	0.7	APC 00
Community health workers			
Counsellors			
Dental assistants	116		FTE 00
Dental hygienists	120		Survey 98
Dental technicians	315	1.0	Registration 00
Dental therapists	569	5.7	Survey 98
Dentists	1,591	1.5	APC 00
Dieticians	343	1.6	APC 00
Disability support needs assessors and service co-ordinators			
Health promoters			
Health managers			
Health protection officers and environmental health officers	332		PHD (MOH) 01
Medical laboratory technologists	1,292	0.2	APC 00
Medical physicists	65		College Est FTE 01
Medical practitioners	8,615	2.3	APC 00
Medical radiation technologists	1,459	0.7	APC 00
Mental health consumer and family workers	177		FTE (contract) 01
Mental health support workers	875		Completed training 01
Midwives	2,081	3.4	APC 00
Nurses	34,895	6.3	APC 00
Occupational therapists	1,372	0.6	APC 00
Optometrists and dispensing opticians	604	0.3	APC 00
Orthotists and prosthetists	135		Census 96
Osteopaths	318		Census 96
Other health technicians	597		Census 96
Pharmacists	2,831	0.7	Reg 00 & Survey 95
Physiotherapists	2,500	0.7	APC 00
Podiatrists	240	1.6	APC 00
Psychotherapists	269		NZPA Membership 01
Registered psychologists	1,124	1.3	APC 00
Social workers	2,697	18.0	Census 96
Speech language therapists	480		Registration no 01
Informal support workers[2]	30,000		DID (MOH) 01
Alternative and complementary health practitioners	10,000		NZ Charter of Health Practitioners

Source: HWAC New Zealand Health and Disability Workforce Stocktake 2001

1 Source Codes: FTE = full-time equivalent; DID = Disability Issues Directorate of the Ministry of Health; APC = annual practising certificate, PHD = Public Health Directorate of the Ministry of Health; NZPA = New Zealand Psychotherapists' Association.

2 This is an estimated number of people rather than estimated FTEs.

Table 4. Māori representation in health and community service industry

Profession	1996 Census		2001 Census	
	NZ population	% Māori[1]	NZ population	% Māori[1]
Total population	3,618,303	15%	3,730,332	15%
Industry of employment: Health and community service	108,015	9%	140,568	10%

Source- Statistics NZ website www.stats.govt.nz

[1] The percentage is the proportion of the New Zealand population who reported Māori ethnicity.

Table 5 presents a summary of the Census occupational groups that the Research Team has identified as relating to the health and disability workforce. However, the Researchers recognise that some of the occupational groups, such as social worker, case worker and care giver, also work in areas not directly perceived as health and disability. It should be noted that occupation is self-reported by the individual in the census survey, and therefore may not always accurately represent the individual's current employment, qualifications or workforce registration (i.e. they may not be actively employed in their stated occupation). Therefore it is not expected that census data will directly correspond to workforce registration data where there are corresponding occupational groups. However not all occupational groups are registered and the census is the only available source of information.

The data in Table 5 demonstrates that the overall health and disability workforce is not representative of the population as only 10% of the workforce is Māori, whereas 15% of the population is Māori. The largest disparity is apparent in the professional occupational groups, with Māori comprising only 5.7% of the professional health workforce overall. Almost half of the identified professional occupational groups have 2% or less Māori representation. This reflects the fact that 41.2% of the non-Māori health workforce versus 21.4% of the Māori health workforce are in the professional occupational groups. Further, although the technician and associate professional group has a moderate proportion of Māori health workers overall (13.8%), this is primarily due to the large number of social and case workers that have high proportions of Māori (24% in each group). Almost all other technician and associate professional occupational groups have less than 10% Māori representation. For example, Māori make up 3.2% of physiotherapists and 2.9% of podiatrists. Māori comprise 13.2% of the service worker occupational group and 11% of managers.

Table 5. Census 2001: health related occupation for employed population aged over 15 years

Major occupational group	Occupation	Total	Māori	% Māori
Managers	Health services manager	1,530	168	11.0%
	Total	**1,530**	**168**	**11.0%**
Professionals	Medical pathologist	123	-	-
	General practitioner	3,801	75	2.0%
	Resident medical officer	2,619	93	3.6%
	Surgeon	561	9	1.6%
	Physician	1,293	42	3.2%
	Gynaecologist and obstetrician	114	-	-
	Radiologist, radiation oncologist	300	6	2.0%
	Anaesthetist	336	6	1.8%
	Dentist and dental surgeon	1,431	27	1.9%
	Hospital pharmacist	312	6	1.9%
	Retail pharmacist	2,004	36	1.8%
	Dietician and public health nutritionist	396	24	6.1%
	Optometrist	483	6	1.2%
	Principal nurse	444	33	7.4%
	Registered nurse	25,272	1,524	6.0%
	Psychiatric nurse	1,323	201	15.2%
	Plunket nurse	504	60	11.9%
	Public health and district nurse	1,077	72	6.7%
	Occupational health nurse	213	3	1.4%
	Midwife	2,121	123	5.8%
	Psychologist	1,317	78	5.9%
	Psychotherapist	417	9	2.2%
	Counsellor	2,253	336	14.9%
	Total	**48,714**	**2,769**	**5.7%**
Technicians and associate professionals	Medical radiation technologist	1,125	33	2.9%
	Other medical equipment controller	795	57	7.2%
	Health inspector	510	69	13.5%
	Life science technician	780	36	4.6%
	Medical laboratory technician	2,913	120	4.1%
	Dispensing optician	285	15	5.3%
	Dental therapist	771	69	8.9%
	Physiotherapist	2,085	66	3.2%
	Occupational therapist	1,797	114	6.3%
	Osteopath	243	6	2.5%
	Orthotist and/or prosthetist	150	6	4.0%
	Podiatrist	210	6	2.9%
	Chiropractor	213	12	5.6%
	Hospital dispensary assistant	57	3	5.3%
	Retail dispensary assistant	1,122	48	4.3%
	Other health associate professional	1,908	150	7.9%
	Dental technician	381	15	3.9%
	Enrolled nurse	2,172	267	12.3%
	Karitane nurse	126	3	2.4%
	Social worker	10,401	2,520	24.2%
	Case worker	2,733	645	23.6%
	Total	**30,777**	**4,260**	**13.8%**

Table 5 (continued)

Major occupational group	Occupation	Total	Māori	% Māori
Service workers	Hospital orderly	984	150	15.2%
	Health assistant	5,259	630	12.0%
	Ambulance officer	975	48	4.9%
	Nurse aide	6,399	675	10.5%
	Care giver	22,629	3,438	15.2%
	Massage therapist	825	78	9.5%
	Child care worker	7,281	831	11.4%
	Total	**44,352**	**5,850**	**13.2%**
Total		**125,373**	**13,047**	**10.41%**

Source- Statistics NZ website www.stats.govt.nz
*All cells in this table have been randomly rounded to base 3

Workforce registration data

The published results of the workforce registration and annual workforce surveys have produced summary demographics on the health and disability workforce in many of the key occupational groups. While the published results identify the numbers of active Māori practitioners, there is no further breakdown of the characteristics of the active MHDW. Note the active workforce is defined as those that are actively working in the professional area of their expertise however the exact required number of hours used to define actively working may vary by profession and over time. There has also been considerable change in workforce registration since 2003, with the introduction of the Health Practitioners Competence Assurance Act (HPCAA). The HPCAA has introduced some mandatory elements to the health practitioner registration process around defining active membership of the workforce and scope of practice. This has also included the separation of midwifery and nursing and the establishment of a Midwifery Council, and regulation of previously unregulated groups such as the professions of speech-language therapy.

The data for NZHIS publications are based on a workforce questionnaire that accompanied the Annual Practising Certificates or Annual Licences invoice sent by the respective Boards Secretariat or the actual Board for each profession. The invoices were sent to those on the register for each health profession on behalf of the New Zealand Health Information Service. The data are based on surveys that have varying response rates from 50% - 95%, so they should not be interpreted as a definitive description of each profession.

All members of the registered workforce are sent surveys and the non-responders are those that did not complete or return the survey. However as the surveys have not been mandatory it cannot be assumed that all non-responders are not active practitioners. Official figures on the active workforce however only relate to those that complete the survey. It is recognised that there are some inaccuraries in collecting ethnicity data in the workforce surveys as it is known that some occupation groups do not collect ethnicity in a consistent manner; eg whether single or multiple ethnicities are collected. Therefore due to varying survey response rates and potential ethnicity misclassification the survey results may underestimate the workforce statistics for Māori.

Table 6 presents the number of active Māori practitioners identified in the annual workforce surveys that are collated by NZHIS. In general the number of Māori in the

occupations presented in Table 6 is very small. Table 7 presents the number of dentists, nurses and medical doctors separately as their registration year and survey processes differ from the other groups in that the survey is undertaken as part of the registration process, and registrations for any year are processed in the previous year.

The characteristics of Māori health practitioners in each of the occupational groups identified below will be examined in greater detail in the following sections. There are occasional gaps in the data where information was not readily available.

Table 6. Summary of NZHIS workforce surveys – number of active Māori practitioners

Professions	2000	2001	2002	2003	2004	2005
Chiropractors	1	7	5	5	9	1
Dieticians	4	5	10	8	5	5
Medical radiation technologists	6	10	25	24	20	12
Medical laboratory scientists	1	7	11	13	6	9
Occupational therapists	19	13	26	20	26	NS
Optometrists	-	3	3	4	3	3
Dispensing opticians	-	2	1	-	1	-
Midwives*	-	-	-	-	-	110
Physiotherapists	31	33	38	40	44	30
Podiatrists	2	4	5	7	7	5
Psychologists	26	30	42	42	40	39
Osteopaths	NS	NS	NS	NS	NS	2

Source- NZ Health Information Service
NS = Not surveyed
* Starting 2005 midwives were registered separately from nurses; previously they were included within the nurse registration process.

Table 7. Summary of Māori workforce registration data – number of Māori

Professions	2000	2001	2002	2003	2004
Dentists	24	28	30	31	38
Nurse/midwives	147	162	174	166	181
Registered nurses	1,710	1,925	2,164	2,150	2,257
Enrolled nurses	459	472	488	477	445
Doctors	198	220	230	241	234

Source- NZ Health Information Service

The overall survey response rates for the different occupational groups are presented in Table 8. The response rates for each occupation reflect the 'active workforce' (those who hold a current APC and report working in NZ and fill in at least one question of their survey). These rates are for the complete workforce as it is not possible to identify the ethnicity of the non-respondents. It has been assumed that there is no response bias with respect to ethnicity, i.e. that Māori are as likely as non-Māori to respond to the survey. There may, however, be a response bias for those who are not currently active in the workforce, as non-active workforce members may be less likely to participate.

The data for the dentist, nurse and doctors occupational groups are not reported in this table as the researchers were not able to directly access them; however, as the surveys are more tightly regulated and undertaken as part of the registration process they are reported to be recent and reliable with response rates to the annual survey of over 92%.

The regulated groups reported in Table 8 demonstrate variability in response rates ranging from approximately 50% to 90%. However, response rates have improved since 2000 and in 2005 the average response rate for these other regulated groups equated to 72%. This means that on average 28%, and ranging from 11% to 33%, of the workforce did not respond to the survey, and therefore all figures for both Māori and non-Māori may be underestimated by up to this amount.

Table 8. Response rates for NZHIS workforce surveys

Professions	2000	2001	2002	2003	2004	2005
Chiropractors	66.5%	70.0%	79.1%	85.8%	77.6%	75.7%
Dieticians	77.3%	77.7%	89.1%	84.1%	83.7%	88.6%
Medical radiation technologists	65.5%	62.2%	74.6%	71.8%	62.8%	71.3%
Medical laboratory technologists	53.1%	52.3%	65.1%	64.5%	57.8%	69.1%
Occupational therapists	*	65.8%	81.2%	78.6%	*	NS
Optometrists	80.5%	80.4%	86.6%	85.1%	82.4%	77.7%
Dispensing opticians	55.2%	58.2%	67.5%	87.9%	80.3%	71.9%
Physiotherapists	*	66.9%	60.5%	59.9%	*	69.7%
Podiatrists	55.8%	64.3%	71.2%	74.3%	67.4%	67.4%
Psychologists	62.2%	60.5%	76.2%	72.6%	68.0%	69.%

Source- NZ Health Information Service
NS = not surveyed * Data not provided

Māori chiropractors

Table 9 presents the number of active Māori chiropractors registered in 2000-2005. The number of practitioners and the percentage of the workforce who identified as Māori have remained fairly static from 2001 to 2003 when considering the rates of those previously licenced in the workforce, demonstrate a slight increase in 2004 and a major drop in 2005. There were two individuals with gaps in their registration data; one had a one year gap and the other a two year gap in registration data. Rates of those previously licenced were very high from 2000-2004.

In 2004 there were nine active Māori chiropractors;

- two female (22%) and seven male (78%),
- one aged 25-29 (11%), three aged 30-39 (33%), four aged 40-49 (44%), and one aged 50-59 (11%),
- two are based in the Lower North Island region (22%), five in the Central North Island (56%) and two in the Auckland region (22%),
- three were first registered in the 1980s (33%), three in the 1990s (33%) and three in the 2000s (33%), and

- seven (78%) reported undertaking management as well as general chiropractic work. Four (44%) reported undertaking study or research as well as general chiropractic and management work.

However, in 2005 there was only one active Māori chiropractor.

Table 9. Māori chiropractors 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	1	0.7 %	-	
2001	7	4.9 %	100 %	(1/1)
2002	5	2.7 %	86 %	(6/7)
2003	5	2.4 %	83 %	(5/6)
2004	9	4.3 %	100 %	(7/7)
2005	1	0.4 %	11 %	(1/9)

Source- NZ Health Information Service

Māori dieticians.

Table 10 presents the number of active Māori dieticians registered in 2000-2005. The number of practitioners who identified as Māori has changed over time, increasing from 2000 to 2002 and decreasing from 2002 to 2004. There were two individuals with gaps in their registration data; one had a one year gap and the other had two one year gaps. Rates of those previously licenced have been moderate.

In 2005 there were five Māori dieticians;

- four female (80%) and one male,
- one aged 25-29 (20%), two aged 30-39 (40%), and two aged 50-59 (40%),
- two are based in the South Island (40%), one in the Lower North Island region (20%), one in the Central North Island region (20%), and one in the Upper North Island region (20%), and
- two first registered in the 1970s (40%), one in the 1980s (20%) and two in the 1990s (40%).

Table 10. Māori dieticians 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	4	1.6 %	-	
2001	5	2.0 %	100 %	(4/4)
2002	10	3.2 %	86 %	(6/7)
2003	8	2.5 %	70 %	(7/10)
2004	5	1.6 %	63 %	(5/8)
2005	5	1.4 %	83 %	(5/6)

Source- NZ Health Information Service

Māori medical radiation technologists

Table 11 presents the number of active Māori medical radiation technologists registered in 2000-2005. The number of practitioners who identified as Māori increased from 2000 to 2002 and has remained stable from 2002 to 2004 but dropped in 2005. However, the rates of those previously licenced have been variable with a lot of gaps in individual registration data. There were eight individuals with gaps in their registration data; three with a one year gap, four with a two year gap and one with a three year gap.

In 2005 there were 12 Māori medical radiation technologists;

- one male (8%), 11 female (92%),
- three aged 25-29 (25%), three aged 30-39 (25%), three aged 40-49 (25%), two aged 50-59 (17%), and one aged 60 and over (8%),
- one is based in the South Island (8%), two in the Lower North Island region (17%), four in the Central North Island region (33%), four in the Auckland region (33%), and one in Northland (8%),
- one first registered in the 1960s (8%), two first registered in the 1970s (17%), two in the 1980s (17%), five in the 1990s (42%), and two in the 2000s (17%),
- seven work for a DHB (64%), three are employed in a private practice (27%), and one is self employed in a private practice (9%). One did not report employer type, and
- seven undertake diagnostic imaging (64%), with one not reporting type of work.

Table 11. Māori medical radiation technologists 2000-2005

Year	Number of Māori	% Active workforce	Estimated retention	
2000	6	0.7 %	-	
2001	10	1.2 %	83 %	(5/6)
2002	25	2.4 %	69 %	(9/13)
2003	24	2.3 %	20 %	(6/30)
2004	20	2.1 %	63 %	(15/24)
2005	12	1.0 %	42 %	(10/24)

Source- NZ Health Information Service

Māori medical laboratory technologists/scientists

Table 12 presents the number of Māori medical laboratory technologists/scientists active Māori medical laboratory technologists/scientists registered in 2000-2005. The number of practitioners who identified as Māori steadily increased from 2000 to 2003, but dropped in 2004. There were two individuals with gaps in their registrations; one had a one year gap and the other had two one year gaps. Rates of those previously licenced started at a moderate level but have steadily dropped since 2002.
In 2005 there were nine Māori medical laboratory technologists;

- eight female (88%), one male (12%),
- two aged 25-29 (22%), three aged 35-39 (33%), and four aged 40-49 (44%), and

- one is based in the South Island (11%), two in the Lower North Island region (22%), four in Central North Island region (44%), and two in the Auckland region (22%).

Table 12. Māori medical laboratory technologists/scientists 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	1	0.2 %	-	
2001	7	1.1 %	100 %	(1/1)
2002	11	1.3 %	86 %	(6/7)
2003	13	1.6 %	69 %	(9/13)
2004	6	0.8 %	46 %	(6/13)
2005	9	0.6 %	29%	(2/7)

Source- NZ Health Information Service

Māori occupational therapists

Table 13 presents the number of active Māori occupational therapists registered in 2000-2004. The occupational therapist workforce was not surveyed in 2005. The number of practitioners who identified as Māori has remained fairly consistent over this period, with moderate rates of those previously licenced. There were six individuals with one year gaps in their registration data.

In 2004 there were 26 Māori occupational therapists;

- 25 female (96%), 1 male (4%),
- five aged 20-29 (19%), nine aged 30-39 (35%), nine aged 40-49 (35%), and three aged 50 and older (11%),
- ten are based in the South Island (40%), three in the Lower North Island (12%), three in the Central North Island (12%), six in the Auckland region (24%%), and three in the Northland region (12%), and
- eight first registered in the 2000s (32%), 12 in the 1990s (48%), two in the 1980s (8%), and three before 1980 (12%).

Table 13. Active Māori occupational therapists 2000-2004

Year	Number of Māori	% Active workforce	Estimated retention	
2000	19	2.4%	-	
2001	13	1.6 %	84 %	(16/19)
2002	26	2.4 %	71 %	(12/17)
2003	20	1.8 %	52 %	(14/27)
2004	26	2.2 %	68 %	(15/22)
2005	Not surveyed			

Source- NZ Health Information Service

Māori optometrists and dispensing opticians

Table 14 presents the number of active Māori optometrists registered in 2000-2005. The number of practitioners and the percentage of the active workforce who identified as Māori have remained fairly static from 2001 to 2005. There were two individuals with one year gaps in their registration data. No Māori optometrists were registered in 2000. There were moderate rates of those previously licenced from 2001 to 2003; however, in 2004 only one practitioner from 2003 was registered.

In 2004 there were 3 active registered Māori optometrists;

- one male (33%) and two female (67%),
- two aged 20-29 (67%), and one aged 30-39 (33%),
- two are based in the Lower North Island region (67%), and one in the Auckland region (33%), and
- two were first registered in the 2000's (67%), and one in the 1990's (33%).

Table 14. Active Māori optometrists 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	0	-	-	
2001	3	0.8 %	-	
2002	3	0.8 %	67%	(2/3)
2003	4	1.0 %	75%	(3/4)
2004	3	0.7 %	25%	(1/4)
2005	3	0.7%	75 %	(3/4)

Source- NZ Health Information Service

Table 15 presents the number of active Māori dispensing opticians registered in 2000-2005. The number of practitioners is small with only one practitioner consistently registered in 2001, 2002 and 2004, with none registered in 2000, 2003, or 2005. In 2004, there was only one Māori dispensing optician.

Table 15. Active Māori dispensing opticians 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	0	-	-	
2001	2	3.8 %	-	-
2002	1	1.4 %	50 %	(1/2)
2003	0	-	-	-
2004	1	1.1 %	100 %	(1/1)
2005	0	-	-	-

Source- NZ Health Information Service

Māori physiotherapists

Table 16 presents the number of active Māori physiotherapists registered in 2000-2005. The number of practitioners who identified as Māori has steadily increased from 31 in 2000 to 44 in 2004, but dropped back to 31 in 2005. Rates of those previously licenced have been moderate. There were 17 individuals with gaps in their registrations; 12 had a gap of one year, three had a gap of two years, one had a gap of three years, and one had two one year gaps.

In 2005 there were 30 Māori physiotherapists;

- 22 female (73%) and eight male (27%),
- 13 aged 20-29 (43%), eight aged 30-39 (27%), seven aged 40-49 (23%), and two aged 50-59(7%),
- six are based in the South Island (21%), two in the Lower North Island (7%), 10 in the Central North Island (34%), 10 in the Auckland region (34%), one in the Northland region (3%), and one did not report geographic location, and
- 14 were first registered in the 2000s (45%), nine in the 1990s (29%), four in the 1980s (13%), two in the 1970s (6%), and two in the 1960s (6%).

Table 16. Active Māori physiotherapists 2000-2005

Year	Number of Māori	% Active Workforce	Estimated retention	
2000	31	2.1 %	-	
2001	33	2.3 %	65 %	(20/31)
2002	38	2.7 %	74 %	(28/38)
2003	40	2.7 %	71 %	(32/45)
2004	44	3.1 %	55 %	(26/47)
2005	30	2.0 %	30 %	(14/47)

Source- NZ Health Information Service

Māori podiatrists

Table 17 presents the number of active Māori podiatrists registered in 2000-2005. The number of practitioners who identified as Māori has remained steady from 2001 to 2005, with a perfect rate of those previously licenced of 100% for all but 2000 and 2005. There were no gaps in registrations.

In 2005 there were five Māori podiatrists;

- four female (80%), one male (20%),
- one aged 20-29 (20%), and four aged 40-49 (80%),
- two are based in the Lower North Island region (67%), and one in the Auckland region (33%), and two did not report their geographical location, and
- two were first registered in the 2000s (50%), two were first registered in 1990s (50%), and one did not report their registration date.

Table 17. Active Māori podiatrists 2000-2005

Year	Number of Māori	% Active workforce	Estimated retention	
2000	2	1.6 %	-	
2001	4	3.6 %	50%	(1/2)
2002	5	4.5 %	100%	(4/4)
2003	7	4.1 %	100%	(5/5)
2004	7	4.6 %	100%	(7/7)
2005	5	3.0 %	57%	(4/7)

Source- NZ Health Information Service

Māori osteopaths

In 2005, osteopaths were surveyed independently for the first time, and only two Māori osteopaths were identified. This equates to 0.7 % of the active osteopath workforce.

Māori dentists

Table 18 presents the number of active Māori dentists registered in 2000-2004. Data for 2005/2006 were unavailable. The number of practitioners and the percentage of the workforce who identified as Māori have remained fairly static from 2000 to 2004, increasing slightly over time. Rates of those previously licenced were only able to be calculated for 2003 and 2004, and demonstrate a moderate retention rate.

In 2004/2005 there were 38 Māori dentists;

- 12 female (32%), 26 male (68%),
- 10 were aged 20-29 (26%), nine aged 30-39 (24%), eight aged 40-49 (21%), five aged 50-59 (13%), and six aged 60 and over (16%),
- Nine are based in the South Island (24%), six in the Lower North Island region (16%), nine in the Central North Island region (24%), 13 in the Auckland region (34%), and one in Northland (3%),
- 12 were first registered in the 2000s (32%), nine in the 1990s (24%), seven in the 1980s (18%), five in the 1970s (13%) and five in the 1960s (13%), and
- 10 are self employed in a solo practice (27%), 13 are self employed in a group practice (35%), five are employed in a private practice (14%), three are employed by a DHB (8%), two were employed by a university dental school (5%), two by a government department or ministry (5%), and two were classified as ‘other’ (5%).

Table 18. Active Māori dentists 2000-2004

Year	Number of Māori	% Active workforce	Estimated retention	
2000 / 2001	24	1.6 %	-	
2001 / 2002	28	1.9 %	*	
2002 / 2003	30	2.1 %	*	
2003 / 2004	31	2.0 %	73 %	(22/30)
2004 / 2005	38	2.4 %	58%	(18/21)

Source- NZ Health Information Service

- Registration IDs were only available for 2002/2003

Māori psychologists

Table 19 presents the number of active Māori psychologists registered in 2000-2005. The number of practitioners who identified as Māori increased from 2000 to 2002 but has held at 40-42 since 2002, with moderate but decreasing rates of those previously licenced. There were 17 individuals with a gap in their registrations; 11 had a gap of one year, three had a gap of two years, two had a gap of three years, and one had two one year gaps.

In 2005 there were 38 Māori psychologists;

- 22 female (61%), 14 male (39%), and two unknown,
- three aged 20-29 (8%), 14 aged 30-39 (38%), nine aged 40-49 (24%), 10 aged 50-59 (27%), one aged 60+ (3%), and one did not report age group,
- five are based in the South Island (14%), nine in the Lower North Island (26%), 16 in the Central North Island (46%), five in the Auckland region (16%), and three did not report there geographic location, and
- 14 were first registered in the 2000s (45%), 11 in the 1990s (35%), six in the 1980s (19%), and seven did not report their first registration year.

Table 19. Active Māori psychologists 2000-2005

Year	Number of Māori	% Active workforce	Estimated retention	
2000	26	4.0%	-	
2001	30	4.5 %	73 %	(19/26)
2002	42	4.8 %	78 %	(28/36)
2003	42	4.8 %	74 %	(32/43)
2004	40	4.4 %	65 %	(30/46)
2005	38	3.9 %	51 %	(23/45)

Source- NZ Health Information Service

Māori nurses and midwives

The officially reported numbers of nurses (enrolled and registered) and midwives have been categorised in several different ways in the past. In particular, midwives have been defined as nurses who work in midwifery and are often reported in conjunction with registered nurses. Table 20 presents an overview of the numbers of Māori nurses, categorised as either enrolled or registered nurses and midwives from 2000/2001 to 2004/2005.

In 2005, midwives were surveyed independently for the first time. Midwives are now a separate occupational group for the purposes of practising certificates. There were 110 Māori midwives which equates to 4.2% of the midwifery workforce. The separation of the midwives from the nurses for the purposes of registration will have no impact on the data up to the present. However, it will impact on future official workforce figures as nurses either qualified as midwives or working in midwifery will have to make the choice of which occupational group or groups under which to register.

The nurses are the largest of the registered workforce groups and have one of the highest proportions of Māori in the health and disability workforce (7.7% for the period 2004/2005). This is, however, still well below the comparable 14.7% of the total population. Although there are fewer enrolled nurses, Māori are more prevalent in this group than the registered nursing workforce.

Table 20. Active enrolled and registered Māori nurses 2000-2004

Nurses	2000		2001		2002		2003		2004	
	No.	%[1]	No.	%[1]	No.	%[1]	No.	%[1]	No.	%[1]
Enrolled nurses	459	10.7%	472	11.2%	488	12.3%	477	12.5%	445	11.6%
Registered nurses and midwives	1,857	5.7%	2,087	6.3%	2,338	7.1%	2,316	7.1%	2,438	7.0%
Total	**2,316**	**6.7%**	**2,559**	**7.2%**	**2,826**	**8.0%**	**2,793**	**8.0%**	**2,883**	**7.7%**

Source- NZ Health Information Service [1] Percent of the workforce who are Māori

The following sections examine first the geographical distribution of nurses, then in more detail three nursing subgroups; nurses working in midwifery, registered nurses, and enrolled nurses. For purposes of clarity, nurses who work in midwifery will be defined as midwives for the remainder of this section of the report. All other nurses will be defined as registered or enrolled nurses only, although technically they are registered or enrolled nurses who are not working in midwifery.

Geographical location of Māori nurses

Table 21 presents the number of Māori midwives by DHB. Also presented is the number of Māori midwives per 100,000 Māori population, based on the number of Māori in the 2001 Census. The HWAC stocktake reported a national rate of 55 midwives overall per 100,000 for the total New Zealand population (both Māori and non- Māori), however, the Māori midwifery workforce data demonstrates that the

national rate for Māori only is 35 Māori midwives per 100,000 Māori which is considerably lower than the overall national rates (Health Workforce Advisory Committee, 2002a). The lowest rates of Māori midwives are in the following DHB regions; South Canterbury (0.0), Hutt (5.1), Counties Manukau (21), Hawkes Bay (21.6), Bay of Plenty (25.8), and Whanganui (28.4). However, the Māori population in Counties Manukau may be accessing midwifery services provided by the Auckland DHB, and similarly the Hutt population may be accessing Capital & Coast services, thereby averaging out rates for the Auckland and Wellington regions.

Table 21. Geographical distribution of active Māori midwives

District health board	Year					Census 2001 number of Māori	2004 rate per 100,000 Māori
	2000	2001	2002	2003	2004		
Northland	11	13	13	8	15	40,743	36.8
Waitematā	12	19	16	10	16	39,762	40.2
Auckland	18	12	16	14	13	29,148	44.6
Counties Manukau	13	12	12	11	13	61,386	21.2
Waikato	23	24	22	27	20	64,269	31.1
Lakes	9	8	10	10	12	30,345	39.6
Bay of Plenty	10	9	10	10	11	42,594	25.8
Tairāwhiti	4	10	9	8	9	19,398	46.4
Taranaki	2	1	5	2	6	14,625	41.0
Hawkes Bay	7	8	6	5	7	32,490	21.6
Whanganui	6	5	4	4	4	14,094	28.4
MidCentral	6	8	8	11	11	23,553	46.7
Hutt	2	3	3	2	1	19,587	5.1
Capital & Coast	8	9	11	12	11	24,330	45.2
Wairarapa	1	1	1	2	3	5,385	55.7
Nelson Marlborough	2	1	2	3	4	9,876	40.5
West Coast	1	0	2	0	1	2,556	39.1
Canterbury	8	9	13	15	15	28,692	52.3
South Canterbury	0	0	0	0	0	2,856	0.0
Otago	3	5	5	6	3	9,792	30.6
Southland	1	5	6	5	7	10,755	65.1
Total	**147**	**162**	**174**	**165**	**182**	**526,236**	**34.6**

Source- Workforce data: NZ Health Information Service
Census data: NZ website www.stats.govt.nz

Table 22 presents the number of Māori nurses (registered and enrolled) by DHB. Also presented is the number of Māori nurses per 100,000 Māori population, based on the number of Māori in the 2001 Census. The HWAC stocktake reported a national rate of 918 nurses overall per 100,000 for the total New Zealand population (both Māori and non-Māori). However, the Māori nursing workforce data demonstrates that the national rate for Māori only is 513 Māori nurses per 100,000 Māori which is considerably lower than the overall national rates (Health Workforce Advisory Committee, 2002a).

The lowest rates of Māori nurses are in the following DHB regions; Hutt (306.3), Counties Manukau (337.2), Waitematā (372.2), and Bay of Plenty (382.7). However, the Māori population in Counties Manukau and Waitematā may be accessing nursing

services provided by the Auckland DHB, and similarly the Hutt population by Capital & Coast DHB services, thus averaging out rates for Auckland and Wellington regions.

Table 22. Geographical distribution of active registered and enrolled Māori nurses

District health board	Year					Census 2001 number of Māori	2004 rate per 100,000 Māori
	2000	2001	2002	2003	2004		
Northland	199	223	232	237	245	40,743	601.3
Waitematā	124	126	152	149	148	39,762	372.2
Auckland	227	255	265	250	257	29,148	881.7
Counties Manukau	137	145	190	192	207	61,386	337.2
Waikato	241	284	302	304	312	64,269	485.5
Lakes	139	137	137	142	143	30,345	471.3
Bay of Plenty	119	140	161	168	163	42,594	382.7
Tairāwhiti	88	86	86	84	97	19,398	500.1
Taranaki	47	51	68	67	73	14,625	499.2
Hawke's Bay	87	109	123	114	137	32,490	421.7
Whanganui	70	67	70	65	72	14,094	510.9
MidCentral	116	117	132	136	135	23,553	573.2
Hutt	57	64	59	55	60	19,587	306.3
Capital & Coast	153	161	180	167	169	24,330	694.6
Wairarapa	22	21	27	26	28	5,385	520.0
Nelson Marlborough	38	58	63	56	63	9,876	637.9
West Coast	23	20	26	30	28	2,556	1,095.5
Canterbury	161	184	211	214	198	28,692	690.1
South Canterbury	14	19	21	21	22	2,856	770.3
Otago	66	82	87	81	79	9,792	806.8
Southland	39	46	57	68	64	10,755	595.1
Total	**2,167**	**2,395**	**2,649**	**2,626**	**2,700**	**526,236**	**513.1**

Source- Workforce data: NZ Health Information Service
Census data: NZ website www.stats.govt.nz

Māori midwives (nurses working in midwifery)

The numbers of Māori midwives have increased by 23% from 2000/2001 to 2004/2005. In 2004/2005, 58% of the midwives' work type was 'case load', 38% in 'core facility' and four percent in 'education, administration and management'. Table 23 presents the sex and age distributions of the registered Māori midwives. They are female with an average age of approximately 43 years.

Table 23. Age and gender distribution of active Māori nurses working in midwifery

Age and gender	2000	2001	2002	2003	2004
Female	146	161	174	166	181
Not reported	1	1	-	-	-
<20 years	-	-	-	-	-
20-24 years	3	1	-	-	3
25-29 years	9	11	9	8	11
30-34 years	26	21	24	21	28
35-39 years	37	28	27	30	27
40-44 years	29	40	37	30	38
45-49 years	20	24	34	40	37
50-54 years	12	17	15	12	12
55-59 years	5	12	15	15	17
60+ years	5	7	12	9	8
Not reported	1	1	1	1	1
Total	**147**	**162**	**174**	**166**	**181**

Source- NZ Health Information Service

Table 24 presents the distribution of qualifications for practising Māori midwives. The most prevalent qualifications in 2004/2005 for Māori midwives were; comprehensive nurses/midwife (40%), midwife (22%), general & obstetric nurses/midwife (21%), and direct entry midwife (12%).

Table 25 presents information on the employers of the Māori nurses working in midwifery. In 2004/2005 the main employers were public hospitals (48%) and private practice (35%), with a small proportion working for Māori health providers (4%). These results have been consistent throughout the time period 2000/2001 to 2004/2005.

Table 24. Qualifications of active Māori nurses working in midwifery

Qualification	2000	2001	2002	2003	2004
Obstetric nurse	-	1	1	-	1
General & obstetric nurse	-	-	-	2	1
Comprehensive nurse	2	1	1	-	1
Midwife	6	20	28	28	39
General & obstetric nurse; midwife	39	39	47	44	38
Comprehensive nurse; midwife	68	72	70	65	73
Midwife; enrolled nurse	4	3	3	4	3
Comprehensive via psychiatric, general & obstetric; midwife	1	2	2	2	2
Comprehensive via general & obstetric, psychopaedic, psychiatric; midwife	1	1	1	1	1
Direct entry midwife	26	23	21	20	22
Total	**147**	**162**	**174**	**166**	**181**

Source- NZ Health Information Service

Table 25. Employers of active Māori nurses working in midwifery

Employer	2000	2001	2002	2003	2004
Public hospital	71	68	82	68	86
Public community service	4	9	1	6	3
Private or non-public service	2	4	9	11	9
Primary health care clinic/ non-public community service	3	3	3	6	5
Nursing agency	1	-	4	-	1
Self employed	52	51	56	57	64
Māori health service provider	6	9	7	5	7
Educational institution	3	6	3	4	4
Government agency (e.g. HFA, ACC, Prisons, defence etc)	-	-	-	1	-
Other	1	3	-	1	-
Not reported	4	9	9	7	2
Total	**147**	**162**	**174**	**166**	**181**

Source- NZ Health Information Service

Māori registered nurses (not working in midwifery)

The numbers of registered nurses who identified as Māori have increased by 32% from 2000/2001 to 2004/2005. Table 26 presents the sex and age distributions of the registered Māori nurses. In 2004/2005 they are predominantly female (93%) with an average age of 44 years.

Table 26. Age and gender distribution of active Māori registered nurses

Age and gender	2000	2001/	2002	2003	2004
Female	1,569	1,775	1,996	2,002	2,100
Male	137	143	165	147	156
Not reported	4	7	3	1	1
<20 years	3	3	2	3	3
20-24 years	49	46	54	43	53
25-29 years	184	186	164	148	162
30-34 years	232	259	271	261	287
35-39 years	286	306	336	317	331
40-44 years	317	360	400	406	418
45-49 years	215	280	352	370	399
50-54 years	196	213	245	234	251
55-59 years	116	133	156	184	187
60+ years	104	132	174	173	156
Not reported	8	7	10	11	10
Total	**1,710**	**1,925**	**2,164**	**2,150**	**2,257**

Source- NZ Health Information Service

Table 27 presents the qualifications of the registered nurses. In 2004/2005 the majority of Māori registered nurses were qualified as comprehensive nurses (65%) or general and obstetric nurses (23%).

Table 28 presents the employers of registered nurses. In 2004/2005 the major employer was the public hospitals (51%), followed by the public community service (11%) and Māori health providers (11%). The numbers of Māori registered nurses employed by Māori health providers have increased by 78% from 126 in 2000/2001 to 224 in 2004/2005.

Table 27. Qualifications of active Māori registered nurses

Qualification	2000	2001	2002	2003	2004
General nurse	31	34	39	36	34
Obstetric nurse	6	8	4	7	6
General & obstetric nurse	402	451	536	514	515
Psychiatric nurse	85	88	91	80	81
Psychopaedic nurse	14	18	19	19	18
Comprehensive nurse	1,048	1,198	1,344	1,358	1,463
Midwife	3	5	2	1	2
General nurse; psychiatric nurse	6	5	4	3	3
General nurse; psychopaedic nurse	1	1			1
Psychiatric; psychopaedic nurse	2	2	2	1	3
General & obstetric nurse; midwife	43	47	51	54	55
Comprehensive nurse; midwife	12	13	9	18	18
Enrolled nurse; obstetric nurse		1	1	1	
Enrolled nurse; psychiatric nurse	7	8	8	8	7
Enrolled nurse; psychopaedic nurse			1	1	
General nurse, psychiatric nurse, psychopaedic nurse			1	1	1
Comprehensive via psychopaedic, general & obstetric	11	10	13	11	11
Comprehensive via psychiatric, general & obstetric	39	35	37	37	39
Direct entry midwife		1	2		
Total	**1,710**	**1,925**	**2,164**	**2,150**	**2,257**

Source- NZ Health Information Service

Table 28. Employers of active Māori registered nurses

Employer	2000	2001	2002	2003	2004
Public hospital	741	805	992	1,028	1,059
Public community service	219	256	216	212	235
Private or non-public service	119	119	147	138	136
Primary health care clinic/ non-public community service	97	130	163	174	180
Rest home / residential care	119	129	129	151	145
Nursing agency	27	26	32	33	33
Self employed	17	15	23	16	24
Māori health service provider	126	172	179	172	224
Educational institution	43	33	40	47	53
Government agency (e.g. Accident Compensation Corporation, prisons, defence etc)	29	23	31	19	22
Other	78	89	67	106	108
Not reported	95	130	163	174	180
Total	**1,710**	**1,925**	**2,164**	**2,150**	**2,257**

Source- NZ Health Information Service

Table 29 presents the type of work that Māori registered nurses are undertaking. The nurses are spread across all areas of health, with the largest groups of Māori nurses working in mental health (18%) and primary health care (14%).

Table 29. Employment types of active Māori registered nurses

Work type	2000	2001	2002	2003	2004
Accident and emergency	54	61	76	81	79
Assessment and rehabilitation	54	68	74	58	72
Child health including neonatology	90	102	113	116	105
Continuing care (elderly)	147	151	167	187	168
District nursing	37	46	58	58	51
Family planning/sexual health	7	8	12	12	13
Intellectually disabled	24	20	23	24	23
Intensive care/coronary care	43	52	47	58	53
Mental health (including substance abuse)	348	363	403	386	404
Medical (including educating patients)	136	176	204	195	206
Nursing administration and management	52	66	74	67	80
Nursing education	53	48	50	53	65
Nursing professional advice/policy	12	18	16	11	18
Nursing research	2	4	5	4	2
Obstetrics/maternity	18	17	15	20	16
Occupational health	8	8	8	11	7
Palliative care	22	13	25	36	35
Perioperative care (theatre)	57	63	80	78	75
Primary health care (including practice nursing)	158	198	259	244	318
Public health	66	69	71	76	69
Surgical	161	189	196	193	205
Other nursing	161	185	188	182	193
Total	**1,710**	**1,925**	**2,164**	**2,150**	**2,257**

Source- NZ Health Information Service

Māori enrolled nurses (not working in midwifery)

The numbers of Māori enrolled nurses has increased from 2000/2001 to 2002/2003, but have decreased through to 2004/2005. Table 30 presents the age and gender distributions of enrolled Māori nurses, in 2004/2005 they were predominantly female (96%) with an average age of 50 years.

Table 30. Age and gender distribution of active Māori enrolled nurses

Age and gender	2000	2001	2002	2003	2004
Female	435	446	465	462	429
Male	21	23	22	15	16
Not reported	3	3	1	-	-
<20 years	-	-	-	-	-
20-24 years	-	-	-	-	-
25-29 years	2	-	-	-	-
30-34 years	20	13	10	8	10
35-39 years	54	56	38	31	21
40-44 years	107	92	93	80	70
45-49 years	121	134	144	140	130
50-54 years	89	96	109	116	113
55-59 years	36	38	48	58	58
60+ years	22	33	36	36	36
Not reported	8	10	10	8	7
Total	**459**	**472**	**488**	**477**	**445**

Source- NZ Health Information Service

Table 31 presents the distribution of first year of registration by year. Examining the numbers of enrolled nurses in 2004/2005, by when they were first registered, it can be seen that numbers of Māori enrolled nurses have been steadily decreasing since 1970-1979. This is due to the cessation of enrolled nurse training in the early 1990s, and the introduction in 2002 of the health care assistant role.

Table 31. First year of registration for active Māori enrolled nurses

First year registered	2000	2001	2002	2003	2004
1939-1969	72	71	75	69	70
1970-1974	124	125	129	128	115
1975-1979	83	90	95	98	92
1980-1984	58	60	69	69	60
1985-1989	73	84	70	60	55
1990-1994	39	34	38	35	30
1995-2004	4	3	7	15	18
Not reported	6	5	5	3	5
Total	**459**	**472**	**488**	**477**	**445**

Source- NZ Health Information Service

Table 32 presents the employers of enrolled nurses. In 2004/2005 the major employer was the public hospitals (38%), followed by rest home or residential care facilities (26%).

Table 32. Employers of active Māori enrolled nurses

Employer	2000	2001	2002	2003	2004
Public hospital	169	166	178	174	167
Public community service	31	29	25	24	22
Private or non-public service	43	38	52	43	41
Primary health care clinic/ non-public community service	5	7	9	15	16
Rest home / residential care	92	100	105	119	116
Nursing agency	20	17	14	7	10
Self employed	1	4	2	2	1
Māori health service provider	32	30	31	26	28
Educational institution	4	3	1	2	5
Government agency)	4	-	5	4	-
Other	24	38	24	37	33
Not reported	34	50	42	24	6
Total	**459**	**472**	**488**	**477**	**445**

Source- NZ Health Information Service

Table 33. Employment types of active Māori enrolled nurses

Employment type	2000	2001	2002	2003	2004
Accident and emergency	4	4	2	3	3
Assessment and rehabilitation	33	30	33	36	34
Child health including neonatology	5	7	6	4	5
Continuing care (elderly)	129	125	132	145	135
District nursing	9	10	7	6	5
Family planning/sexual health	-	-	-	-	1
Intellectually disabled	23	23	21	19	14
Intensive care/coronary care	-	1	1	1	1
Mental health	65	61	56	49	54
Medical (including educating patients)	28	31	39	29	29
Nursing admin/ management	2	6	9	6	10
Nursing education	2	-	1	2	3
Obstetrics/maternity	12	12	11	13	9
Occupational health	3	3	4	6	5
Palliative care	8	14	17	15	8
Perioperative care (theatre)	13	14	14	11	11
Primary health care	18	26	23	22	24
Public health	8	15	12	6	7
Surgical	41	34	41	43	39
Other nursing	56	56	59	61	48
Total	**459**	**472**	**488**	**477**	**445**

Source- NZ Health Information Service

Table 33 presents the type of work that Māori enrolled nurses are undertaking. The largest groups of enrolled Māori nurses are working in continuing care of the elderly (30%), mental health (12%) and other nursing (11%).

Māori medical doctors

Māori comprised only 2.6% of the active medical doctor workforce in 2004/2005. Table 34 presents the gender distribution of Māori medical doctors. In 2004/2005, female doctors comprised 44% of Māori doctors. The researchers were unable to access the data by gender for 2000/2001. Note that wherever there are less than four practitioners in a particular category the numbers are not available for privacy reasons.

Table 34. Gender distribution of active Māori doctors (Māori as a percentage of all active doctors)

Gender	2000		2001		2002		2003		2004	
	No.	%	No.	%	No.	%	No.	%	No.	%
Female	-	-	84	3.1%	91	3.3%	90	3.0%	102	3.3%
Male	-	-	136	2.4%	139	2.5%	151	2.7%	132	2.3%
Total	**-**	**-**	**220**	**2.6%**	**230**	**2.8%**	**241**	**2.8%**	**234**	**2.6%**

Source- NZ Health Information Service
* Data not provided

Table 35 presents the employment type of Māori medical doctors. While Māori are greatly under-represented in all areas, this is particularly the case for specialists (1.9% in 2004/2005) and medical officers (1.6% in 2004/2005).

Table 35. Employment type of Māori doctors (Māori as a percentage of all active doctors)

Employment type	2000		2001		2002		2003		2004	
	No.	%	No.	%	No.	%	No.	%	No.	%
General practice	63	2.0%	67	2.2%	71	2.5%	77	2.6%	78	2.6%
Primary care other than general practitioner	10	5.4%	5	3.0%	6	3.7%	6	4.4%	8	5.9%
House officer	41	4.8%	46	6.1%	35	4.6%	34	4.1%	26	3.2%
Medical officer	5	1.9%	4	1.4%	4	1.5%	*		5	1.6%
Registrar	40	3.4%	41	3.3%	48	3.9%	53	4.1%	51	3.9%
Specialist	36	1.4%	47	1.8%	49	1.8%	58	2.1%	54	1.9%
Other	*		10	4.3%	14	5.7%	10	4.2%	8	2.6%
Not answered	0	-	0	-	*		*		4	3.7%
Total	**198**	**2.4%**	**220**	**2.6%**	**230**	**2.8%**	**241**	**2.8%**	**234**	**2.6%**

Source- NZ Health Information Service
* Less than four practitioners

Table 36 presents the work type of Māori medical doctors. There are many areas where there are no Māori reported as working or where there are less than four Māori. It is particularly concerning that a number of these areas link directly to Māori health priorities areas (e.g. family planning and reproductive health, radiation oncology, and breast medicine).

Table 36. Work type of Māori doctors (Māori as a percentage of all active doctors)

Employment type	2000		2001		2002		2003		2004	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
House officer rotations	41	(4.8%)	46	(6.1%)	35	(4.6%)	34	(4.1%)	26	3.2%
Accident and medical practice	-		-		0	-	*	-	5	5.9%
Anaesthesia	6	(1.2%)	8	(1.6%)	8	(1.6%)	12	(2.3%)	9	1.7%
Basic medical science	0	-	*	-	*		*	-	*	-
Breast medicine	0	-	0	-	0	-	0	-	0	-
Dermatology	0	-	*	-	*	-	*	-	*	-
Diagnostic and interventional radiology	*	-	*	-	*	-	4	(1.5%)	5	1.9%
Emergency medicine	*	-	*	-	7	(4.2%)	5	(2.8%)	6	3.2%
Family planning and reproductive health	-		-		0	-	0	-	0	-
General practice	58	(2.2%)	57	(2.3%)	64	(2.5%)	69	(2.6%)	72	2.7%
Intensive care medicine	*	-	0	-	*	-	*	-	0	-
Internal medicine	10	(1.2%)	14	(1.7%)	17	(2.2%)	16	(1.9%)	14	1.7%
Medical administration	-		-		0	-	0	-	*	-
Musculoskeletal medicine	0	-	0	-	0	-	0	-	0	-
Obstetrics and gynaecology	*	-	4	(1.8%)	5	(2.3%)	*	-	4	1.7%
Occupational medicine	4	(7.4%)	*	-	*	-	*	-	*	-
Ophthalmology	4	(4.0%)	*	-	*	-	*	-	*	-
Paediatrics	6	(2.6%)	10	(3.8%)	8	(3.1%)	9	(3.4%)	12	4.2%
Palliative medicine	-		-		0	-	0	-	0	-
Pathology	*	-	4	(2.3%)	*	-	*	-	*	-
Primary care	14	(2.1%)	15	(2.2%)	11	(2.3%)	16	(4.2%)	12	3.2%
Psychiatry	12	(2.5%)	15	(3.1%)	15	(3.2%)	16	(3.1%)	16	3.0%
Public health medicine	11	(5.9%)	12	(5.4%)	9	(4.5%)	10	(4.9%)	9	4.8%
Radiation oncology	0	-	0	-	0	-	0	-	0	-
Rehabilitation medicine	0	-	0	-	*	-	*	-	*	-
Sexual health medicine	0	-	0	-	*	-	*	-	0	-
Sports medicine	*	-	*	-	*	-	*	-	*	-
Surgery: cardiothoracic	0	-	0	-	0	-	0	-	0	-
Surgery: general	4	(1.7%)	5	(2.1%)	*	-	5	(2.2%)	4	1.6%
Surgery: neurosurgery	0	-	0	-	0	-	0	-	0	-
Surgery: orthopaedic	9	(4.2%)	6	(2.8%)	9	(4.1%)	9	(4.0%)	8	3.5%
Surgery: other	0	-	*	-	0	-	0	-	*	-
Surgery: otolaryngology	*	-	*	-	*	-	*	-	*	-
Surgery: paediatric	0	-	*	-	0	-	0	-	*	-
Surgery: plastic	*	-	*	-	*	-	5	(8.3%)	*	-
Surgery: urology	0	-	*	-	*	-	*	-	*	-
Surgery: vascular	*	-	0	-	0	-	0	-	0	-
Other	*	-	*	-	7	(5.3%)	6	(5.0%)	*	-
Not answered	0	-	*	-	11	(5.9%)	*	-	9	3.7%
Total	**198**	**(2.4%)**	**220**	**(2.6%)**	**230**	**(2.8%)**	**241**	**(2.8%)**	**234**	**2.65**

Source- NZ Health Information Service

* Less than four practitioners

Tertiary institution data

Standard reporting by the Ministry of Education on tertiary students presents information on the field of study, or on Māori students in general. There is very little reporting that combines both field of study and ethnicity data. **Table 37** is a summary of the most detailed overview of Māori tertiary students in health courses. The table presents the number of Māori tertiary students enrolled in courses in health versus non-health fields by age group.

Table 37. 2004 Māori tertiary student enrolments in health and non-health courses by age group

Age	Health		Non-health	
Under 18 years	535	(6%)	5,022	(6%)
18-24 years	2,029	(21%)	22,500	(26%)
25-39 years	3,683	(39%)	33,483	(39%)
40+ years	3,220	(34%)	23,953	(28%)
Total	**9,467**	**(100%)**	**84,958**	**(100%)**

Source- Ministry of Educatione:

The age distribution for Māori tertiary health students is significantly different from non-health students ($\chi^2(3)=185.4$, $p<0.0001$) with more students in the 40+ age group than in the 18-24 years age group for health students versus non-health students.

In 2004 there were 9,467 Māori tertiary students enrolled in health courses, which equates to 10% of all Māori tertiary students. The 9,467 students equate to 2,513 equivalent full time students (EFTS), which is 5% of the total Māori EFTS (Ministry of Education, 2005b).

Training of the health and disability workforce encompasses a wide range of fields and courses. Some of these courses, such as psychology and social work, fall outside the health category utilised by the Ministry of Education. Also there are many and varied courses that are encompassed by the health category, from short first aid and occupational health and safety courses conducted at many technical institutes and wānanga, to intense and long duration medical and dental courses. It should also be noted that psychology (and other courses) can be categorised differently depending upon the degree program under which the course is taken. For example, psychology studied under a bachelor of health will be categorised under 'Other health' as 'Other health not elsewhere classified' for a course category, whereas psychology under a bachelor of arts will be classified under 'Behavioural science' as 'Psychology'.

There are two general categories of other courses that need to be considered when reviewing the tertiary institution statistics; courses classified as 'Not elsewhere classified' do not fit into any of the other classifications within that course group, whereas courses classified as 'Not further defined' could potentially fit into any of the classifications within that course group but have not yet been classified.

Māori tertiary enrolments

Table 38 presents the number of Māori students enrolled in health and disability related courses from 2001 to 2004. Relevant courses were selected by the Research Team from courses in the biological sciences, health, and society and culture areas. It is important to note that there have also been reclassifications of some courses over the years 2001-2004. For example, radiology has moved from 'Medical studies' in 2001-2002 to its own category of 'Radiography' in 2003-2004. Further, medical students at the University of Otago have been classified under 'General medicine' from 2002, whereas University of Auckland medical students have remained under 'Medical studies not further defined'. The primary group categorised under 'Medical studies' are medical students working towards qualification as a medical doctor. However, there are few students classified under this category who are not affiliated with the University of Otago or University of Auckland medical schools.

The numbers of Māori students enrolled in medical studies have been increasing steadily up to 2003, but decreased slightly in 2004. The numbers of Māori students enrolled in nursing and general nursing in particular show a steady and continuing increase from 2001 to 2004. Māori pharmacy student numbers increased from 2001 to 2002 but have remained stable up to 2004. Māori students in dental studies have remained stable. The numbers of Māori students enrolled in optical science have remained small but are increasing. Radiography has moved from within the medical sciences and shows small but increasing numbers from 2000 to 2004. The public health courses have shown a huge increase in numbers of Māori students, this increase is predominantly in Māori health and occupational health and safety. The increases in Māori health are largely due to the increase in enrolments at whare wānanga, whereas the increases in occupational health and safety, are due to a large number of recent short courses offered by polytechnics.

The number of the Māori students in rehabilitation therapies has increased, however, this has been predominantly in massage therapy. This increase in massage therapy is consistent across all institutions offering these courses. In the area of complementary health, overall student numbers have remained fairly stable. Examination of the course categories within the complementary health category shows that in 2000 the majority of students were in courses classified as 'Complementary therapies not further categorised' but have since been categorised into subcategories such as acupuncture or naturopathy and homeopathy making any identification of trends difficult.

There have been huge increases in the number of Māori students enrolled in courses under 'Other health', however, these increases are predominantly from enrolments in short first aid courses. Other categories such as 'Paramedical studies', 'Human movement and sports science', and 'Other health not elsewhere classified' also showed reasonable increases. As noted earlier, 'Other health not elsewhere classified' will contain all health courses not already categorised and therefore contains some important groups such as psychology in a health programme.

Māori students enrolled in courses under 'Human welfare studies and services' have steadily increased from 2001 to 2004. This has been mainly in the social work area and has been generally consistent across all institutions. Behavioural science enrolments, which are predominantly psychology, for Māori students have decreased

from 2001 to 2004. However, psychology also comes under 'Other health not elsewhere classified' and this course group has been increasing steadily since 2000.

Table 38. Māori tertiary enrolments in health and disability related courses 2001-2004

Course group	Course	Year			
		2001	2002	2003	2004
Medical studies	Medical studies n.f.d.	145	87	99	98
	General medicine	-	61	73	73
	Obstetrics and gynaecology	-	-	3	3
	Radiology	6	12	-	-
	Internal medicine	-	1	2	1
	General practice medicine	-	3	3	4
	Medical studies n.e.c.	3	3	3	1
	Total	**154**	**167**	**183**	**180**
Nursing	General nursing	981	1,010	1,031	1,050
	Midwifery	59	80	97	82
	Health care assistant	98	87	60	82
	Nursing n.e.c.	96	126	168	175
	Total	**1,234**	**1,303**	**1,356**	**1,389**
Pharmacy	Pharmacy	94	123	119	124
Dental studies	Dentistry	16	16	21	20
	Dental hygiene and therapy	7	4	5	6
	Dental studies n.e.c.	4	-	2	-
	Total	**27**	**20**	**28**	**26**
Optical science	Optometry	1	2	3	6
Public health	Public health n.f.d.	97	118	55	61
	Occupational health and safety	-	26	434	736
	Environmental health	-	-	-	2
	Hauora (Māori health)	14	79	347	256
	Health education, promotion, counselling	24	97	121	95
	Community health	29	56	102	124
	Public health n.e.c.	-	16	24	24
	Total	**164**	**392**	**1,083**	**1,298**
Radiography	Medical imaging & radiation therapy	-	4	12	17
Rehabilitation therapies	Physiotherapy	83	92	93	98
	Occupational therapy	19	36	52	40
	Chiropractic and osteopathy	4	6	12	11
	Speech pathology	-	-	3	9
	Audiology	1	2	-	-
	Massage therapy	71	121	162	165
	Podiatry	1	-	-	-
	Rehabilitation therapies n.e.c.	1	8	11	6
	Total	**180**	**265**	**333**	**329**
Complementary therapies	Complementary therapies n.f.d.	169	19	15	9
	Naturopathy and homeopathy	9	83	109	73
	Acupuncture	-	8	6	9
	Traditional chinese medicine	-	-	2	-
	Complementary therapies n.e.c.	26	47	54	96
	Total	**204**	**157**	**186**	**187**

Table 38 (continued)

Other health	Other health n.f.d.	118	94	98	98
	Nutrition and dietetics	-	5	7	10
	Human movement and sports science	21	83	118	162
	Paramedical studies	16	15	153	117
	First aid	7	1,713	3,244	5,071
	Health n.e.c.	65	156	201	234
	Total	**227**	**2,066**	**3,821**	**5,692**
Course group	**Course**	**Year**			
		2001	**2002**	**2003**	**2004**
Human welfare studies and services	Human welfare studies and services n.f.d.	88	49	41	36
	Social work	774	911	881	1,325
	Nannying and early childhood care	236	267	224	202
	Youth work	8	12	41	74
	Support for the older person	36	41	46	115
	Care for people with disabilities	11	8	20	18
	Community client care	553	626	637	516
	Counselling	437	435	306	310
	Welfare studies	-	2	10	22
	Human welfare studies & services	63	129	121	138
	Total	**2,206**	**2,480**	**2,327**	**2,756**
Behavioural science	Psychology	211	188	152	164
	Behavioural science n.e.c.	2	1	1	2
	Total	**213**	**189**	**153**	**166**
Total		**4,704**	**7,168**	**9,604**	**12,170**

Source- Ministry of Educatione:
n.f.d.= not further defined
n.e.c.= not elsewhere classified

Table 39 presents the gender distribution for each of the course groups. Female students have accounted for the highest proportion of students in all the course groups. The only group that consistently shows a close to equal division between male and female is medical studies, where males account for 40%-45% of Māori tertiary students.

Table 39. Māori tertiary course enrolments by gender and course group

Course group	**2001**		**2002**		**2003**		**2004**	
	No.	**%Female**	**No.**	**%Female**	**No.**	**%Female**	**No.**	**%Female**
Medical studies	154	59%	167	56%	183	55%	180	57%
Nursing	1,234	89%	1,303	90%	1,356	92%	1,389	92%
Pharmacy	94	91%	123	95%	119	94%	124	95%
Dental studies	27	70%	20	75%	28	68%	26	69%
Optical science	1	0%	2	50%	3	100%	6	83%
Public health	164	75%	392	77%	1,083	57%	1,298	53%
Radiography	-	-	4	75%	12	83%	17	88%
Rehabilitation therapies	180	74%	265	76%	333	79%	329	78%
Complementary therapies	204	85%	157	83%	186	89%	187	88%
Other health	227	81%	2,066	74%	3,821	61%	5,692	62%
Human welfare studies and services	2,206	84%	2,480	82%	2,327	80%	2,756	83%
Behavioural science	213	83%	189	84%	153	84%	166	80%
Total	**4,704**	**84%**	**7,168**	**81%**	**9,604**	**72%**	**12,170**	**70%**

Source- Ministry of Educatione:

There are two categories of courses showing changing patterns of gender distribution. These are 'Public health' and 'Other health', however, these groups are showing big changes in the numbers of students taking up Māori health, occupational health and safety, and first aid courses at either polytechnics or whare wānanga. Primarily due to the influx of these students into these areas, the distribution between males and females has shifted. For example 'Public health' has shifted from 25% male in 2001 to 47% in 2004, and 'Other health' has shifted from 19% males in 2001 to 38% in 2004.

Māori tertiary completions

Table 40 presents the number of Māori students completing courses within each of the course categories. Official statistics on tertiary completions lag behind those of enrolments, so data is only available up to 2003. It is not possible to directly relate the numbers of completions to the numbers of enrolments to get completion rates as the courses summarised in Table 39 and Table 40 are of varying lengths and there is an impact of students 'upgrading' (staircasing) their course to a higher level before completion. The trends follow the enrolment numbers fairly closely although very small numbers in some areas, such as only one completion in optometry over three years, are concerning.

The numbers of Māori students completing medical studies have remained stable from 2001 to 2003, when it is taken into consideration that the radiology category was changed to its own course group category after 2001. Due to the length of medical courses the increases observed in enrolments will take a few years to impact on numbers of completions. Completions in nursing have increased by 55% over two years, in contrast to 10% in enrolments over the same time period. Therefore, the numbers of Māori nurses completing training are expected to continue to increase each year, however, not to the same extent as in the early 2000s.

The numbers of Māori students completing studies in pharmacy has more than doubled over 2001-2003, though the numbers presently remain quite small. The enrolment numbers in comparison are much higher and include a lot of students studying through the open polytechnic, therefore, there will potentially be a large number of completions in the near future. Completions in dental studies have remained small but stable, which is similar to the enrolment numbers.

There has been only one Māori student completion in optical science in the years 2001-2003, however, the number of enrolments over 2001-2004 has remained small but steadily increasing from one to six. Therefore, there will potentially be increasing numbers of Māori students completing studies in this area. The numbers of Māori students completing studies in radiology have remained small but stable over 2001-2003, with similar patterns observed in the course enrolments.

Completions for Māori students in public health have shown large increases in numbers. This relates to similar increases in the enrolments in this area. These increases in both completions and enrolments reflect the increased numbers of students in short courses or year long certificates or diplomas in Māori health and occupational health and safety courses. This is apparent in that the increases in enrolment are directly reflected in the completions for the same year. After accounting for these courses, it can be observed that all other public health courses have demonstrated slight increases in numbers for both enrolments and completions.

Completions for Māori students in rehabilitation therapies have, with the exception of massage therapy, remained very stable following a similar pattern in the number of enrolments. Massage therapy completions have more than doubled over 2001-2003, which reflects similar increases seen in enrolments. As seen in Māori health and occupational health and safety courses this demonstrates that many of the courses are likely to be short or one year qualifications.

The numbers of Māori students completing studies in complementary therapies have remained stable, with a similar pattern in enrolments. Completions in other health courses for Māori students have remained stable except for the large increases in short first aid courses.

Both human welfare studies and services and behavioural science courses demonstrate stable numbers in both completions and enrolments.

Table 40. Māori tertiary course completions in health and disability related courses 2001-2003

Course group	Course	Year		
		2001	2002	2003
Medical studies	Medical studies n.f.d.	30	25	20
	General medicine	5	7	11
	Obstetrics and gynaecology	-	2	2
	Radiology	3	-	-
	Internal medicine	-	-	1
	General practice medicine	-	1	-
	Medical studies n.e.c.	3	4	1
	Total	**41**	**39**	**35**
Nursing	General nursing	165	196	242
	Midwifery	17	13	18
	Health care assistant	20	71	44
	Nursing n.e.c.	42	68	73
	Total	**244**	**348**	**377**
Pharmacy	Pharmacy	7	10	15
Dental studies	Dentistry	3	-	6
	Dental hygiene and therapy	3	2	2
	Total	**6**	**2**	**8**
Optical science	Optometry	-	1	-
Public health	Public health n.f.d.	18	26	12
	Occupational health and safety	-	7	268
	Hauora (Māori health)	4	40	216
	Health education, promotion, counselling	10	11	5
	Community health	14	39	37
	Public health n.e.c.	6	2	9
	Total	**52**	**125**	**547**

Table 40 (continued)

Course group	Course	Year		
		2001	2002	2003
Radiography	Medical imaging & radiation therapy	-	4	2
Rehabilitation therapies	Physiotherapy	20	26	21
	Occupational therapy	-	10	6
	Chiropractic and osteopathy	1	1	2
	Audiology	-	-	1
	Massage therapy	25	33	58
	Podiatry	1	-	-
	Rehabilitation therapies n.e.c.	1	3	2
	Total	**48**	**73**	**90**
Complementary therapies	Complementary therapies n.f.d.	18	16	9
	Naturopathy and homeopathy	7	8	7
	Acupuncture	-	8	5
	Traditional chinese medicine	-	3	1
	Complementary therapies n.e.c.	16	23	20
	Total	**41**	**58**	**42**
Other health	Other health n.f.d.	48	39	40
	Nutrition and dietetics	-	4	2
	Human movement and sports science	4	32	31
	Paramedical studies	5	12	2
	First aid	-	417	-
	Health n.e.c.	45	21	26
	Total	**102**	**525**	**101**
Human welfare studies and services	Human welfare studies and services n.f.d.	14	21	13
	Social work	184	197	148
	Nannying and early childhood care	85	65	77
	Youth work	6	10	23
	Support for the older person	35	58	49
	Care for people with disabilities	8	4	13
	Community client care	208	209	179
	Counselling	56	51	61
	Human welfare studies & services n.e.c.	14	60	60
	Total	**610**	**675**	**623**
Behavioural science	Psychology	16	18	16
	Behavioural science n.e.c.	-	1	-
	Total	**16**	**19**	**16**
Total		**1,167**	**1,879**	**1,856**

Source- Ministry of Educatione:
n.f.d.=not further defined
n.e.c.= not elsewhere classified

Retention, completion and progression rates of Māori tertiary students

Retention is defined as the percentage of a cohort of students who are still enrolled or have successfully completed a qualification. However, due to the fact that New Zealand does not have a universal student ID system and as students are likely to change or upgrade courses before completion, move institutions, have breaks in study, and/or move from part-time to full-time study or visa versa, retention statistics for tertiary students are complex to calculate. The Ministry of Education has formulated a method to estimate these rates but it has only been utilised at an overview level. That is, there are estimates of retention of Māori students but there are no official figures for retention in health related courses.

Table 41 presents the number of students enrolled at each course level by ethnicity and demonstrates major differences across ethnic groups; with 93% of Māori tertiary students enrolled in level 1-6 courses, in comparison to 69% for European. The rest of the following section which examines completion, progression and retention rates must also be considered in the context of these differentials in enrolments.

Table 41. Enrolments by ethnicity and course level 2004.

Course level	Māori		Pasifika		Asian		Other		European	
Level 1-3 Certificate	61,852	(65.5%)	16,925	(58.8%)	29,884	(55.2%)	8,357	(42.8%)	138,692	(47.6%)
Level 4 Certificate	15,325	(16.2%)	3,275	(11.4%)	3,043	(5.6%)	1,637	(8.4%)	25,756	(8.8%)
Level 5-6 Diploma	10,381	(11.0%)	3,651	(12.7%)	4,477	(8.3%)	2,084	(10.7%)	36,478	(12.5%)
Level 7 Bachelors	15,257	(16.2%)	6,483	(22.5%)	17,563	(32.4%)	6,689	(34.3%)	89,262	(30.6%)
Level 8 Honours/ postgrad cert/dip	1,345	(1.4%)	459	(1.6%)	2,275	(4.2%)	816	(4.2%)	11,728	(4.0%)
Level 9 Masters	1,094	(1.2%)	350	(1.2%)	1,864	(3.4%)	739	(3.8%)	7,773	(2.7%)
Level 10 Doctorate	259	(0.3%)	86	(0.3%)	623	(1.2%)	351	(1.8%)	2,838	(1.0%)
Total	**94,425**		**28,805**		**54,156**		**19,512**		**291,638**	

Source- Ministry of Educatione:

Official completion, progression and retention rates for Māori tertiary students have been published for 2004 (Ministry of Education, 2005c) and are presented in Table 42, Table 43 and Table 44. The completion rates in Table 42 relate to the percentage of students at pubic providers who started qualifications in 2000 and have completed their course of study by 2004. This table demonstrates that Māori have lower than average completion rates at all levels except for the diploma level, with particularly low rates relative to most other ethnic groups at bachelors and masters levels.

Table 42. Completion rates in 2004 for tertiary students starting a qualification in 2000

Course level	Māori	Pasifika	Asian	Other	European	All students
Level 1-3 Certificate	30%	28%	42%	34%	32%	32%
Level 4 Certificate	28%	39%	47%	38%	26%	29%
Level 5-6 Diploma	30%	28%	32%	31%	30%	30%
Level 7 Bachelors	32%	27%	44%	40%	44%	42%
Level 8 Honours/ postgrad cert/dip	56%	60%	57%	58%	58%	58%
Level 9 Masters	36%	36%	62%	53%	50%	51%
Level 10 Doctorate	20%	*	30%	24%	29%	28%
Total	**33%**	**31%**	**48%**	**40%**	**41%**	**39%**

Source: MEd - New Zealand's Tertiary Education Sector: Profile and Trends 2004
* rates for any group with fewer than 30 students has been excluded

Over all qualification levels, Māori have higher than average rates of progression, i.e. continuing studying after completion of a qualification. Table 43 presents the progression rates to a higher qualification in 2003 for tertiary students who completed a qualification in 2002. However, this is mediated by the fact that Māori have lower completion rates as demonstrated in Table 42 above.

Data published in 2003 (Scott, 2004) demonstrated that 48% of Māori tertiary students completing a qualification continue studying, with 17% progressing to a higher level. Māori are more likely to progress to higher study from a wānanga (27%), and least likely from a private provider (8%).

Table 43. Progression rates to higher studies in 2003 for tertiary students completing a qualification in 2002

Course level	Māori	Pasifika	Asian	Other	European	All students
Level 1-3 Certificate	27%	27%	26%	25%	18%	22%
Level 4 Certificate	15%	20%	21%	14%	16%	15%
Level 5-6 Diploma	23%	16%	23%	16%	13%	16%
Level 7 Bachelors	14%	15%	23%	15%	15%	15%
Level 8 Honours/ postgrad cert/dip	22%	18%	26%	13%	16%	17%
Level 9 Masters	10%	12%	5%	6%	6%	6%
Level 10 Doctorate	*	*	*	*	*	*
Total	**22%**	**22%**	**23%**	**17%**	**16%**	**18%**

Source: MEd - New Zealand's Tertiary Education Sector: Profile and Trends 2004
* rates for any group with fewer than 30 students has been excluded

In 2004, Māori had lower than average levels of retention at all levels except doctorate Table 44 with particularly low rates at the Bachelor and Masters levels.

Table 44. 5 year retention rates in 2004 for tertiary students starting a qualification in 2000

Qualification	Māori	Pasifika	Asian	Other	European	All students
Level 1-3 Certificate	35%	31%	45%	36%	36%	36%
Level 4 Certificate	30%	40%	46%	39%	29%	31%
Level 5-6 Diploma	33%	32%	35%	34%	34%	34%
Level 7 Bachelors	43%	42%	54%	51%	53%	51%
Level 8 Honours/ postgrad Cert/Dip	57%	60%	58%	58%	60%	59%
Level 9 Masters	43%	40%	63%	57%	56%	56%
Level 10 Doctorate	66%	*	53%	53%	66%	62%
Total	**41%**	**38%**	**55%**	**47%**	**48%**	**47%**

Source: MEd - New Zealand's Tertiary Education Sector: Profile and Trends 2004
* rates for any group with fewer than 30 students has been excluded

Summary

Data

Although the available data on the MHDW is of varying quality, all information sources demonstrate that Māori are generally under-represented in the health and disability workforce, and there are many occupational groups or specialist areas in which Māori are either not represented or are vastly under-represented. Further, data on Māori tertiary health field student enrolments and completions give cause for concern. While there have been gains in some areas, overall enrolment and completion rates are inadequate to ensure sufficient numbers of Māori become qualified and have the option of moving into health professions and thereby addressing longstanding disparities in workforce participation. As well, in some areas increased enrolments are not well reflected in increased completions indicating inadequate support for Māori student success.

Census data are likely to provide an overestimate of numbers in the workforce as the data are self-reported and, therefore, does not necessarily represent qualified and active practitioners. In particular, unemployed people or individuals working in other areas may still consider their occupation as that for which they were qualified. Surveys of registered active practitioners are likely to produce an underestimate due to response rates for some of the workforce surveys, usually about 70-75% but with some as low as 50%. However, nurses, doctors and dentists have response rates in the 90% range making their results more reliable. As only registered practitioners are surveyed, all those surveyed are qualified and active practitioners. The Census numbers on medical doctors, nurses, midwives and dentists, correspond quite closely with the figures from surveys of registered active practitioners. However, some of the other occupation groups showed considerable differences. This in part could be explained by similar non-registered occupations being classified in the Census to the same groupings as the registered occupations.

Note the comparison of census and workforce registration is important as there are advantages and disadvantages to both sets of data, and both should be considered as estimates of the 'true' rates of Māori health and disability practitioners. In particular

the censues collects the majority of the New Zealand population, has consistent collection of ethnicity data and captures occupation groups without registration boards, but only captures self-reported occupation which may or may not accurately represent active employment, qualifications or workforce registration. Whereas the workforce registration surveys capture qualified active practitioners. Due to varying response rates and inconsistent ethnicity collection, they are likely to not capture all New Zealand Māori practitioners in the relevant occupational groups.

Occupational groups

The Census occupational data for 2001 show that Māori working in the health and disability workforce are clustered in areas that require lower levels of formal qualifications (i.e. may not require a university degree).

Service workers are reasonably well represented by Māori in general (13.2% overall). While it appears that the technicians and associate professional group has a 'reasonable' representation of Māori overall (13.8%), this is due primarily to the high proportion of Māori in the social and case work categories (24.2% and 23.6% respectively) which accounts for approximately 33% of this workforce area. In the rest of the occupational categories within this group (e.g. physiotherapist, occupational therapist), Māori account for only approximately 5%.

The Māori health and disability workforce is very under-represented in the 'professional' occupational group with only 5.7% of the 'professional' workforce being Māori. Of particular concern is that this grouping includes the nursing and counsellor categories, in where Māori have 'reasonable' representation and these groups equate to approximately 50% of the 'professional' workforce. In the remaining 'professional' occupational categories (e.g. surgeon, dentist and dental surgeon) Māori account for only approximately 2% of the workforce.

The retention analysis for Māori undertaken in this report has shown that while there are many gaps from year to year in the official statistics produced by the workforce surveys, there is the potential to produce anonymous retention rates for these occupational groups, particularly if the survey data is linked to the registrations. The calculated retention rates demonstrate a lot of variation across professions generally from 60% to 100%, once gaps in the survey responses have been adjusted.

The review of tertiary data has demonstrated that the official figures for the number of students studying in health and some of the related course categories are strongly influenced and inflated by the effects of short courses in such subjects as first aid, occupational health and safety, and massage. Therefore, care needs to be taken in the interpretation of trends in Māori health and disability student enrolments and completions.

Medical practitioners

In the 2001 Census, Māori medical practitioners accounted for only 2.6% (averaged across medical practitioner occupational categories) of the medical workforce, which matches the NZHIS workforce survey 2001. This proportion of the workforce has remained stable through to 2004 based on NZHIS workforce figures. The number of Māori students completing medical studies over this same period has remained stable, but enrolments have increased by approximately 20%. Therefore, while Māori are

hugely under-represented in the medical practitioner workforce, there is a potential for an increase in representation when the new enrolments complete their studies. However, substantial growth in Māori student enrolments and completions is required in order to facilitate representative participation of Māori.

Nurses and midwives

In the 2001 Census, Māori nurses and midwives accounted for 6.9% of the nursing workforce. The NZHIS survey puts the proportion at 6.7% for 2000 and 7.2% for 2001. The NZHIS workforce statistics show that the numbers of Māori nurses and midwives have increased by 24% which has resulted in an increase as a proportion of the workforce from 6.7% in 2000 to 7.7% in 2004. In a similar timeframe the number of Māori students completing nursing and midwifery studies has increased by approximately 50% and enrolments by 12%. Therefore, this is a rapidly growing area of the MHDW. There has been particularly strong growth in the Māori nursing workforce employed by Māori health providers.

Dentists

In the 2001 Census, dentists are included in the category of 'dentists and dental surgeons', in which Māori accounted for 1.9% of the dentist and dental surgeon workforce. However, the NZHIS dentist survey indicated a proportion of 1.6% in 2001. This difference is likely due to the inclusion of other dental surgeons in the Census figures. According to the NZHIS surveys the number of Māori dentists has been steadily increasing and now account for 2.4% of the dentistry workforce. The numbers of students completing and enrolling have remained stable over this same timeframe. Therefore, this is an area of low Māori representation that has demonstrated a small growth in recent years. However, that growth does not appear to be continuing with stable, rather than increasing student completions and enrolments.

Dieticians

In the 2001 Census, Māori dieticians and public health nutritionists accounted for 6.1% of the dietician/nutritionist workforce, whereas, according to the NZHIS workforce survey in 2001 Māori dieticians only account for 2.0% of this workforce. This difference is most likely due to the fact that by including nutritionists along with dieticians, the resulting category encompasses a number of individuals who self identify as working in this area, but are not necessarily registered dieticians. The numbers of Māori dieticians in the workforce surveys have varied from 2000-2005, but the 2005 figures are similar to those reported for 2001. Tertiary data for students in nutrition and dietetics are limited, as the category has only recently been reclassified out of the 'Other health' category; however numbers appear to be small but stable. Therefore, this is another area where there is a need for proactive measures to increase Māori participation.

Chiropractors

In the 2001 Census, Māori chiropractors accounted for 5.6% of the chiropractic workforce, which is similar to the 4.9% observed in the 2001 NZHIS workforce survey. According to the workforce surveys, in recent years the number of Māori chiropractors have remained stable, with high retention rates until 2005 where there

was an apparent drop in numbers. In a similar timeframe, Māori students completing chiropractic and osteopathy studies have been small but stable, with increasing students enrolling in recent years. While this is an area where the workforce is generally small but stable with potential increases as students complete their studies, the workforce statistics for 2005 are concerning.

Medial radiation technologists

In the 2001 Census, Māori medial radiation technologists accounted for 2.9% of the medical radiation technologists workforce, however, the NZHIS survey for the same year shows a proportion of 1.2%. The NZHIS survey shows that proportion in this workforce has increased to 2.1% in 2004, but 2005 shows a decrease to 1.0%. Tertiary students studying radiology have remained stable over a similar time period.

Medical laboratory technologists

In the 2001 Census, Māori medial laboratory technologists/scientists accounted for 4.1% of this workforce, however, the NZHIS workforce survey for the same year shows a proportion of 1.1%. The numbers of Māori in this workforce peaked in 2003, and appear to have decreased since. There is no separate category for laboratory technology under the Ministry of Education classification system, so it is not possible to review tertiary statistics in this area.

Occupational therapists

In the 2001 Census, Māori occupational therapists accounted for 6.3% of the occupational therapy workforce, whereas the NZHIS 2001 workforce survey calculated the proportion as 1.6% for 2001. The numbers in more recent years according to the NZHIS survey have increased slightly and now Māori account for 2.2% of this workforce. Tertiary data on completions and enrolments show the numbers have varied a lot from year to year, but that there has been a trend in increasing numbers enrolling. However, much more substantial increases will be required to achieve equitable Māori representation.

Optometrists

In the 2001 Census, Māori optometrists accounted for 1.2% of the optometry workforce, and Māori dispensing opticians accounted for 5.3% of the optician workforce. However, NZHIS 2001 workforce surveys of these occupational groups for 2001 calculated the proportions as 0.8% and 3.8% respectively. Subsequent workforce surveys have shown numbers in both groups are very small, with three Māori optometrists and one Māori dispensing optician. The number of Māori tertiary students enrolled in optometry has been consistently at around 25 from 2001-2004, however, only one Māori student has completed the course in the period 2001-2003. Therefore, this is an area where numbers are very small and there are, as yet, very few Māori moving into this workforce.

Physiotherapists

In the 2001 Census, Māori physiotherapists accounted for 3.2% of the physiotherapy workforce; however, the NZHIS 2001 workforce survey calculated the proportion as 2.3%. Survey results from subsequent years have shown an increase in the proportion

of Māori in the physiotherapy workforce to 3.1% in 2004 and a slight decrease in 2005. The number of Māori students studying physiotherapy has increased by 18% from 2001 to 2004, however, the number of completions has remained stable at 20 from 2001-2003. This is an area where there is potential for increased representation, however, it will rely upon active facilitation of successful completion of degrees by students who are currently enrolled.

Podiatrists

In the 2001 Census, Māori podiatrists accounted for 2.9% of the podiatry workforce; however, the NZHIS 2001 workforce survey calculated the proportion as 3.6%. Subsequent workforce surveys show some variability but reasonably stable numbers. The tertiary figures identify only one Māori student enrolled in 2001 and one student completed a podiatry qualification in 2001 (likely the same student in both cases).

Psychologists

In the 2001 Census, Māori psychologists accounted for 5.9% of the psychology workforce; however, the NZHIS 2001 workforce survey calculated the proportion as 4.5%. The numbers in the workforce in subsequent surveys have increased slightly but the proportion has remained fairly stable. All psychology courses taken as part of a 'health qualification' are included in the category 'Other health not elsewhere classified'. Therefore, it is not possible to directly identify psychology tertiary students. However, the overall category has shown a greater than threefold increase in student numbers from 2001 to 2004. Those numbers are not yet represented in the completions statistics.

There are several occupational groups where there are increasing numbers of tertiary students that have the potential to impact upon the MHDW, however many of the groups have very small numbers in the active workforce and/or small numbers of tertiary students studying for qualification.

Data Limitations

It is important to note that quality of the analysis of any data sourced from other agencies is fully dependent upon the original purpose for which the data was collected, and the data collection methodology. Therefore it is important to consider the limitations of each set of data when analysing patterns and trends.

Identification of Māori in across all data sources is dependent on accurate and reliable collection of standardised information on ethnicity. It should be noted that for many of the occupational groups of interest, Māori are present in small numbers; therefore, it is important not to over-interpret trends and rates.

Statistics NZ data from the census involves the classification of self reported occupation or professional group which may in some cases not accurately represent qualifications or active employment, due to misclassifaction.

The data from NZHIS workforce surveys for all professions, except medicine, denistry and nursing, all have only moderate response rates. The calculation of the percentage of the active workforce and estimation of rentention utilising percentage previously licenced are based on the assumption that there is no response bias for

Māori. In some professions, due to the small number of Māori reported, the presence of any bias in reporting could have significant impact on these numbers and trends.

The Ministry of Education data on tertiary enrolements, retention and completions, are often confounded by students who switch courses, staircase to higher level courses, or switch institutions. Also the health and disability area encompasses a wide range of couses from short first aid courses through to several years of a medical or dentistry degree. Changes in the reporting of tertiary student data at present should enable better quality data in the future on the retention and completion rates.

RECRUITMENT OF MĀORI IN THE HEALTH AND DISABILITY WORKFORCE

This chapter of the report presents research data relating to the factors that influence Māori in choosing a career in the health workforce, barriers to Māori taking up a career in health, information that is available to Māori about careers in the health sector, and support mechanisms for Māori.

Qualitative data review

The major sources of qualitative data for this section of the report were the literature, 30 key informant interviews and 12 focus groups[4]. It should be noted, however, that there is a very limited literature base with regard to Māori and other indigenous peoples' health workforce development.

This section of the report combines data from the three data sources to present qualitative findings with regard to factors that influence Māori in choosing a career in health, barriers to Māori taking up a career in health, support mechanisms for Māori, and workforce development interventions which primarily focus on recruitment.

Recruitment factors

Key informants and focus group participants identified a range of barriers and facilitators that influence Māori choosing a career in health. While there is some overlap, generally those factors can be grouped into the following four categories: structural factors - the fundamental drivers of MHDW participation; system level factors - factors that relate to the health and education systems specifically; organisational factors – factors that relate to specific health and education institutions; and individual level factors – factors that are at the level of the person.

Structural factors

There was recognition by key informants of the impact of structural determinants of Māori health and disability workforce participation, that is, the fundamental drivers of inequalities in workforce representation. Structural determinants include historical (e.g. colonisation), social, economic, political, and cultural factors.

[4] Focus groups were run in three regions: Bay of Plenty (BOP), Manawatū/Wanganui (Man/Wan), and Auckland. In each region four focus groups were held with the following groups of participants; Māori secondary school students (secondary school), Māori tertiary health field students (tertiary), Māori health professionals currently working in the sector (MHDW), and Māori health sector community and voluntary workers (community/voluntary). Quotes from focus groups are labelled according to the region in which the focus group was held and the participant category.

> Poverty, and 50% of Māori are in the lower socio-economic group which is a huge barrier to good education…There are huge structural determinants and it's these bigger determinants that are barriers. (Key informant 11)

Institutional and personally mediated racism were identified by some key informants as a barrier to Māori recruitment into the health workforce.

> I think it's the institutionalised hurdles and racism… (Key informant 28)

Key informant comments `were consistent with the literature. An Auckland Regional Public Health Service publication (2004), that discussed findings from a literature review, key informant interviews and focus groups with Māori working in public health in Auckland and Wellington, reported that Māori participants described difficulties with institutional racism and the lack of acknowledgment of Māori worldviews during medical training.

Socio-economic disadvantage and 'attitudes to indigenous workers', have been identified as a barrier to Australian aboriginal participation in the labour market (Department for Victorian Communities, 2005). In the United States, socio-economic barriers to minority group participation in the health professions are well recognised (Council of Graduate Medical Education, 2005; Council on Graduate Medical Education, 2005b; Institute of Medicine of the National Academies, 2003).

A study investigating barriers to Māori student participation and success in tertiary study in psychology identified limited family resources as a major barrier (Hunt, Morgan, & Teddy, 2001). Most significant resources in terms of educational outcome are monetary income, asset ownership, parental time to help school age children with school work, parental education, and social networks. As part of a separate study analysing national education attainment data for New Zealand secondary schools, Nash (1993) found that social difference in educational performance arises when families use their resources within an essentially competitive system of education. For Māori women, early parenting relative to non-Māori women (Statistics New Zealand, 2004) represents an interruption to secondary education and entry into tertiary education following secondary school. This issue is exacerbated by the higher rates of solo parenting among Māori women (Statistics New Zealand, 2006a).

System level factors

Primary and secondary school education

Australian literature suggests that primary and secondary school educational barriers and low levels of retention at secondary school leave Aboriginal people inadequately academically prepared for entry into tertiary study (Department for Victorian Communities, 2005; Meiklejohn, Wollin, & Cadet-James, 2003a). Similarly, research indicates that the quality of primary and secondary school education for Māori is a barrier restricting Māori participation in tertiary health field education. Māori are more likely to leave secondary school without a qualification, and are less likely to continue on to tertiary study (Ministry of Education, 2005b). Specific concerns raised by Māori secondary school students in interviews carried out by Jefferies (1998), were

that; there is inadequate support for Māori parents and children; schools cater for Pākehā; there is a lack of career information from an early age; there is a lack of positive Māori role models in schools; there is inadequate whānau input, and school values conflict with Māori values.

The inadequacy of primary and secondary school education systems, in terms of preparing Māori students for a career in health, was highlighted as a major barrier by key informants and focus group participants.

> …people don't have the realisation they can do health programmes. How many people are actually qualified to enter the programmes? High school results were abysmal. Results were hopeless in the sciences, everything except Māori…Really, one of many issues, people don't have the choice [to move into tertiary health field study], they don't get sciences at a reasonable level. (Key informant 26)

> Why aren't primary and secondary schools delivering? That's the big question! (Key informant 30)

Key informants and focus group participants strongly recommended targeting young Māori in promoting health as a career option, and were concerned that currently promotion tends to focus on Years 12-13. While some key informants indicated that promotion of health careers should start at kōhanga reo level, others suggested beginning at Year 9.

> Another thing could be providing interesting kōhanga reo resources that have a fun and health focus…It's too late, secondary school kids have already made their decisions...influences as a child have a huge influence, for example Māori television, they should focus on paramedics and not just forensic science, pathology, like CSI. (Key informant 30)

> Target audience is not young enough. We need to aim at a younger age group, for example year nine. There is zero advice at that age and no influence regarding what subjects to take. There is only direction at 6th and 7th form and it is to late if the subjects already taken do not relate to the [health] career pathway. (Key informant 10)

Concerns were raised by key informants that younger Māori children are not encouraged to develop an interest in science. Therefore, as students get older they do not find science interesting or relevant, and leave school without the pre-requisites required to enter directly into tertiary health field programmes. Some key informants recommended changes to primary and secondary school curricula and the way in which information is presented in order to make it more relevant to Māori students, and thereby engage Māori in the range of subjects, including science.

> The education system is not geared for Māori and it privileges non-Māori. Sixty four percent of Pākehā are coming out with qualifications but 70% of Māori are not…Science is a big barrier as it's not relevant and not interesting, and it is especially not relevant for Māori. They could direct it better by doing something like wave formation and that could be physics or navigation by the stars, now that would be more interesting. Te Wānanga o Aotearoa has developed modules relevant to Māori and it's great, these could be used universally. (Key informant 11)

A few key informants noted that not all health careers require a background in science, but that the alternative career pathways were less promoted and valued.

> There are a range of health occupations that don't rely on a science base. These careers are not so valued. (Key informant 1)

Secondary school students and key informants also raised the concern that many Māori leave school early, and there are relatively few senior Māori students. The students suggested that promotion of career options at a young age may contribute to improving Māori secondary school student retention rates.

> There's a lot of Māori in 3rd form, by the time we get to 7th form there's only about eight of us now. Maybe like encouraging them earlier on and give them something to focus on so they can see what's going to come at the end. (Focus group – BOP, secondary school)

Some key informants noted the need to improve communication and relationships between schools and Māori communities.

> No links between whānau, school and the community. These are fragmented, and miscommunication comes out of it. What's needed is good relationships…In most schools I go into, the secondary school principals and teachers treat the Māori kids like crap, alienate and humiliate them. This is evident at meetings we have set up between the schools, the parents and our organisation. The head of schools are racist and not afraid to intimidate the student even if we and the parent are present. We have to confront these issues as this kind of behaviour might put a student off studying further. (Key informant 13)

Access to quality career information

Generally, key informants and focus group participants were concerned that although there is a lot of information in the public domain about study pathways, careers and opportunities in the health and disability sector, this information is not accessible to Māori. Comments indicated four primary concerns: lack of knowledge among Māori of health as a career option and the range of possible career pathways in health;

specific skills are required in order to access health career information; information is often not available in a form that engages Māori; and, that the quality of career advice is low.

Knowledge of health careers

Key informants and focus group participants were concerned that there is a low level of awareness among Māori of careers in health.

> Knowing what's out there – there's not enough from the health sector about what is available. Having a nationwide road show or something like that. Getting everything out there to the hapū and iwi, so that they have someone to talk to who has the degree about what university is really like. Some universities are more worried about money and getting bums on seats, not about looking at Māori holistically and getting them into the system. It was 10 years after I left school that I came to university. (Focus group – Auckland, tertiary)

Further, it was noted that there is insufficient information accessible to Māori about the range of career options in health, and that many Māori have a narrow view of health professions.

> The traditional view of health work, where it is limited to the idea of doctor, nurse, administration or health care at the bedside is not going to be of particular appeal to young Māori. It doesn't give an accurate perception of a health career in 2005. Many who have mothers, aunties, who were nurses, would have a narrow view of health from this…There are now at least 20 or more health career paths, much broader than doctor or nurse. (Key informant 30)

These concerns were supported by comments from secondary school focus groups that demonstrated a narrow view of health professions.

> …it's something you have to stay at your whole life if you want to do it. You can't go off and do something else that you might have wanted to do… (Focus group – Man/Wan, secondary school)

Specific concerns were raised in secondary school and current workforce focus groups that while general information about university study is available, career advisors do not provide information specific to health-related careers to Māori secondary school students.

> We have info about university, but not much about health. We need more people to give us information about health. (Focus group – Man/Wan, secondary school)

In secondary school students' focus groups, it was noted that the universities do not proactively promote careers in health.

> We had lots of universities come to our school the other week, but there wasn't anything trying to get you into medicine, there was not much focus on that kind of thing at all. (Focus group – BOP, secondary school)

Tertiary student focus group participants indicated that there is limited information which links tertiary education programmes to career pathways, to enable students to select courses in a fully informed way. Further, that the information is not easily accessible.

> There are a lot of [study] pathways in health, but you need to know what you need to do to get to where you want. (Focus group – Auckland, tertiary)

Community and voluntary workers also noted a lack of information for mature Māori about health-related study and career opportunities in the sector.

A few key informants indicated that it is important for Māori to have access to information about the value of Māori-specific workforce competencies for health professionals.

> There is a lack of information about acknowledgment of many different kinds of skills, and how important tikanga, te reo and te ao Māori views are…all these things will contribute enormously, all cultural aspects. (Key informant 30)

Skills required to access information

Some key informants raised the concern that specific skills are required in order to find health career information, and that much of the information is dispersed. A more co-ordinated approach to information provision was recommended.

> Problem is [Māori] people don't know what supports are out there and where to go to look for information. Ensuring health organisation staff have skills to be able to find information about workforce development. (Key informant 2)

> The lack of coordinated advice…is a huge barrier, especially straight out of school students. (Key informant 29)

Engaging Māori

It was noted by key informants that generally information is not presented or made available in a form that is appropriate for and engages Māori.

> Plenty of information out there, but whether it targets or gets to Māori in an appropriate form is the question. (Key informant 21)

Key informants and focus group participants recommended increased targeting of Māori in marketing careers in health as a positive career pathway.

> Promote a positive aspect to health, our students see it as a yucky job to enter as they're not comfortable with their own bodies at this age, they definitely don't want to be touching other peoples. They see health as sickness and disease, vomit and cleaning up yucky messes, not as helping your people, your whānau… (Key informant 5)

Some key informants commented on the likely applicability of the approach taken in marketing careers in the army and air force, to health. That is, for example, promoting health as an exciting career pathway with opportunities for travel.

> We know the army and air force is more popular than medicine and law. The encouraging factors can be taken from those career paths, and demonstrate how they relate to health careers. They're equally exciting as a health career, for example, paramedics. Internationally applicable to indigenous health settings, research careers, management careers and also because the health workforce will face shortages very soon they will be prized and salaries will be significantly increased…Money, prestige, portability and working around the world. (Key informant 30)

Quality of career advice

Some concerns were raised by key informants and focus group participants with regard to the quality of career advice available.

> Career advice is poorly given, or Māori are not given the correct advice. No career advisors available at schools, or there are few that are good. (Key informant 11)

Sources of health career information

Key informants were aware of a number of sources of health career information for Māori and specific reference was made to Career Services, Hauora.com, Māori professional networks and bodies, Te Mana, Te Rau Matatini, the Ministry of Health, career expos and secondary school career advisors. The internet was considered to be a very valuable tool, and some key informants referred to the usefulness of websites such as Kiwi Careers and Hauora.com. Word of mouth was also identified by some key informants as an important source of information, particularly with regard to employment opportunities. Key informants commented on the value of Māori specific health career promotion resources.

Affordability

Financial barriers to health field tertiary education for under-represented ethnic minorities is well established in the international literature (Council of Graduate

Medical Education, 2005; Institute of Medicine of the National Academies, 2003). There is also international literature which provides evidence of financial barriers for indigenous students generally (Reyes, 2001), and indigenous health field students in particular (Hollow, Patterson, Olsen, & Baldwin, 2006; Usher, Lindsay, Miller, & Miller, 2005) In the New Zealand context, the Ministry of Education acknowledges financial barriers to Māori participation in tertiary education (Ministry of Education, 2002), and there is some research evidence to support this position (Hunt et al., 2001) which is not surprising given the socio-economic disadvantage experienced by Māori.

A large number of key informants highlighted affordability as a barrier to Māori participation in the health and disability workforce, due to the cost of tertiary education.

> Huge issue with regard to the impact of student loans. Financial matters are a major barrier - fees. (Key informant 16)

Secondary school, tertiary students and workforce focus group participants identified high costs associated with studying as a barrier to choosing a career in health.

> …it costs too much to go to university. (Focus group – Man/Wan, secondary school)

The availability of financial support, through for example scholarships, or nil-fees programmes for Māori entering tertiary study were identified as a recruitment facilitator by participants.

Geographical barriers

Poor geographical access to health education and training was identified in workforce focus groups as a key barrier to Māori taking up a career in the sector. Geographical barriers to study were highlighted, with some participants noting that they had made substantial sacrifices to access courses at a distance that could have been made available locally. Some participants commented that geographical access issues had meant that they had not been able to enrol in courses that would have benefited their practice.

> The access to opportunities as well, I know a lot of people who are doing courses now that wanted to go to Waikato, but it was too far. Having local and easy access would be good. I think there are about six of us in our organisation who have to travel out of town to the train. When you've got a family, it's not easy. (Focus group – BOP, MHDW)

Opportunities to study locally in Māori contexts were considered by workforce focus groups as recruitment facilitators.

> I had a friend that was doing a course, the training was free, it was wānanga based… As opposed to the scary thought of paying big fees, travelling out of

> town going to university. Because the opportunity was there, I took it... (Focus group – BOP, MHDW)

Study entry requirements

Workforce focus group participants noted that course pre-requisite requirements were a barrier to entering health professional training programmes, and that there was a need to recognise relevant experience.

> Many tauira are really enthused, but there are barriers around the education that they have to actually have to get into the programme that they want. Bridging courses are essential. I don't think that they start out to fail, they start out to succeed, but for whatever reasons – perhaps they don't meet the requirements – they can't get onto the course that they want. (Focus group – Auckland, MHDW)

Some key informants noted the need to ensure that entry requirements into health programmes are relevant in the contemporary context.

> We also have to look at whether the entry requirements to medical school are relevant. For example, a while ago you had to take Latin to get into medical school and you couldn't enter without it, only in recent years has this changed. So how relevant are the entry requirements now. (Key informant 11)

Following a literature review and key informant interviews with Māori psychologists, Simon (1990) identified concerns with narrow training programme entry requirements which focus on academic criteria and exclude broader factors, such as experience relevant to the profession, as barriers for Māori.

Opportunities in the health sector

Specific reference was made by key informants to growth in the Māori health sector and projected excess in demand for health professionals generally, leading to greater opportunities for Māori health professionals. The perceived range of professional roles and opportunities in the health sector was considered by focus group participants as a facilitator of Māori recruitment.

> More opportunity to branch off into specific areas in the future – Māori health, mental health, mainstream health and specific fields within those areas such as paediatrics, medical, surgical and so on. (Focus group – Auckland, MHDW)

Status of health professions

Secondary school students identified the status of health professions as a recruitment facilitator, in particular the perceptions held by whānau of the high status of the medical profession

> It's like a flash job, if you go back to the marae…and you're a doctor they think you're rich or brainy. (Focus group – Man/Wan secondary school)

Role models and mentors

Focus group participants and key informants commonly stressed the importance of Māori health professionals as role models and mentors in influencing Māori to choose a career in health. Secondary school students indicated the need for role models who are available to discuss health-related career options with students. Tertiary students indicated that there are low levels of confidence among Māori regarding their capacity to succeed at university, and that role models and mentors therefore have an important role. Tertiary students identified the need for mentoring programmes to support Māori students from enrolment, through graduation and particularly in the transition from study into the workforce.

> Confidence - don't think you can succeed at university. It's a bit scary. But knowing that there are mentors, role models can get you through it. (Focus group – Auckland, tertiary)

Encouragement from local Māori health and disability workers, particularly whānau members working in health, was considered by focus group participants and key informants to be an important influence on Māori entry into the workforce. MHDW focus group participants identified situations where whānau members or local health professionals identified their natural abilities in caring for people and encouraged them to move into the health field.

> Someone that was working in the area at the time, that I knew, and they thought of me to do the job, that I might have the skills…For myself, I made a conscious decision to go into the health field. My sisters are both nurses and they kept pushing me. (Focus group – Man/Wan, MHDW)

Lack of access to Māori health professionals as role models, including whānau who are health professionals, was identified by some key informants as a barrier to Māori entry into health related programmes of study. Some key informants indicated the need to build up a critical mass of Māori health professionals, to ensure the visibility of Māori as role models within the professional workforce and also to enable greater Māori collegial support.

> There is a lack of Māori health career role models in local communities. Creation of a critical mass…visibly for…Māori students. Without critical mass, doesn't put health at forefront... (Key informant 1)

Workforce qualification requirements

A lack of educational qualifications was considered a barrier to Māori entry into and progression within health-related fields. There was also recognition that

qualifications in isolation are not sufficient, and that people skills and hands on experience in the field are important.

> Need a lot of qualifications, many of the workforce have the people skills but not the paper skills. (Focus group – Auckland, MHDW)

Organisational factors

Institutional commitment of tertiary providers

According to key informants important barriers to Māori participation in health programmes are; a lack of value or recognition of Māori approaches in tertiary institutions, lack of or limited access to programmes delivered in a way that is appropriate to Māori, lack of or inadequate Māori content in programmes, and the low numbers of Māori students in health programmes to provide peer support.

> The strong reliance on Western clinical models of practice makes it difficult to access training they need. How does this Western model relate to them?…Curriculum structures provide barriers. How do curriculum structures and Western models fit alongside Māori models… (Key informant 1)

Increasing access to bridging courses was identified by some key informants as a mechanism to increase Māori participation in the health and disability workforce.

> …not many bridging or foundations courses to bridge the gaps… (Key informant 12)

These concerns are supported by international and local research findings (Meiklejohn et al., 2003a). American Indian and Alaska Native medical students expressed concerns that their perspectives were excluded from medical schools (Hollow, Bucklay et al., 2006). Indigenous Australian nursing students identified staff insensitivity to cultural issues, discrimination, and a lack of indigenous mentors, as barriers to success in tertiary study (Usher et al., 2005). The research identified a number of support factors to address these barriers, which included indigenous specific support units and tutorials (Usher et al., 2005).

Lack of or limited acknowledgment of Māori worldviews in health field programmes, including; a lack of incorporation of Māori perspectives and Māori specific courses and limited Māori participation as teaching staff and in positions of influence in tertiary institutions (Auckland Regional Public Health Service, 2004; Jefferies, 1998; Simon, 1990), have been reported in the literature as barriers to Māori tertiary study in health fields. As well, while Māori psychology students have reported that support from lecturers and tutors underpins success, they have also indicated that generally lecturers are not approachable (Hunt et al., 2001).

In a research project involving discussion groups and a survey of Māori students at Massey University as well as academic record review for those students, Bennet (Bennet, 2002a; 2002b) concluded that support will be required to enable Māori

students to maintain their identity as Māori while progressing through a Western education system. Facilitators within the tertiary environment identified in the research included provision of Māori-specific study facilities and tutorial groups, alongside other activities that foster Māori identity within an academic environment.

Study workload

Secondary school student and community/voluntary focus group participants identified onerous study commitments as a barrier to recruitment, particularly for younger Māori.

> …when you're looking at the level of commitment or the level they [young Māori] need to achieve. It can be really hard going and there can be their own personal commitments... (Focus group – Man/Wan, community/voluntary)

Workplace issues

Key informants highlighted the importance of culturally safe and supportive workplace environments, as a positive influence on Māori movement into the health and disability workforce. Valuing of Māori-specific competencies and identifying clear Māori health career pathways was also highlighted as a facilitator. As well, it was noted by some key informants that increasing Māori representation in human resources roles would facilitate recruitment.

Individual level factors

Making a difference for Māori health

There was a strong indication from key informants and focus group participants that Māori are motivated to join the health and disability workforce because of their desire to contribute to improved health for whānau. Further, it was noted that many of the conditions from which Māori suffer are preventable or manageable, and therefore there is an opportunity as part of the workforce to make a difference for Māori.

> I think it's seeing problems of their own. If they can see someone in their family is sick, then that makes them want to help more. (Focus group – BOP, secondary school)

> For me it would be seeing a lot of our people die of illnesses that could easily have been avoided. (Focus group – Man/Wan, tertiary)

Tertiary student and workforce focus group participants indicated that Māori were motivated to join the workforce by the desire to advocate for positive changes in the health system to enhance responsiveness to Māori. This position was supported by key informant comments.

> I know for me it's because I wanted a change [in the health system]. These things are not just about your personal role in somebody else's life, it's about

> advocacy too, that you can actually bring about change by advocating... (Focus group – Man/Wan, tertiary)

The desire to work in health was sometimes linked to personal experiences of the health system, both positive and negative.

> I was in social welfare care for a while, back then they didn't have a 'Family Group Conference' so back then I had a Pākehā social worker - and my whānau wouldn't take me back – and from back then I thought she wasn't very good - so that kind of planted something in me that there must be something better out there for Māori kids - so that's what started my journey. (Focus group – BOP, tertiary)

Whānau and community factors

Whānau was most commonly identified by key informants and focus group participants as an important influence on Māori in choosing a career in health. It was noted by focus group participants generally, that providing care for unwell whānau was a normal practice, and that for Māori moving into the MHDW was a natural extension of their experience in caring for whānau.

> I think what started me off was I used to be a mum at home and a lot of my cousins used to come up home and they had issues and stuff in their lives, they just seemed to come to my house – and I just didn't think I'd go down this line – but I was just always there for them. It clicked one day I'm supposed to be a social worker. (Focus group – BOP, tertiary)

A project investigating Alaska Native student success in tertiary education noted that students indicated that their desire to be a role model for their people and the commitment and support of family towards their academic goals contributed to their academic success (Reyes, 2001). While in the New Zealand literature one research paper referred to low family expectations as a barrier to Māori participation in health science and technology programmes (Williams & Beazley, 2005), some key informants noted the increasing expectations of whānau that younger members will pursue tertiary education. Further, that whānau provide support for those who move into study at this level.

Key informants and secondary and tertiary students referred to difficulties that Māori face in balancing whānau responsibilities against study demands. This was also a theme that emerged from the literature (Hunt et al., 2001; Williams & Beazley, 2005).

> Women often have children, so there are whānau responsibilities that are difficult to balance, particularly if students are involved in clinical programmes. Māori have children at an earlier age, often second chance students. (Key informant 3)

Those already in the workforce referred to pressures to meet high Māori community expectations of constant availability and the difficulties of balancing study and work commitments.

> The personal sacrifice for me has been worse than the monetary sacrifice, and I think that really does impact on Māori when it comes to entering a training programme. We've got to go out and get this degree, it's really hard at times just trying to make ends meet and family and to balance things. (Focus group – Man/Wan, tertiary)

Flexibility in study and work environments with respect to whānau commitments was identified as a recruitment facilitator by focus group participants.

> When I look back on when I started doing my counselling, I had a baby that was three months old then and I was allowed to take him [to work]. If I wasn't, there was no way I would've done that course and that was pretty much the start of my whole career. (Focus group – BOP, MHDW)

Experience in the sector

Secondary school student and workforce focus groups suggested that opportunities for work experience in the Māori health field for those considering a career in health may influence entry into a health career.

> If I had experience and learnt about this stuff more maybe I would want to do it. (Focus group – Man/Wan, secondary school)

> …Māori organisations that would perhaps look at offering someone a transitional type placement, with the view that if this person cuts the grain, then maybe we'll offer this person some type of employment. If the iwi providers, or even the hospitals, catered for those transitions in school, something like that would give them hands on skills. (Focus group – Man/Wan, MHDW)

According to tertiary student focus group participants, providing opportunities for new graduates in areas that align with their interests is important. New graduate placements in areas that are of low interest were considered to be high risk for transition into the workforce.

> Because there are very few first year graduate programmes, some Māori are working in areas that are not their passion. You're not in the place you want to be, so you're just going to leave. We want to enjoy our work. It sort of slows you up because you've done those hard yards with your degree and then that's why qualified nurses are leaving. (Focus group – Man/Wan, tertiary)

Support mechanisms

Information collected through key informant interviews and focus groups identified concerns regarding the adequacy of support mechanisms in place for: secondary school students and second chance students wanting to develop a career in the sector; those enrolled in health and disability education and training programmes; and, community and voluntary workers already in the sector. Respondents were, however, able to identify a limited number of support mechanisms.

Secondary school students

According to secondary school student focus group participants and some key informants, there are inadequate support mechanisms in place to encourage Māori students into health professions. The secondary school students identified the need to promote health careers among younger students, such as those beginning secondary school rather than a sole focus on older secondary students. Secondary school focus group participants indicated that if students were encouraged at an earlier age to consider a career in health, it may influence them and provide a longer-term focus for their education. These comments were consistent with feedback from the workforce and community/voluntary workers focus groups and some key informant comments, which advocated for government policy to promote career choices to Year 7-8 students (intermediate school level).

> School curriculum. Starting recruitment from intermediate as a Government policy. Māori kids don't even make it to the sixth form. Having role models from the local DHB to attend the kura. (Focus group – Auckland, community/voluntary)

The main support mechanisms for secondary school students identified by key informants and focus group participants were school career advisors and recruitment programmes run by tertiary institutions. A number of key informants expressed concerns that there are few Māori-specific support mechanisms in place.

Research participants raised a number of concerns with regard to the quality of career advice available through school career advisors. Generally concerns were held that; the caliber of career advisors varies, that there is a lack of Māori career advisors, there are low expectations of Māori students by career advisors which limits information provision to students, career information is not readily available and must be actively sought by students, only a narrow range of health professions are promoted if at all, and that health-related careers are not promoted in a way that attracts Māori students.

> Careers advisors in schools have varying levels of understanding about university…and they're not always neutral about what they push…Not having many Māori career advisors wouldn't help the situation. (Key informant 30)

> …thirty percent are resistant to promoting health because of stigma and stereotypes of capability of Māori students. (Key informant 1)

Some key informants indicated that access to health-related career information for Māori students is often reliant upon having a health or Māori teacher who has a particular interest in the area.

> Māori teachers at the different secondary schools I have been involved with encourage the students to further education. Even the ones seen as naughty, the Māori teacher will call us and see what we can offer outside the school system. We meet with the school and the parents and put a programme in place. This is successful as those that don't do well at secondary school, but have potential and a goal to do something, usually get through here, and they get through well. (Key informant 13)

A number of university recruitment initiatives were identified as support mechanisms, these were; Vision 20/20; Whakapiki Ake Project; Science, Technology, English, Architecture and Maths Programme (STEAM); the KATTI programme and Māori liaison services. Some respondents noted the value of university open days, which were usually generic, held by AUT University, the University of Auckland, and the University of Otago.

There was strong support in the focus groups for increased availability of Māori health scholarships to improve the financial accessibility of tertiary study. Secondary school students noted that increased numbers of scholarships are necessary to meet high study costs. Tertiary student participants recommended that scholarships be made available that cover the full duration of study towards a qualification, as opposed to scholarships to support one year of study.

> They have ones [scholarships] that are available from the Ministry of Health. It's just there were too many applying…especially the Māori scholarships. If they are giving scholarships to the students, give the money for the three years so they don't have to apply every year. (Focus group – Man/Wan, tertiary)

Workforce and community/voluntary focus groups identified the need to better promote scholarship programmes in order to raise Māori awareness of scholarship availability.

> Scholarships and promoting so they know. When you go on to study you don't know about all these grants... (Focus group – Man/Wan, community/voluntary)

A number of university based initiatives offered across institutions were also noted by respondents; Māori specific student services, Māori tertiary institution liaison services, and foundation and bridging programmes.

> There are Māori liaison officers who target, and go out and pick up and pull in our rangatahi which is really helpful. (Focus group – Auckland, MHDW)

Whānau support was mentioned by tertiary student focus groups as a major informal support mechanism.

Some key informants noted the value of learning from successful interventions in other sectors, and recommended that an intervention similar to the Ministry of Education 'Te Mana' programme be implemented to support Māori school students to develop a career in health. Te Mana is an education promotional programme for Māori that utilises a range of media to promote the value of education for Māori at all levels, and aims to increase expectations for Māori achievement among Māori. As part of the Programme, Pouwhakataki (Māori community liaisons officers) work throughout New Zealand with communities and educators locally.

Second chance students

There were some concerns that tertiary institutions are better equipped to recruit students directly from school, and are less adept at targeting and providing support for mature students considering a career in health.

> In my opinion, that's an area that they're [tertiary institutions] not too strong in terms of recruitment. They [recruitment staff] don't know where to go…They don't quite know how to go about recruiting them. (Key informant 30)

Bridging courses were identified by key informants and focus groups to be of particular value for Māori second chance students in providing staircasing opportunities. Hikitia Te Ora (Certificate in Health Sciences) which is offered by the University of Auckland, the Certificate in Māori Health offered through Mauri Ora Associates, and a Bay of Plenty pre-entry nursing programme were also mentioned.

> I think bridging programmes are good, so that mature students can get the science background. Wānanga is good…Those who have children young can still develop a career. (Key informant 26)

One key informant noted that for some second chance learners, direct entry into graduate certificate programmes is more appropriate in order for the student to be academically challenged and engaged.

Community and voluntary workers

Few research participants were aware of support mechanisms for community and voluntary workers already working in the sector, and of those mechanisms that were identified a number of them were informal supports. Community and voluntary workers identified the need for 'on the job' support and noted the value of a buddy system to provide collegial support, especially for new staff.

> …having a health worker just supporting…if you don't know people or don't know where to go if you're new. (Focus group – Man/Wan, community/voluntary)

Community level informal support mechanisms, such as kaumātua (both koroua and kuia) support, were identified as a necessary part of successfully operating at the local level.

> Network of kaumātua, kuia to call to help out. Knowing the kaumātua is there for support to help you with problems and support in the community. Knowing Cliff was available helped…If he wasn't there, I couldn't make headway on problems. It's that experience and having the trust. (Focus group – Auckland, community/voluntary)

Collegial support was also considered important.

> Supporting ourselves. Go and have a coffee together. Call each other on the phone. (Focus group – Auckland, community/voluntary)

Other support that is available tends to come from employers as well as Te Whiringa Trust, the Māori community health workers network.

Community/voluntary and MHDW focus group participants identified the need for a positive work environment and good management structures that focus on and support staff.

> Having support from your service. When you do your job for instance, going to the tangi you attend and whakawhānaunga all the time. When you do this they all come back and support the hospice. So having the support from your organisation is important to get that rapport with the families and carry the hospice name while doing the voluntary work. (Focus group – Auckland, community/voluntary)

As well, community health workers and voluntary workers should have the opportunity to gain tertiary level qualifications that will support their effectiveness in these roles, and while some may choose to move into other health sector roles this is not the primary purpose of further education for these groups.

> I think there should be a basic module of training for community health workers, they should get credit for their move into what they want to…for example diabetes management. Then this gets them their recognition. (Key informant 26)

> …Te Whiringa Trust develops Māori health community workers core competencies and national body to retain workforce and build stronger infrastructure and to progress advanced community support work as opposed to being seen as quasi clinicians or that they must move into clinical roles. (Key informant 1)

Some key informants identified regional initiatives that support voluntary and community health workers to undertake further training. One key informant mentioned a joint venture between the Manukau Institute of Technology and Counties Manukau DHB, whereby voluntary and community workers are encouraged to upskill at the institution and to do field placements at the DHB. Another key informant referred to the provision of financial support by Te Tai Tokerau Māori Rural Health Training Consortium.

One key informant raised the concern that there is insufficient support, particularly financial assistance, available to enable community health workers to make the transition from employment to study.

Tertiary health field students

Tertiary student focus groups identified the need for good support systems, and mechanisms to ensure that Māori are aware of those systems and how to access them. Some focus group participants raised the concern that generally existing support systems are not appropriate for Māori.

> You've got to have good support systems and that people actually understand how they work as well…a lot of people don't access them because they don't have the knowledge of them. In Whanganui it's not delivered in a way that's appropriate to Māori. (Focus group – Man/Wan, tertiary)

A range of support mechanisms were identified for Māori students already enrolled in health and disability programmes. Most Māori student support mechanisms were institution specific and offered by universities including: AUT University programmes – the Integrated Team Model of Student Success (ITMOSS), and Te Ara Hauora (Māori Health Pathway); University of Auckland programmes - Vision 20/20 and the Tuakana/Teina Programme. The Massey University programme Te Rau Puawai was well commended. Te Rau Matatini, which was originally established in partnership with Massey University, was also highlighted as a gold standard intervention. More generally, some participants referred to the value of universities and iwi formalising their relationships.

> Te Rau Puawai at Massey, Palmerston North, offers a team of mentors aged from 20-60+, and you have to ring in every fortnight and you get any kind of resource, support that you need; on-hand support, books, awhi, home visits – whatever! (Focus group – Man/Wan, tertiary)

The following scholarship and grant programmes were identified; Manaaki Tauira, Henry Rongomau Bennett Scholarship Programme, the Ministry of Health Hauora Māori Scholarship Programme, and iwi grants.

A number of more general university based initiatives were also noted by respondents; Māori specific learning support services (e.g. tutorials), Māori tertiary institution liaison services, Māori student facilities, and Māori student networks. Some tertiary student focus group participants acknowledged the support from student

learning centres generally, in particular how useful these services are for mature students who have limited experience in academic writing.

> We had really good support form Te Tari Awhina [AUT University Learning Development Centre], they were instrumental in our study and for me as a mature student it was difficult to write assignments and to use the correct terminology…you have to be fairly onto it in terms of assignments and referencing. (Focus group – BOP, tertiary)

While key informants acknowledged that there are comprehensive generic student support services available through universities, the challenge identified was to connect Māori students to that support.

> Comprehensive university support structures. Huge amount available. The challenge is to connect Māori students with what is there. (Key informant 16)

Some key informants acknowledged that support is provided to Māori health students by Māori professional bodies such as Taeora Tinana[5] and Te Kaunihera o Ngā Neehi Māori o Aotearoa/the National Council of Māori Nurses.

The tertiary students focus group participants indicated that the informal support provided by other students, whānau, and workplaces is important.

> We're lucky at UCOL because there are eight of us [Māori students] and we do help one another, because we're it. (Focus group – Man/Wan, tertiary)

> My whānau is the foundation in terms of supporting me emotionally, and feeding me! I'm learning how family and support is key (Focus group – Auckland, tertiary)

Improving support

There were concerns that workforce development interventions for Māori are fragmented and that a more co-ordinated and comprehensive approach is required. It was also noted that the range of stakeholders, including parents and whānau, should have an active role and take responsibility in supporting the movement of Māori into the professional health workforce.

One respondent highlighted the value of the wānanga model.

> …the wānanga model was a great concept. They thought outside the square to appeal to Māori, to get them into education. (Key informant 13)

[5] Taeora Tinana is a standing committee of the New Zealand Society of Physiotherapists (the professional body), which on a voluntary basis undertakes activities to strengthen the profession's contribution to improving Māori health outcomes.

Community and voluntary worker focus group participants indicated a preference for locally delivered recruitment initiatives in Māori contexts.

> Through local communities…Talking about your experiences on the marae, in a whānau based environment rather than spending thousands of dollars on advertising. (Focus group – Auckland, community/voluntary)

Key informants identified the following success factors as underlying effective MHDW development interventions:

- a kaupapa Māori approach;
- well organised, co-ordinated, and objectives centred;
- wide networks;
- positive focus;
- well qualified staff;
- te reo capacity within teams;
- Māori participation and consultation;
- support at leadership and management levels;
- financial assistance;
- comprehensive wrap around support for students including peer support, mentoring and tutoring;
- adequate and sustained resources;
- sufficient time to enable intervention development over a number of years; and,
- group approaches.

Summary of qualitative data review

The qualitative data review indicates that while there are structural determinants of Māori recruitment into the health and disability workforce that will require ongoing society-wide action to address, there are also a broad range of direct recruitment barriers that are amenable to more immediate intervention and facilitators that may be strengthened in the short and medium term. While a number of support mechanisms are already in place, there is much room for improvement.

Survey of Māori tertiary students

Two hundred and eighty five eligible participants were recruited into the national survey of Māori tertiary health field students. Criteria for inclusion were that participants were Māori and enrolled in health field courses that were at level 5 and above in 2005. The survey included a wide range of respondents in terms of geographical location, disciplinary spread, and undergraduate versus postgraduate enrolment status.

Career information

Information sources

Respondents were asked to rate the extent to which a variety of information sources had encouraged them to take up study or a career in the sector using a 0-4 scale ranging from 'None' to 'A lot' of encouragement. Table 45 presents the number of respondents who answered each question and percentages of responses for each category. The mean score is the average rating given to each factor.

By far the highest rated information source, rated as 'Quite a lot' and 'A lot' of encouragement, was 'Word of mouth from Māori networks' (46%). This included information provided by friends and whānau. The next most highly rated information sources (providing 'Quite a lot' or 'A lot' of encouragement) were 'Iwi and Māori community organisations' (21%), 'Pamphlets' (20%), 'University/institute open days' (20%),'Career expos' (20%), and 'Internet sites' (17%). 'Other print media' was at least to some extent encouraging for 57% of respondents, and for 35% 'Other television channels' provided encouragement at least to some extent.

While generally individual media were not ranked highly, 'Māori print media', 'Māori television' and 'Māori radio' were all ranked slightly lower than the corresponding 'other' media, television and radio categories. This may reflect underutilisation of Māori media by tertiary institutions and other stakeholders in promoting careers in health.

The lowest ranked information sources were radio stations, both 'Māori' and 'Other', with 81% and 79% respectively, of respondents reporting no encouragement. These were followed by 'Māori television' (76%) and 'Government departments' (75%).

Fifty four respondents identified 'Other' information sources that had encouraged them to take up study or a career in health, including; work colleagues, volunteering at an organisation, career counsellor, role models, school teachers, and visits to schools from health and disability organisations. Personal experience (57%) was a consistent response within this category.

Table 45. Information sources that encouraged study or a career in health

Information sources	Number*	Mean score	None	A little	Somewhat	Quite a lot	A lot
Word of mouth from Māori networks	274	2.1	27%	8%	19%	22%	24%
Iwi and other Māori community organisations	264	1.2	50%	16%	13%	12%	9%
Career expos	259	1.1	56%	9%	15%	12%	8%
University/institute open days	263	1.1	52%	13%	15%	12%	8%
Pamphlets	265	1.4	33%	20%	27%	13%	7%
Internet sites	263	1.0	51%	15%	17%	11%	6%
Government departments	259	0.5	75%	11%	7%	4%	3%
Other print media	264	1.0	43%	29%	19%	6%	3%
Other radio stations	256	0.4	79%	9%	8%	2%	2%
Māori print media	263	0.6	66%	18%	9%	5%	2%
Māori radio stations	260	0.3	81%	10%	6%	3%	0%
Māori television channel	259	0.4	76%	10%	10%	3%	1%
Other television channels	260	0.6	65%	15%	14%	5%	1%

*Respondents could choose **not** to answer a question therefore number totals may differ

Respondent category and information sources

The ratings for sources of information were tested for differences between respondent groups utilising a non parametric Wilcoxon rank-sum (W) statistical test. Respondent groups tested were those that had ever been employed in the health and disability sector and those who had not, and those studying internally and extramurally at tertiary institutions. Differences across age groups were also investigated.
Those who had been in the health workforce rated the following information sources significantly higher than those who were never in the workforce; 'Word of mouth through Māori networks' ($W = 15050$, $p=0.03$), and 'Iwi and other Māori community organisations' ($W = 20414.5$, $p=0.04$). Whereas, those who had never been employed in the health and disability workforce gave a higher rating to 'Other radio stations' ($W = 16618.5$, $p=0.02$), and 'Career expos' ($W = 16333.5$, $p<0.001$).

Ratings were found to be higher for respondents studying internally compared to those studying extramurally at tertiary institutions for 'University/institute open days' ($W = 4969$, $p=0.01$) and 'Career expos' ($W = 4203.5$, $p=0.001$).

Sources of information were also tested for differences across age groups utilising the Kruskal-Wallis (KW) statistical test. There were significant differences across age groups for; 'Other print media' (KW $\chi^2(2) = 6.63$, $p=0.04$), 'University/institute open days' (KW $\chi^2(2) = 22.9$, $p<0.001$), and 'Career expos' (KW $\chi^2(2) = 55.7$, $p<0.001$). Respondents in the younger age groups (15-24 years), and who are likely to have enrolled in courses straight from secondary school, tended to rate each of these information sources higher in comparison to the 25 years and older age groups.

Information accessed

Respondents were asked to indicate the main sorts of information they have accessed about careers in the health and disability sector, and could identify as many as applied to them from a list provided. Responses are summarised in **Table 46**. Respondents most commonly accessed information relating to the following areas 'Range and types of jobs' (65%), 'Funding and scholarships' (57%), and 'Career planning, advancement and pathways' (56%). Over one third of respondents accessed information about 'Opportunities for Māori people in the sector' (49%), 'Salary ranges' (45%), 'Education and training options' (42%), 'Career opportunities in the Māori health field' (38%), and 'Potential employers' (36%).

Table 46. Main types of career information accessed by respondents

Types of information*	Number	Percent
Range and type of jobs	187	65%
Funding and scholarships	162	57%
Career planning, advancement and pathways	161	56%
Opportunities for Māori people in the sector	139	49%
Salary ranges	129	45%
Education and training options	121	42%
Career opportunities in the Māori health field	109	38%
Potential employers	103	36%

*Respondents could choose more than one category

Respondent category and information types

The types of information accessed by respondents were investigated across three categories; age group, level of qualification, and enrolment status.

Information on 'Range and types of jobs' was accessed mostly by the 15–24 year age group (75%), those that were enrolled as full-time students (71%), and those studying towards an undergraduate degree (62%). 'Funding and scholarships' information was accessed primarily by those enrolled in courses full-time (68%), those undertaking study towards an undergraduate degree (57%), and equally by both the 15-24 and 25-29 year age groups (58% each). Slight differences were found for 'Career planning, advancement and pathways' information, with the 40-49 year age group (64%) accessing this information at a higher rate than other age groups.

Tertiary study recruitment factors

Recruitment influences

Table 47 presents information regarding the extent to which a range of factors influenced respondents' decisions to take up study in health fields. Respondents were asked to rate each factor on a 0–4 scale ranging from 'Very unimportant' to 'Very important'. Respondents were also given the option to choose 'N/A'. The mean score is the average rating given to each factor, excluding the respondents that chose the 'N/A' option. The number of respondents who chose 'N/A' has been reported in a separate column.

By far the most influential factor identified as 'Very important' by 70% of respondents was 'Your career aspirations', followed by; 'Family/whānau' (45%), 'Practical experience in the health sector' (33%), and 'Knowing someone working in the area' (32%).

At least 70% of respondents identified the following factors as 'Important' or 'Very important'; 'Your career aspirations' (96%), 'Family/whānau' (77%), 'Earning potential' (73%), 'Location of institution' (70%), and 'Practical experience in the health sector' (70%). Over 50% of respondents rated the following factors as either 'Important' or 'Very important'; 'Knowing someone working in the area' (62%), 'Personal career advice' (63%), 'Scholarships/grants' (57%), 'Employer support' (56%), 'Māori health sector role models' (54%), 'Ability to study part-time' (52%), and 'Māori educational institution support services' (65%).

Between a quarter and a half of respondents indicated that 'Requirement/expectations of employer' (47%), 'Māori course content' (44%), 'Mainstream educational support services (39%), 'Number of Māori enrolled in course' (36%), and 'School career guidance' (30%), were 'Important' or 'Very important'.

Factors that were rated as 'Very unimportant' or 'Unimportant' by over one third of respondents were; 'School career guidance' (47%), 'Relatively short length of course' (46%), 'Number of Māori enrolled in course' (40%), and 'Ability to study part-time' (34%). There appears to be much potential to enhance the value of school career guidance for Māori.

A small number of respondents identified 'Other' factors that influenced their decision to take up study in the health, including; extramural study, lack of men in the area, and very few Māori in the area.

Table 47. Factors influencing entry into study in health fields

Influential factors	N/A	Number*	Mean score	Very Unimportant	Unimportant	Neither	Important	Very Important
Your career aspirations	2	276	3.6	0%	1%	3%	26%	70%
Family/whānau	4	269	3.1	4%	6%	13%	32%	45%
Māori educational institution support services	52	195	2.7	11%	11%	13%	31%	34%
Practical experience in health sector	21	252	2.9	6%	7%	17%	37%	33%
Knowing someone working in the area	19	250	2.6	12%	5%	21%	30%	32%
Ability to study part-time	41	235	2.3	20%	14%	14%	23%	29%
Earning potential	5	267	2.9	1%	10%	16%	45%	28%
Location of institution	10	265	2.8	6%	9%	15%	42%	28%
Personal career advice	26	247	2.6	13%	8%	16%	35%	28%
Scholarships/grants	16	259	2.5	10%	11%	22%	30%	27%
Employer support	44	228	2.5	14%	8%	22%	30%	26%
Māori health sector role models	16	256	2.5	8%	12%	26%	32%	22%
Māori course content	25	243	2.3	12%	11%	33%	27%	17%
Requirement/expectations of employer	31	241	2.2	14%	14%	25%	31%	16%
School career guidance	53	217	1.6	35%	12%	23%	18%	12%
Mainstream educational support services	25	244	2.1	15%	13%	33%	28%	11%
Relatively short length of course	49	223	1.7	25%	21%	25%	20%	9%
Number of Māori enrolled in course	18	250	1.8	22%	18%	24%	28%	8%

* Respondents could choose not to answer a question therefore number totals may differ

Respondent category and influential factors

Examination of factors influencing decisions to take up study in health for those who had ever been employed in the health workforce showed that 'Number of Māori enrolled in course' (W = 12389.5, p=0.02), 'Ability to study part-time' (W = 8081.5, p<0.001), 'Location of institution' (W = 13910.5, p=0.010), 'Māori health sector role models' (W = 11656.5, p<0.001), 'Practical experience in the health sector' (W = 10976.5, p<0.001), and 'Employer support' (W = 9269.5, p=0.002) were all scored significantly higher than for those who had not been employed in the sector. However, 'School career guidance' was rated higher (W = 1597, p=0.010) by those who had not been employed in the sector.

Respondents studying extramurally rated the following factors as more influential than those studying internally; 'Requirement/expectations of employer' (W = 190643, p=0.014), 'Ability to study part-time' (W = 17034.5, p< 0.001), 'Relatively short length of course' (W = 16541, p=0.005), and 'Employer support' (W = 17140, p=0.001).

There was also a statistically significant difference across age groups for; 'Your career aspirations' (KW $\chi^2(2) = 7.3$, p=0.025), 'Ability to study part-time' (KW $\chi^2(2) = 72.0$ p< 0.001), 'Relatively short length of course' (KW $\chi^2(2) = 13.0$, p=0.001), 'Location of institution' (KW $\chi^2(2) = 12.0$, p=0.002), 'Māori health sector role models' (KW $\chi^2(2) = 18.9$, p< 0.001), 'Practical experience in the health sector' (KW $\chi^2(2) = 11.7$, p=0.003), 'School career guidance' (KW $\chi^2(2) = 22.3$, p< 0.001),

'Employer support' (KW $\chi^2(2) = 9.4$, p=0.009), and 'Māori course content' (KW $\chi^2(2) = 9.4$, p=0.009).

The following influential factors were all ranked higher with increasing age; 'Ability to study part-time', 'Location of institution', 'Māori health sector role models', 'Practical experience in the health sector', 'Employer support', and 'Māori course content'. 'School career guidance' and 'Your career aspirations' were ranked higher by the youngest age group (15-24 years) in comparison to 25+ age groups. However, the younger age group ranked 'Relatively short length of course' lower than all other age groups.

Respondents' courses of study were grouped into four categories; nursing, medical, management/administration, and allied health. There were statistically significant differences across these fields of study for; 'Ability to study part-time' (KW $\chi^2(3) = 10.4$, p=0.015), 'Location of institution' (KW $\chi^2(3) = 18.7$ p< 0.001), and 'Practical experience in the health sector' (KW $\chi^2(3) = 7.9$, p=0.047).

Respondents studying medicine rated 'Location of institution' lower than the other groups. 'Ability to study part-time' and 'Practical experience in the health sector' were rated higher by those studying management/administration and lowest by the medical group.

There were also significant differences found between those that entered tertiary study directly from secondary school, second chance learners, and those returning to tertiary study, for the following factors; 'School career guidance' (KW $\chi^2(2) = 8.8$, p=0.013), 'Ability to study part-time' (KW $\chi^2(2) = 29.5$, p< 0.001), 'Location of institution' (KW $\chi^2(2) = 8.1$, p=0.017), and 'Practical experience in the health sector' (KW $\chi^2(2) = 10.7$, p=0.005). Respondents entering tertiary study straight from school ranked 'School career guidance' higher than second chance learners or those returning to tertiary study. 'Practical experience in the health sector' and 'Ability to study part-time' were ranked lower by respondents entering tertiary study straight from school in comparison to the other groups. Respondents returning to tertiary study rated 'Location of institution' higher in comparison to the other groups.

Recruitment barriers

Respondents were asked to rate the extent to which a range of factors were barriers for Māori taking up tertiary study within the health sciences, using a 0–4 scale ranging from 'No barrier' to 'Large barrier'. The results are presented in Table 48.

'Financial costs' was identified as the major barrier, with 67% of respondents indicating that it was a 'Large barrier', 87% considered it to be a 'Medium' or 'Large barrier', and for 97% of respondents it was at least to some extent a barrier. More than 20% of respondents identified the following factors as a 'Large barrier'; 'Inadequate career guidance' (36%), 'Lack of Māori role models' (30%), 'Distant location of institution' (25%), 'Insufficient Māori specific support programmes' (24%), 'Programme not Māori friendly' (23%), and 'No or few Māori lecturers/teachers' (21%). Between 45% and 60% of respondents indicated that these factors were a medium or large barrier, and for between 74% and 93% of respondents these factors were at least to some extent a barrier.

Table 48. Barriers to choosing a career in health

Barriers to taking up study	Number*	Mean score	No barrier	Small but not critical	Small but critical	Medium barrier	Large barrier
Financial costs	261	3.5	3%	2%	5%	23%	67%
Inadequate career guidance	258	2.7	8%	10%	22%	24%	36%
Lack of Māori role models	258	2.6	7%	14%	19%	29%	31%
Distant location of institution	259	2.4	12%	15%	20%	28%	25%
Insufficient Māori specific support programmes	261	2.3	14%	14%	25%	23%	24%
Programme not 'Māori friendly'	256	2.0	26%	14%	15%	22%	23%
Institution not 'Māori friendly'	258	1.9	31%	12%	16%	19%	22%
No or few Māori lecturers/teachers	260	2.2	20%	13%	20%	26%	21%
Inadequate employer support	258	2.0	21%	16%	22%	22%	19%
No or few other Māori students	260	2.1	18%	19%	19%	26%	18%
Long course length	258	2.1	15%	22%	18%	28%	17%
Inadequate educational institution support services	257	2.0	23%	14%	19%	27%	17%
Lack of information regarding course options	256	2.1	16%	17%	24%	26%	17%
Lack of Māori specific study pathways	260	2.0	19%	16%	27%	23%	15%
Not knowing someone working in the professions	256	1.8	20%	25%	21%	20%	14%
Inadequate educational liaison services	258	1.9	22%	17%	21%	27%	13%
Limited employment opportunities	260	1.6	31%	20%	16%	20%	13%
Limited Māori specific course content	258	1.9	20%	21%	23%	24%	12%

* Respondents could choose not to answer a question therefore number totals may differ

Between one third and almost one half of respondents identified the following factors as a 'Medium barrier' or a 'Large barrier'; 'Inadequate educational institution support services' (44%), 'Long course length' (45%), 'Lack of information regarding course options' (43%), 'No or few other Māori students' (44%), 'Inadequate employer support' (41%), 'Institution not Māori friendly' (41%), 'Inadequate educational liaison services' (40%), 'Lack of Māori specific study pathways' (38%), 'Limited Māori specific course content' (36%), 'Not knowing someone in the professions' (34%), and 'Limited employment opportunities' (33%). Of those factors, the following were identified as a barrier, at least to some extent, by most respondents; 'Lack of Māori-specific study pathways' (81%), 'No or few other Māori students' (82%), 'Limited Māori specific course content' (80%), and 'Institution not Māori friendly' (69%).

One quarter to one third of respondents indicated that the following factors were not a barrier to Māori when choosing a career in health; 'Institution not Māori friendly' (31%), 'Limited employment opportunities' (31%), and 'Programme not Māori friendly' (26%).

Responses from the 'Other' category indicated additional barriers to taking up study in health. These included; health not seen by men as a viable option for them, information taught was not relevant to Māori experience, lack of skills to fit the job

requirement, low whānau expectations, no Māori network, and unsure of own expectations and abilities.

Respondent category barriers

Respondents who had ever been employed in the health and disability workforce rated the following factors as greater barriers than those who had not been employed in the sector; 'Long course length' ($W = 12677.5$, $p=0.007$), 'Inadequate career guidance' ($W = 12177.5$, $p<0.001$), 'Lack of Māori role models' ($W = 12345.5$, $p=0.002$), 'Insufficient Māori support programmes' ($W = 12640$, $p=0.003$), 'Not knowing someone working in the professions' ($W = 13075$, $p=0.04$), 'Lack of Māori specific pathways' ($W = 11832$, $p<0.001$), 'Inadequate employer support' ($W = 11777.5$, $p<0.001$), 'Inadequate educational institution support services' ($W = 12700$, $p=0.02$), and 'Limited Māori specific course content' ($W = 12774.5$, $p=0.04$).

The only significant barrier for those respondents who were studying extramurally in comparison to those studying internally was identified as 'Inadequate employer support' ($W = 23315$, $p=0.003$).

There were also statistically significant differences across age groups for; 'Long course length' (KW $\chi^2(2) = 10.5$, $p=0.005$), 'Distant location of institution' (KW $\chi^2(2) = 6.9$, $p=0.032$), 'Inadequate career guidance' (KW $\chi^2(2) = 6.7$, $p=0.036$), 'Insufficient Māori specific support programmes' (KW $\chi^2(2) = 7.7$, $p=0.022$), 'Lack of Māori specific study pathways' (KW $\chi^2(2) = 10.9$, $p=0.004$), 'Inadequate employer support' (KW $\chi^2(2) = 28.9$, $p<0.001$), 'Inadequate educational institution support services' (KW $\chi^2(2) = 10.3$, $p=0.006$), and 'Inadequate educational liaison services' (KW $\chi^2(2) = 14.4$, $p=0.001$).

All of the following barriers showed highest scores with increased age; 'Long course length', 'Insufficient Māori specific support programmes', 'Inadequate employer support', 'Inadequate educational institution support services', 'Inadequate educational liaison services', 'Limited Māori specific course content', and 'No or few Māori lecturers/teachers'. Those aged 40 + years ranked all of these higher than the 25-39 year olds who in turned ranked them higher then the 15-24 year olds. 'Distant location of institution' was ranked higher by 40+ year olds compared to the younger age groups. 'Lack of Māori specific study pathways' and 'Inadequate career guidance' were ranked lowest by the 25-39 age group, next lowest by the 15-24 year olds and highest by the 40+ year olds.

Significant differences were found between respondents who were studying nursing, medicine, management/administration and allied health for the following barriers; 'Long course length' (KW $\chi^2(3) = 8.7$, $p=0.033$), 'Inadequate career guidance' (KW $\chi^2(3) = 9.3$, $p=0.025$), 'Limited employment opportunities' (KW $\chi^2(3) = 16.1$, $p=0.001$), and 'Lack of information regarding course options' (KW $\chi^2(3) = 8.5$, $p=0.037$). Respondents studying allied health courses ranked 'Long course length' lower in comparison to those in the nursing, medicine and management/administration categories. 'Inadequate career guidance' was ranked lowest by nursing in comparison to all other groups, whilst 'Limited employment opportunities' was ranked high by those studying management/administration and lowest by medicine. 'Lack of information regarding course options' was ranked highest by those studying medicine.

There were no significant differences based on whether respondents entered tertiary level study straight from secondary school, undertaking study for the first time but not directly from secondary school, or those who were returning to tertiary study.

Support mechanisms

Table 49 presents information regarding respondent views on the extent to which a range of support mechanisms encourage Māori to enrol, be successful in, and complete health-related tertiary study. Respondents were asked to rate each factor using a 0-4 scale ranging from 'None' to 'A lot'. Responses indicate that a wide range of support mechanisms are considered to be of value.

The most highly rated support mechanism, which was considered by 61% of respondents to provide 'A lot' of encouragement and by 83% of respondents to provide 'Quite a lot' or 'A lot' of encouragement, was 'Māori scholarships and grants'. Other mechanisms that were identified by over one third of respondents as providing 'A lot' of support were; 'Increasing numbers of Māori students' (40%), 'Māori career guidance' (39%), 'Access to Māori facilities' (39%), 'Māori liaison services' (38%), 'Increased support for Māori student networks' (38%), 'A learning environment that endorses Māori values' (38%), 'Access to childcare facilities' (38%), 'Māori learning support services' (36%), and 'Increasing numbers of Māori staff' (35%). As well, each of these support mechanisms was rated by between 63% and 74% of respondents as providing 'Quite a lot' or 'A lot' of encouragement.

In addition to the factors already noted, support mechanisms that were identified by over half the respondents as providing 'Quite a lot' or 'A lot' of encouragement were; 'Comprehensive and dedicated Māori support programmes' (62%), 'Formal links between departments and Māori communities' (58%), 'Māori sports, recreational and cultural activities on campus' (58%), 'Opportunity to incorporate Māori papers into study programmes' (56%), 'Increased numbers of Māori staff at all levels' (57%), 'Māori specific recruitment programmes' (53%), and Māori specific student tutorials' (53%). Just under half of the respondents indicated that the 'Opportunity to incorporate non-science papers into study programmes' (45%), 'Māori language use on campus' (43%), and 'Māori specific course content' (43%), provided 'Quite a lot' or 'A lot' of encouragement.

Responses from the 'Other' category indicated additional support mechanisms to encourage Māori to enrol, be successful in, and complete tertiary study within fields. These were - having the option of noho marae with other students, and programmes aimed at recruiting men into health-related professions.

All of the support mechanisms identified in Table 49 were considered by most respondents (88% - 98%) to provide at least a little encouragement to successfully complete their tertiary study. Only two support mechanisms were rated by more than 10% of respondents as providing no encouragement for Māori, these were 'Opportunity to incorporate non-science papers into programmes' (12%) and 'Māori specific student tutorials' (11%). However, the majority of respondents indicated that these support mechanisms provided at least some degree of encouragement and were identified as providing a lot of encouragement by 21% and 31% of respondents respectively.

Table 49. Support mechanisms that facilitate successful study

Support mechanisms	Number*	Mean Score	None	A little	Somewhat	Quite a lot	A lot
Māori scholarships and grants	260	3.4	2%	3%	12%	22%	61%
Increasing numbers of Māori students	254	2.9	6%	7%	20%	27%	40%
Access to Māori facilities	256	2.9	4%	5%	23%	29%	39%
Māori career guidance	257	3.0	3%	4%	19%	35%	39%
A learning environment that endorses Māori values	259	2.8	3%	8%	25%	26%	38%
Access to childcare facilities	256	2.8	6%	8%	21%	27%	38%
Increased support for Māori student networks	257	3.0	3%	8%	17%	34%	38%
Māori liaison services	257	3.0	2%	4%	23%	33%	38%
Māori learning support services	257	2.9	5%	7%	20%	32%	36%
Increasing numbers of Māori staff	256	2.8	7%	8%	21%	29%	35%
Comprehensive and dedicated Māori support programmes	257	2.8	4%	8%	26%	30%	32%
Māori specific student tutorials	257	2.5	11%	12%	24%	23%	30%
Opportunity to incorporate Māori papers into study programmes	256	2.6	7%	13%	24%	27%	29%
Māori sports, recreational and cultural activities on campus	254	2.6	7%	7%	28%	30%	28%
Formal links between departments and Māori communities	256	2.6	8%	11%	23%	31%	27%
Increased numbers of Māori staff at all levels	255	2.5	7%	13%	23%	30%	27%
Māori specific recruitment programmes	256	2.5	7%	15%	25%	29%	24%
Opportunity to incorporate non-science papers into study programmes	253	2.2	12%	19%	25%	23%	21%
Māori language use on campus	255	2.3	9%	16%	32%	22%	21%
Māori specific course content	255	2.3	7%	15%	35%	23%	20%

*Respondents could choose not to answer a question therefore number totals may differ

Respondent category and support mechanisms

Differences were found for respondents that had been employed in the health workforce, with a majority of support mechanisms ranked significantly higher compared to those that had not been employed in the sector. Factors that were ranked significantly higher were 'Access to childcare facilities' ($W = 11833.5$, $p<0.001$), 'Formal links between departments and Māori communities' ($W = 11369.5$, $p<0.001$), 'A learning environment that endorses Māori values' ($W = 11910.5$, $p<0.001$), 'Māori specific recruitment programmes' ($W = 12341.5$, $p=0.002$), 'Māori specific course content' ($W = 12035$, $p<0.001$), 'Māori career guidance' ($W = 12563.5$, $p=0.003$), 'Opportunity to incorporate Māori papers into study programmes' ($W = 12457$, $p=0.003$), and 'Increased support for Māori student networks' ($W = .13087$, $p=0.049$). No significant differences were found based on whether respondents were studying internally or extramurally.

Statistically significant differences were evident across age groups for the following support mechanisms; 'Māori specific recruitment programmes' (KW $\chi^2(2) = 6.9$, $p=0.031$), 'Comprehensive and dedicated Māori support programmes' (KW $\chi^2(2) = 12.3$, $p=0.002$), 'Increased numbers of Māori staff at all levels' (KW $\chi^2(2) = 10.8$,

p=0.005), ‘A learning environment that endorses Māori values’ (KW $\chi^2(2) = 23.1$, p< 0.001), ‘Māori specific course content’ (KW $\chi^2(2) = 16.8$, p< 0.001), ‘Formal links between departments and Māori communities’ (KW $\chi^2(2) = 14.7$, p=0.001), ‘Māori specific student tutorials’ (KW $\chi^2(2) = 11.1$, p=0.004), ‘Māori liaison services’ (KW $\chi^2(2) = 6.7$, p=0.036), ‘Opportunity to incorporate Māori papers into study programmes’ (KW $\chi^2(2) = 13.4$, p=0.001), ‘Opportunity to incorporate non-science papers into study programmes’ (KW $\chi^2(2) = 14.1$, p=0.001), ‘Māori learning support services’ (KW $\chi^2(2) = 6.0$, p=0.050), ‘Increasing numbers of Māori staff’ (KW $\chi^2(2) = 6.3$, p=0.042), ‘Māori language use on campus’ (KW $\chi^2(2) = 12.7$, p=0.002), ‘Access to childcare facilities’ (KW $\chi^2(2) = 22.9$, p< 0.001), and ‘Increased support for Māori student networks’ (KW $\chi^2(2) = 7.3$, p=0.025).

The following support mechanisms were ranked higher with increasing age; ‘Māori specific recruitment programmes’, ‘Increased numbers of Māori staff at all levels’, ‘A learning environment that endorses Māori values’, ‘Māori specific course content’, ‘Formal links between departments and Māori communities’, ‘Opportunity to incorporate non-science papers into study programmes’, ‘Increasing numbers of Māori staff’, ‘Māori language use on campus’, and ‘Access to Māori facilities’. It was found that those in the 40 years and over age group ranked the following support mechanisms higher then the other age groups; ‘Comprehensive and dedicated Māori support programmes’, ‘Opportunity to incorporate Māori papers into science programmes’, ‘Māori learning support services’ and ‘Access to Māori facilities’. ‘Māori specific student tutorials’, ‘Māori liaison services’, ‘Access to childcare facilities’, and ‘Māori learning support services’ was ranked lowest by the 25-39 year age group and highest by 40+ age group.

Across occupational groups the following support mechanisms were found to be significantly different; ‘Māori specific student tutorials’ (KW $\chi^2(3) = 9.1$, p=0.03), and ‘Access to childcare facilities’ (KW $\chi^2(3) = 10.7$, p=0.01).

Respondents taking up tertiary study in medicine ranked ‘Māori specific student tutorials’ higher compared to all other groups and nursing rating it lowest. This could be due to the fact that some medical schools have incorporated Māori specific tutorials as part of their programme, and therefore medical students have experienced the value of these tutorials. ‘Access to childcare facilities’ was ranked highest by those studying management/administration and nursing compared to medicine and allied health that ranked it low.

There were significant differences between those that had entered tertiary study straight from secondary school, those that are undertaking tertiary study for the first time but not straight from school, and those returning to tertiary study for the following support mechanisms; ‘Comprehensive and dedicated Māori support programmes’ (KW $\chi^2(2) = 7.1$, p=0.028), ‘Increased numbers of Māori staff at all levels’ (KW $\chi^2(2) = 6.0$, p=0.048), ‘A learning environment that endorses Māori values’ (KW $\chi^2(2) = 10.7$, p=0.05), ‘Māori specific course content’ (KW $\chi^2(2) = 9.7$, p=0.008), ‘Māori scholarships and grants’ (KW $\chi^2(2) = 8.7$, p=0.013), ‘Māori career guidance’ (KW $\chi^2(2) = 10.0$, p=0.006), and ‘Opportunity to incorporate non-science papers into study programmes’ (KW $\chi^2(2) = 6.5$, p=0.039).

Respondents entering tertiary study for the first time but not straight from school ranked 'Comprehensive and dedicated Māori support programmes', 'Māori scholarships and grants' and 'Māori career guidance' lowest in comparison to the other two groups. Respondents returning to tertiary study ranked 'Increased numbers of Māori staff at all levels', 'A learning environment that endorses Māori values', 'Māori specific course content', 'Māori career guidance' and 'Opportunity to incorporate non-science papers into study programmes' higher than those who were undertaking tertiary study straight from secondary school and those who were studying for the first time but not straight from secondary school.

Recruitment and support programmes

Respondents were asked to identify successful programmes to recruit and support Māori health students. Sixty nine percent of respondents identified programmes or initiatives, the most commonly named interventions were Te Rau Puawai (7%) and Te Rau Matatini (3%). A number of institution specific initiatives were identified, including: AUT University programmes – the Integrated Team Model of Student Success (ITMOSS), Te Ara Hauora (Māori Health Pathway), the Māori Health Postgraduate Programme; University of Auckland programmes - Vision 20/20, Whakapiki Ake Project, the Māori and Pacific Admissions Scheme, Hikitia te Oranga o te Iwi (Certificate in Health Sciences), Science, Technology, English, Architecture and Maths Programme (STEAM), and University of Otago initiatives – Te Huka Matauraka (Māori Centre), Te Manu Toroa (Kaupapa Te Huka Matauraka nursing pre-entry course). The KATTI programme run by tertiary Māori liaison officers to encourage Māori students to remain in school until Year 13 was also identified.

The following scholarship and grant programmes were identified; Health Research Council of New Zealand Māori Health Summer Studentships, Manaaki Tauira, TeachNZ, and the Ministry of Health Hauora Māori Scholarship Programme.

A number of more general university based initiatives were also noted by respondents, including Māori specific student services, Māori liaison services, foundation and bridging programmes, and tertiary grants and scholarships.

Hauora Māori Scholarships Programme

As part of a linked research project evaluating the Ministry of Health's Hauora Māori Scholarship Programme, respondents were asked if they were aware of the Programme, whether they had applied for a scholarship, and for those who had not applied the reasons why not.

Sixty one percent of respondents were aware of the Programme. Of those who knew about the Programme, 55% applied for a scholarship. The main reasons stated for not applying were; that their course was free or course fees were covered from other sources, such as employers (36%), the information/administration and application process (20%), and the perception that they did not meet the Programme eligibility criteria (16%).

Summary of survey of Māori tertiary students

The analysis presented in this section of the report demonstrates that there are opportunities to provide greater support for, and reduce barriers to, Māori participation in tertiary health field programmes. A number of key barriers amenable to intervention have been identified, as well as factors and support mechanisms which positively influence enrolment in and completion of health field programmes by Māori students as an entry point to careers in the health and disability sector.

Career information

Word of mouth through Māori networks provides a powerful informal mechanism for the dissemination of health career information to Māori. Analysis indicates that career expos and university open days are an effective mechanism for information provision, particularly for younger Māori, as well as for those considering extramural studies. Print media was also important for younger Māori.

Information provision through iwi and Māori community organisations, particularly for those who had experience working in the sector, was influential. Pamphlets and the internet were also useful sources of information. There was some indication that Māori media may currently be underutilised by tertiary institutions and other stakeholders in the promotion of health careers among Māori.

Respondents were accessing a range of information about careers in the health and disability sector, particularly with regard to the range and types of health sector jobs, funding and scholarship opportunities, and career planning.

Facilitators

While career aspirations were the major driver for respondents to take up study in health fields, particularly for younger respondents, whānau were also a key influence indicating the value of broad strategies to promote health careers not only to potential candidates but also to whānau and the wider Māori community. As well, having some pre-existing link to the sector through practical experience or knowing someone working in health was influential which suggests that interventions which link potential students to the sector in practical ways may facilitate enrolment in health programmes. Similarly, the importance of Māori health sector role models and personal career advice was apparent.

For many respondents earning potential and the location of tertiary institutions impacted on their decision to take up health field study, and for some the number of Māori enrolled in courses was important. Other identified facilitators that could be strengthened in order to support increased Māori enrolment in health programmes were access to scholarships and grants, the availability of Māori educational institution support services, increased Māori course content, and mainstream educational support services that are appropriate for Māori. School career guidance in particular stands out as an area that could be strengthened.

For those who were currently or had previously worked in the sector or were in the older age groups, the number of Māori enrolled in course, the location of institutions, ability to study part time, Māori health sector role models, practical experience in the

sector, and employer support were of greater importance than for those who had never worked in health.

For those studying extramurally influential factors were the requirements/expectations of employers, ability to study part time, relatively short length of course and employer support.

Barriers

Survey findings indicate that the financial cost of tertiary study in health-related fields is the major barrier to recruitment of Māori into health programmes. Many additional barriers identified were both Māori specific and amenable to intervention. Those barriers include a lack of Māori role models, insufficient Māori support programmes, institutions and programmes that are not 'Māori friendly', few other Māori students and lecturers, lack of Māori specific study pathways, and limited Māori specific course content. Important generic barriers identified were inadequate career guidance and the location of institutions. Other generic barriers identified were inadequate educational institution support and liaison services, the length of courses, lack of information regarding course options, inadequate employer support, not knowing someone in the health professions, and limited employment opportunities.

For those who were currently or had previously worked in the sector, many of the Māori specific factors are seen as greater barriers than those who have never been employed in the sector. Specific factors include; lack of Māori role models, insufficient Māori support programmes, limited Māori specific course content. Similar patterns were found for the older age groups.

Support mechanisms

Analysis demonstrates that there are a range of support mechanisms, particularly Māori specific mechanisms that are likely to encourage Māori to enrol, be successful in, and complete tertiary study in health fields. The availability of Māori scholarships and grants was identified as the most important support mechanism. This is not surprising given that affordability of tertiary study emerged as the key barrier for Māori in taking up tertiary study in health.

Responses demonstrated the value placed on a variety of Māori specific interventions in the areas of career guidance, dedicated facilities, liaison services, comprehensive support programmes, increased support for student networks, learning support, recruitment programmes, and tutorials. The following measures to enhance the Māori presence within institutions were also rated highly; increasing the numbers of Māori students, a learning environment that endorses Māori values, increasing numbers of Māori staff, formal links between departments and Māori communities, increased numbers of Māori staff at all levels, and Māori language use on campus. More generally, access to childcare facilities, was also identified as important. In terms of programme content, there was support for opportunities to incorporate Māori papers and non-science papers into study programmes, as well as Māori specific course content.

For those who were currently or had previously worked in the sector, the following factors were rated highly; formal links between departments and Māori communities,

a learning environment that endorses Māori values, Māori specific course content, opportunity to incorporate Māori papers into study programmes, Māori specific recruitment programmes, Māori career guidance, and increased support for Māori student networks. Many of these factors were also important to the older age groups.

Māori health and disability workforce survey

Four hundred and forty nine eligible participants were recruited into the Māori health and disability workforce national survey. Criteria for inclusion were that participants were Māori and part of the health and disability workforce at the time of the survey. Participants were diverse in terms of geographical location, range of professions, mainstream and Māori employment settings and years of experience in the health sector.

Recruitment facilitators

Table 50 presents information regarding the extent to which a range of factors encouraged respondents to initially choose a career in the health and disability sector. Respondents were asked to rate each factor on a 0-3 scale ranging from 'Not at all' to 'Major encouragement', or 'N/A'. Between eight and 60 survey participants indicated that a given factor was not relevant to them (N/A) in terms of encouraging them to initially choose a career in health. These respondents were excluded from further analysis. N/A responses are excluded in calculating the number of responses and mean scores.

There were three factors where more than 10% of the respondents selected 'N/A'. These factors were; 'Recruitment programmes to encourage Māori into health careers' (16%), 'Availability of bridging programmes' (15%), and 'Career guidance' (11%). There were no consistent patterns found in regards to respondents who choose 'N/A'. The workforce survey covers a range of professional groups, levels of experience, and ages at entry into the health and disability workforce and therefore it is not surprising that this proportion of respondents indicated these initiatives were not applicable. For example, generally Māori recruitment programmes are relatively new initiatives that would not have been available at the time a number of respondents entered health field programmes.

A large proportion of respondents identified factors that provided 'Quite a lot' or a 'Major' amount of encouragement to initially choose a career in health, these are; 'To make a difference for Māori health' (81%), 'Opportunities to work with Māori people' (77%), 'Strengthening Māori presence in the health sector' (73%), 'Career development opportunities' (68%), 'Encouragement from whānau' (63%), and 'Potential to work with own hapū/iwi' (63%). The influence of these factors is also reflected in the relatively high mean score attributed to each.

Table 50. Recruitment facilitators

Facilitators	N/A	Number*	Mean score	Not at all	A little	Quite a lot	Major
To make a difference for Māori health	8	412	2.4	9%	10%	16%	65%
Opportunities to work with Māori people	11	403	2.2	10%	13%	22%	55%
Strengthening Māori presence in the health sector	10	409	2.1	14%	13%	19%	54%
Potential to work with own hapū/iwi	15	397	1.9	19%	18%	21%	42%
Encouragement from whānau	13	395	1.8	20%	17%	23%	40%
Career development opportunities	10	405	1.9	13%	19%	31%	37%
Increasing numbers of Māori working in my profession	17	386	1.4	34%	19%	18%	29%
Knowing someone working in health	11	396	1.5	27%	19%	27%	27%
Encouragement from Māori health professionals	16	395	1.4	35%	18%	21%	26%
Earning potential	18	382	1.6	19%	30%	27%	24%
Māori role models in health	20	391	1.4	33%	21%	22%	24%
Negative whānau/personal experience with health services	33	373	1.3	40%	17%	19%	24%
Someone in whānau working in health	17	385	1.3	41%	16%	19%	24%
Mana/prestige of chosen health profession	29	368	1.1	44%	21%	20%	15%
Recruitment programme/s to encourage Māori into health careers	60	320	0.6	72%	10%	7%	11%
Availability of bridging programmes	57	335	0.5	69%	14%	9%	8%
Career guidance (e.g. school, tertiary institution)	44	352	0.7	61%	21%	10%	8%
Availability of scholarships/grants	36	358	0.7	59%	23%	11%	7%

*Respondents could choose not to answer a question therefore number totals may differ

Just over half of the respondents identified ‘Earning potential’ (51%) and ‘Knowing someone working in health’ (54%) as ‘Quite a lot’ or a ‘Major’ encouragement to initially choose a career in health. Between one third and one half of respondents identified ‘Encouragement from Māori health professionals’ (47%), ‘Increasing numbers of Māori working in my profession’ (47%), ‘Māori role models in health’ (46%), ‘Someone in whānau working in health’ (43%), and ‘Negative whānau/personal experience with health services’ (43%), as also being ‘Quite a lot’ or a ‘Major encouragement’ to initially choosing a career in health.

Over half of the respondents were encouraged to some extent by the following factors; ‘Encouragement from Māori health professionals’ (65%), ‘Increasing numbers of Māori working in my profession’ (66%), ‘Māori role models in health (67%), and the ‘Mana/prestige of chosen health profession’ (56%).

Around one third of respondents were encouraged to some extent to initially choose a career in health by ‘Recruitment programme/s to encourage Māori into health careers’ (28%), ‘Availability of bridging programmes’ (31%), ‘Career guidance’ (39%), and ‘Availability of scholarships/grants’ (41%). For almost one in five respondents, these factors provided ‘Quite a lot’ or a ‘Major’ encouragement to choose a career in health.

Few respondents indicated that 'Other' factors influenced their decision to initially choose a career in health. However, factors identified in that category were; interest in the area, job could progress over time, personal experience with disability, studying whilst working, potential to be innovative, sense of challenge, and ensuring service was appropriate for Māori.

Workplace and occupational categories, and recruitment facilitators

The factors that encourage respondents to initially choose a career in health were examined by workplace characteristics and occupational backgrounds utilising Wilcoxon rank-sum statistics for two groups and Kruskal-Wallis (KW) for more than two groups.

Significant differences were seen across respondent employment settings for those that are employed within Māori provider/organisations, Māori units within a mainstream organisation, and mainstream provider/organisations. Significant differences were seen for the following factors; 'Māori role models in health' (KW $\chi^2(2)=23.4$, $p<0.001$), 'Someone in whānau working in health' (KW $\chi^2(2)=11.4$, $p=0.003$), 'Knowing someone working in health' (KW $\chi^2(2)=7.6$, $p=0.02$), 'Opportunities to work with Māori people' (KW $\chi^2(2)=26.6$, $p<0.001$), 'To make a difference for Māori health' (KW $\chi^2(2)=17.9$, $p<0.001$), 'Encouragement from Māori health professionals' (KW $\chi^2(2)=14.1$, $p<0.001$), 'Potential to work with own hapū/iwi' (KW $\chi^2(2)=37.6$, $p<0.001$), 'Strengthening Māori presence in the health sector' (KW $\chi^2(2)=12.8$, $p=0.002$), 'Mana/prestige of chosen health profession' (KW $\chi^2(2)=7.8$, $p=0.02$), and 'Recruitment programme/s to encourage Māori into health careers' (KW $\chi^2(2)=7.6$, $p=0.02$).

There is evidence of increasing perceived importance in regards to the following factors from respondents working in a mainstream provider/organisation, to Māori units, and then to Māori provider/organisations; 'Māori role models', 'Someone in whānau working in health', 'Knowing someone working in health', 'To make a difference for Māori health', 'Potential to work with own hapū/iwi', and 'Strengthening Māori presence in the health sector'. The rating consistently showed that those working in mainstream providers/organisations rated these factors low, that Māori provider/organisation employees rated them highest, and Māori unit employees rated them somewhere in between.

Respondents from mainstream provider/organisations rated 'Opportunities to work with Māori people', 'Encouragement from Māori health professionals', and 'Recruitment programme/s to encourage Māori into health careers' lower than the other two workplace groups. Respondents who were employed within Māori providers rated 'Mana/prestige of chosen health profession' higher than the other two workplace settings.

For analysis purposes, respondents' professional backgrounds and data relating to each specific occupation were categorised into groups representing professionally similar roles. Overall, six groups were formed from 24 professions. The 'Medical' group (n=13) consisted of respondents with a professional background in medicine.

The ‘Nursing’ group (n=127) included nursing and midwifery professional backgrounds. The ‘Allied health’ group (n=61) was made up of respondents with professional backgrounds in physiotherapy, occupational therapy, psychology, oral health, social work, pharmacy, dietetics and ‘Other’. The ‘Support’ group (n=96) contained caregiver, support worker, counselling and community health worker professions. The ‘Administration/management’ group (n=110) was comprised of management and administration professional backgrounds. Professions with small numbers of respondents were categorised into an ‘Other’ group (n=41) consisting of research, education, cultural roles, health promotion, mental health, disability and policy backgrounds.

Significant differences were seen across occupational groupings for the following factors; ‘Māori role models’ (KW $\chi^2(5)=17.4$, p=0.004), ‘Opportunities to work with Māori people’ (KW $\chi^2(5)=20.8$, p=0.001), ‘To make a difference for Māori health’ (KW $\chi^2(5)=14.3$, p=0.013), ‘Strengthening Māori presence in the health sector’ (KW $\chi^2(5)=13.4$, p=0.02), ‘Encouragement from Māori health professionals’ (KW $\chi^2(5)=12.8$, p=0.026), and the ‘Potential to work with own hapū/iwi’ (KW $\chi^2(5)=18.2$, p=0.003).

Respondents working in nursing related professions rated ‘Opportunities to work with Māori people’, ‘To make a difference for Māori health’, and ‘Strengthening Māori presence in the health sector’ lower than other occupational groups although, ‘Māori role models’ was rated higher by nursing than by the support professions. Both the nursing and medical groups rated ‘Encouragement from Māori health professionals’ and ‘Potential to work with own hapū/iwi’ lower than the support related professions.

In terms of years of experience working in the health sector, respondents were put into two groups; five or less years experience and six or more years of experience. Respondents with less than five years experience in the sector rated ‘Opportunities to work with Māori people’ (W = 49158, p=0.007) and ‘Availability of bridging programmes’ (W = 35258.5, p=0.02) higher than other respondents in encouraging them to initially choose a career in health. This is not surprising given that there is a greater availability of bridging programmes in recent years.

Recruitment barriers

Respondents were asked to rate the extent to which a range of factors were a barrier to them in choosing a career in health, using a 0-3 scale ranging from ‘No barrier’ to ‘Large barrier’. Respondents were also given the option to choose ‘N/A’. The results are presented in Table 51. Between 60 and 131 survey participants indicated that a given factor was not relevant to them (N/A) as a barrier to choosing a career in health. These respondents were excluded from further analysis. N/A responses are excluded in calculating the number of responses and mean scores.

Table 51. Barriers to recruitment

Barriers	N/A	Number*	Mean score	No Barrier	Small barrier	Medium barrier	Large barrier
Few numbers of Māori in the health workforce	93	315	1.7	9%	43%	21%	27%
Financial costs of tertiary study in health	131	280	1.5	16%	42%	19%	23%
Lack of clear career pathway	86	316	1.6	12%	42%	23%	23%
Personal racism (face-to-face) in health organisation and/or tertiary institution	83	325	1.5	12%	44%	22%	22%
Limited Māori content in health course	86	321	1.5	16%	41%	22%	21%
Whānau commitments	79	316	1.6	9%	48%	22%	21%
Inadequate information on a career in health	73	329	1.5	12%	42%	27%	19%
Limited whānau experience in tertiary education	83	318	1.5	9%	49%	23%	19%
Health career not promoted in a way that attracted you	64	342	1.5	13%	44%	25%	18%

*Respondents could choose to not answer a question therefore number totals may differ

Almost half of the respondents identified the following factors as a 'Medium' or 'Large' barrier for them in choosing a career in health; 'Few numbers of Māori in the health workforce' (48%), 'Inadequate information on a career in health' (46%), 'Lack of a clear career pathway' (46%), 'Personal racism (face-to-face) in health organisation and/or tertiary institution' (44%), 'Limited Māori content in health course' (43%), 'Health career not promoted in a way that attracted you' (43%), 'Whānau commitments' (43%), 'Financial costs of tertiary study in health' (42%), and 'Limited whānau experience in tertiary education' (42%). Nearly half of the respondents who participated in the survey were under the age of 40 and therefore, it is likely that responsibility for dependents contributes to the extent to which 'Whānau commitments' were identified as a barrier.

Between 84% and 91% of respondents indicated that these factors were at least to some extent a barrier for them when choosing a career in health, and for between approximately one fifth and one quarter of respondents these factors were identified as a 'Large' barrier. A small number of 'Other' barriers were identified, including; cultural competency of staff, dealing with a different iwi, distance from home, lack of Māori student support, personal reasons, unable to speak Māori, perceived lack of academic ability, lack of role models, and transport issues.

A high number of respondents rated 'Financial costs of tertiary study in health' (n=131) as not applicable. However, overall 95 survey respondents indicated that they did not hold a tertiary qualification at the time of the survey. This could also be

due to the large number of respondents who have been in the health sector for over 10 years (n=197) and may have entered prior to obtaining a tertiary qualification and commenced tertiary study post-entry with employers financial support.

A high number of respondents rated 'Few numbers of Māori in the health workforce' (n=93) as not applicable to them when they chose a career in health. This may be in part due to large numbers of respondents (n=240 currently) working within a Māori provider/organisation or a Māori unit in a mainstream organisation for whom most immediate colleagues are likely to be Māori. There are slightly higher percentages of N/A for those working in Māori provider (26%) and Māori unit settings (24%), compared to mainstream settings (22%).

Experience in the workforce and recruitment barriers

There were no significant differences in responses identified by occupational group or current employment setting.

For respondents with six or more years experience in the health sector, the following three barriers when choosing a health career were rated higher than by respondents with 0-5 years of experience; 'Limited Māori content in health course' ($W = 18340$, $p=0.05$), 'Personal (face-to-face) racism in health organisation and/or tertiary institution' ($W = 18082$, $p<0.001$), and 'Few numbers of Māori in the health workforce' ($W = 21771$, $p=0.02$). These results may indicate improvements over time in terms of increased Māori content in health courses, less personal racism in health organisations and tertiary institutions, and increasing numbers of Māori in the health workforce.

Summary of Māori health and disability workforce survey

The analysis presented indicates that are a range of barriers to MHDW recruitment and retention that are amenable to intervention. Further, that there are workforce recruitment and retention facilitators that may be strengthened in order to increase MHDW capacity and capability. The findings support comprehensive action to accelerate MHDW development.

Recruitment facilitators

Respondents indicated a number of primary drivers of their decision to choose a career in health. Some of these drivers were at the personal level, and reflected a desire to contribute to Māori development – to make a difference for Māori health, opportunities to work with Māori people, and the potential to work with their own hapū or iwi. This was reinforced by respondents who indicated that negative whānau or personal experiences with health services had encouraged them to work in the sector. Career aspirations and the strengthening Māori presence in the sector were also identified as key recruitment facilitators. Although to a lesser extent, earning potential in the sector was also a facilitator.

Responses indicated the importance of informal mechanisms and networks as recruitment facilitators, including encouragement from whānau, knowing someone working in health, and having someone from the whānau working in health. This was

particularly evident for those respondents working in Māori provider/organisations and those working in a Māori unit within a mainstream organisation. This supports the development of interventions that not only target individuals, but also their wider whānau and community, and make use of Māori networks.

It is clear from the data that increased Māori participation in the workforce reinforces Māori recruitment. Respondents were encouraged to move into the health sector by encouragement from Māori health professionals, increasing numbers of Māori working in their profession, and Māori role models in health.

Formal Māori recruitment programmes, bridging programmes, career guidance and the availability of scholarships and grants were also indicated to be having an impact.

Recruitment barriers

A number of major barriers to recruitment were identified by respondents that are amenable to intervention. Those barriers are; lack of a clear career pathway, personal racism in health and tertiary education institutions, the limited Māori content in health courses, promotion of health careers in ways that do not engage Māori, and the financial costs of tertiary study. Limited whānau experience in the sector and Māori participation in the workforce were also identified as major barriers, however, these factors will presumably have lesser impact as other barriers are addressed. Whānau commitments were also identified as an important barrier, which implies the need for flexible working conditions to enable those with family responsibilities to move into the health sector.

Respondents who had experience working in the health and disability sector identified that limited Māori content in health related courses was a significant barrier and that successful integration into health related courses would facilitate recruitment into tertiary study, and therefore increase workforce capacity and capability.

These findings provide clear guidance as to the multiple intervention points to strengthen MHDW workforce capacity and capability, both within the health and education systems.

RETENTION OF MĀORI IN THE HEALTH AND DISABILITY WORKFORCE

This chapter of the report presents research data primarily relating to what keeps Māori in the health and disability workforce, what prevents Māori from staying in the health and disability workforce, and what careers Māori move into when they leave the health and disability workforce. Data is also presented on the characteristics of an optimum workforce and strategies for workforce development.

Qualitative data review

The major sources of qualitative data for this section of the report were the literature, 30 key informant interviews, 12 focus groups[6], and 30 ex-workforce interviews (participants were formerly part of the MHDW and interviews were carried out in the three project regional sites). It should be noted, however, that there is a very limited literature base with regard to retention within the health and disability workforce for indigenous peoples including Māori.

This section of the report combines data from the four data sources to present qualitative findings with regard to barriers and facilitators of Māori retention in the workforce and the careers that Māori move into when they leave the health sector. Key informant data with regards to the characteristics of an optimum MHDW, and strategies to facilitate workforce development are also summarised in this section.

Retention factors

Key informants, ex-workforce interviewees and focus group participants identified a range of factors that influence Māori retention within the workforce. The factors can be grouped into the following four categories: structural factors - racism; system level factors – health sector funding mechanisms, limited flexibility; organisational factors - institutional commitment, support for transition into the workforce, work conditions, opportunities in other sectors; and individual level factors - making a difference for Māori health, whānau commitments, community expectations. There was, however, a limited indication that recruitment rather than retention is the key MHDW development issue. That is, that once Māori have completed their professional training they are likely to move into the sector and remain there, though there may be issues in retaining Māori within particular roles or settings.

[6] Focus groups were run in three regions: Bay of Plenty (BOP), Manawatū/Wanganui (Man/Wan), and Auckland. In each region four focus groups were held with the following groups of participants; Māori secondary school students (secondary school), Māori tertiary health field students (tertiary), Māori health professionals currently working in the sector (MHDW), and Māori health sector community and voluntary workers (community/voluntary). Quotes from focus groups are labelled according to the region in which the focus group was held and the participant category.

> …once they're in the programme they're in the workforce. May not stay doing original [role], but progress. I don't think there's a problem keeping them in the workforce. Might be a problem retaining them in hospitals…there's…just not enough graduating. (Key informant 26)

Structural factors

Racism

Institutional racism was identified by a number of key informants as a barrier to MHDW retention.

> Discrimination and institutionalised racism. Tauiwi views, models and practices. No consultation, partnership or involvement in decision making. Lack of acknowledgement of tikanga, Māori models of practice, values and aspirations. Not feeling understood…discrimination regarding processes, for example not adequate tangi leave, pōwhiri and poroporoaki. (Key informant 12)

This finding was consistent with the results of a survey of the Māori public health workforce carried out by the Auckland Regional Public Health Service, which identified culturally unsafe environments and institutional racism as barriers to Māori public health workforce participation (Auckland Regional Public Health Service, 2004).

System level factors

Health sector funding mechanisms

Key informants and ex-workforce interviewees identified health sector funding mechanisms as a barrier to retention. Specific concerns included low levels of funding for Māori providers to enable them to pay salaries equitable with mainstream providers and to support MHDW development, as well as short term funding for Māori providers that undermines strategic planning for workforce development.

> I think for a lot of them it's about dollars, and it goes back to the fact that as iwi and Māori providers we are contracted for a specific service for a specific amount of dollars and there is no room to move. While all the costs of living go up, the salary doesn't rise and we don't have the flexibility because our contracts don't increase. I think that's huge and a lot of people move on because they can get better money somewhere else. (Focus group – BOP, MHDW)

Limited Flexibility

A general concern was raised by research participants that the bureaucratic and inflexible nature of the health system is limiting in terms of allowing Māori health professionals to fully contribute to improved Māori health outcomes.

> I think that the people who have the kaupapa of working outside of the box are driven out of health because it's too confining. When the reforms happened we were painting our own picture and we did move between sectors, we were doing social health, wānanga, real holistic delivery models, then the Ministry started to confine us. I think that confining can restrict people's passion about whether or not they want to work in the sector. (Ex-workforce – Man/Wan informant 1)

Organisational factors

Institutional commitment

A number of dimensions of health and education organisations institutional commitment to MHDW development were identified by most research participants as influencing retention. Those dimensions are; professional development opportunities, dual competencies and expectations of employers, access to cultural supervision, culturally safe managers, opportunities to work within Māori frameworks, and Māori participation. Comments indicated that the performance of organisations with regard to these factors influences the extent to which Māori health professionals feel supported in their roles, and that a lack of support encourages movement from the sector.

> There is an environment created that Māori like to work in and feel comfortable in, as well as recognition of cultural values. (Key informant 7)

One ex-workforce interviewee noted that there has been little work and committed resources to support the development of quality employers.

> To keep Māori in the health sector, work needs to be done on how to be good employers. Lots of money is poured into professional development in the sector, but not much money or work is done to ensure we are quality employers that lead and drive our organisations. (Ex-workforce – Man/Wan, informant 1)

Professional development opportunities

Professional development as an expression of institutional commitment refers to the support provided by employers for Māori health professionals to develop or strengthen dual competencies – that is, technical competencies and Māori-specific competencies. The literature refers to the need for quality professional development opportunities for Māori to strengthen dual competencies (Auckland Regional Public Health Service, 2004), and that a lack of professional development opportunities is a barrier to Māori retention (Simon, 1990). Access to quality and relevant professional development was identified as a retention facilitator by research participants.

> Learning more about being Māori in health, and developing Māori competencies such as learning te reo Māori. (Key informant 1)

Ex-workforce interviewees acknowledged that there are some good professional development opportunities in the health sector. However, often support from management is limited in that opportunities may be restricted to specific narrow training programmes alongside inflexibility with regard to staff leave for development purposes due, for example, to lack of coverage for staff in training.

> I could have been contained in the area if I was offered ongoing professional development to upskill myself in that particular area. Just to have that awhi around – they say its there but its really not…What would have kept me there was awhi, support and ongoing personal development being offered to keep myself up-skilled. (Ex-workforce – Man/Wan, informant 2).

The availability of financial support for ongoing study was noted as a retention facilitator.

> Scholarships have helped a lot, they have an important part to play. (Key informant 30)

Dual competencies and expectations of employers

Some key informants and workforce focus group participants noted that expectations were commonly placed on Māori health professionals to be both clinically and culturally competent with the capacity to represent Māori views. This was also noted in a research paper by Simon (1990), with regard to the psychology workforce. Some Māori do not have Māori cultural expertise, and are uncomfortable with this expectation.

> …you're expected in a Pākehā setting to be knowledgeable and take on board Māori responsibility, expected to be an expert where you may not know... (Key informant 17)

Ex-workforce interviewees and key informants strongly emphasised that high expectations are placed on those workers who do hold dual competencies, resulting in heavy additional workloads alongside the normal responsibilities of their roles.

> When Māori do qualify, they are held accountable for too much, speaking for all Māori, and they get burnt out. I was the only Māori male, and was expected to know all the kawa of all iwi when I was called in all over the motu. (Focus group – Auckland, MHDW)

Further, that those additional skills and workloads are not valued, recognised, or compensated for (through for example remuneration or advancement opportunities)

by health sector organisations. This leads to Māori health professionals feeling undervalued in their roles.

> Lack of recognition for the value added components regarding things Māori in Māori communities. This information that we bring to this type of job no non-Māori could bring…to this position, so you tend to do more mahi and overwork because you know Māori communities… So it's a frontier breaking job and that isn't recognised in your remuneration and in general recognition of the value in doing that. The feeling of being dumped with a lot of extras, but its not recognised as extra. Because you're Māori you're just expected to take it on board. (Ex-workforce – BOP, informant 2)

According to interviewees, systems are required that recognise the added value and additional work carried out by Māori health professionals.

> … the recognition that when you're working with Māori whānau, that you're working with the whānau as opposed to a single person. So acknowledging that and allowing that to be measured…if the policies allowed us to work more autonomously and get measured the same way as someone else, but against our measuring stick not a mainstream measuring stick. Because it means I could be both Māori, serve the people, and be recognised for it as opposed to [being asked] 'what have we been doing?' and they think we have just been at some hui… (Ex-workforce – Auckland, informant 11)

High expectations, unrealistic workloads, and the limited numbers of culturally competent Māori health professionals were considered by respondents as factors leading to 'burnout'. Ex-workforce interviewees commonly referred to 'burnout' as a reason for their decision to leave the sector.

> As a Māori worker you're expected to deliver. For example, one moment you could be at a meeting with colleagues describing culturally what would help this person become more well, then you're delivering the operational care, then you're out in the community trying to talk to whānau about the care – you know it's just too much. (Ex-workforce – Auckland, informant 6)

Access to cultural supervision

The importance of access to cultural supervision was highlighted by some key informants as a retention facilitator.

> Supportive managers and working environments, cultural supervision, access to kaumātua. (Key informant 1)

Quality Management

Ex-workforce interviewees described personal experiences with poor quality health sector management. Poor management was identified as a barrier to retention

> I felt that I was under supervised and under managed by people who didn't know enough. I was delivering 100% but not getting 100% support. (Ex-workforce – Auckland, informant 3)

Culturally safe management was considered by key informants and ex-workforce interviewees to be an important retention facilitator.

> Good culturally sensitive manager, culturally aware teams… (Key informant 17)

Organisational and management inflexibility were identified by research participants as reasons why some Māori leave the workforce. In particular, concerns were raised that management structures and styles did not always allow Māori to 'be Māori' or work in a 'Māori way'.

> Management structures also need to allow us to think outside the square, because we don't fit in the square. (Focus group – Man/Wan, tertiary)

These findings were consistent with the results of the Auckland Regional Public Health Service project to identify the requirements for Māori public health workforce development (Auckland Regional Public Health Service, 2004). Inadequate levels of support from management and organisations were identified as a barrier to Māori participation in the public health workforce.

Opportunities to work within Māori frameworks

Key informants, MHDW and community/voluntary worker focus group participants, and ex-workforce interviewees emphasised that Māori staff retention is facilitated where employees have the opportunity and flexibility to work within known Māori frameworks and practice models. Likewise, rigid workplaces that do not recognise or value Māori specific approaches were considered to encourage Māori to leave the sector.

> Workplace allows them to work in a Māori way, use Māori models. Learning more about being Māori in health, and developing Māori competencies such as learning te reo Māori…Access to other Māori staff. Can work as Māori, which in turn attracts and keeps Māori. (Key informant 1)

Some responses from ex-workforce interviewees indicated that while Māori may be encouraged to work within Māori practice frameworks; guidelines, processes and performance measures do not align with those frameworks.

> And you're still in the Pākehā box…the contractual stuff, and I know that is so the organisation runs and they need the pūtea and all that stuff to pay the wages, but I still believe they need some flexibility for Māori to grow, as Māori, in a Māori organisation. That's what they put out – 'for Māori, by Māori'…but in reality it's a Pākehā contract. So you still have to comply with Pākehā boxes. (Ex-workforce – Man/Wan, informant 2)

The importance of work environments that support Māori cultural values and enable workers to meet Māori obligations and responsibilities in a flexible way was identified as a retention facilitator in focus groups.

> The Māori tikanga/manaakitanga feeling. Being able to go away to a tangi. (Focus group – BOP, community/voluntary)

Māori participation

Key informant identified lack of consultation or "partnership" relationships with Māori, and low levels of Māori participation as health professionals as barriers to workforce retention. Responses indicated that this may lead to feelings of isolation for Māori health professionals and increase the difficulty of challenging poor practice for Māori in workplaces. Conversely, a critical mass of Māori colleagues with whom to network was identified by some key informants as a facilitator of workforce retention. It was noted that Māori colleagues may provide support, mentoring, cultural supervision and as well may be role models.

> [Māori] Professional role models, mentors, an ability to hui…Māori colleagues and others who understand where you're coming from. (Key informant 30)

The capacity for Māori health professionals to both receive and provide whānau, hapū and iwi support was identified as a key factor in workforce retention by MHDW focus groups.

> Definitely whānau support, whānau, hapū and iwi. It doesn't matter whether you're going to iwi or whether you're going to the Crown [for employment]. (Focus group – Man/Wan, MHDW)

Support for transition into the workforce

Tertiary student focus group participants identified a lack of support for the transition from study to full time work in the sector as a reason for the loss of new graduates.

> You have come out of an academic structure that gives you little bits of…experience, but then you may work in a hospital and if you're not supported, you may get nurses that will leave because of the huge gap between the student nurse and the registered nurse… (Focus group - Man/Wan, tertiary)

Work conditions

Key informants and focus group participants indicated that Māori health professionals, as well as facing Māori specific workforce development issues, also share the more general concerns of the wider workforce including; quality management, flexibility issues, poor access to training opportunities, workloads, pay rates, and lack of clear career pathways. This is supported by findings of the 2004 Auckland Regional Public Health Service report of a survey of the Māori public health workforce, which identified a lack of career pathways and access to training opportunities as barriers to workforce participation (Auckland Regional Public Health Service, 2004).

> …if the person has good management around them, a clear pathway and scope in terms of how they want you developed. An ability to…be able to meet with the management and to see the flexibility of delivery… (Focus group – Man/Wan, MHDW)

MHDW focus group participants, key informants, and ex-workforce interviewees indicated that there is a perception amongst the MHDW that there are limited opportunities for career advancement within the sector, and that this leads to poor retention. The need for long-term career planning at the completion of training and clear career pathways were identified as retention facilitators.

> I've done every type of nursing that you can think of…Nurses would like to have a change. If you've been around the tracks you just want a change, not necessarily because of the job…No real career path to follow for nurses other than being a top nurse. (Focus group – BOP, community/voluntary)

Low wages generally were cited by community/voluntary worker and MHDW focus group participants and ex-workforce interviewees as a reason why Māori leave the health sector. Disparities in pay rates and development opportunities between under-funded Māori providers and mainstream providers was also emphasised.

> …we lose a lot of our own to better wages…more training opportunities, more professional development opportunities… (Focus Group – Man/Wan, community/voluntary)

Opportunities in other sectors

Key informants noted that the qualifications and skills acquired in the health sector are transferable to other sectors. Further, given the high demand for Māori competencies across sectors, Māori health professionals have attractive employment opportunities in other sectors. Work conditions in other sectors may include improved salary scales, increased access to professional development, enhanced career progression, and greater work/life balance.

> The health sector is not competitive. The Māori health workforce is so small, qualified Māori are in such demand, so employers need to be competitive…After a couple of years in health, staff often get enticed into areas like education…because skills are transferable. (Key informant 1)

Individual level factors

Making a difference for Māori health

Being able to make a difference for whānau, hapū, iwi and Māori health generally was a commonly cited reason given by research participants for Māori remaining within the workforce. According to key informants and some focus group participants, Māori health professionals are concerned that the health system underperforms for Māori and believe that they have an important contribution to make in terms of enhancing the responsiveness of the system to Māori.

> They know that the health system is not good for Māori and people want to see changes. (Key informant 11)

Some key informants referred to the very personal stake that Māori health professionals feel with regard to improving the health of Māori, and that this motivates them to go beyond the usual requirements of their role. Some key informants indicated that Māori health professionals are not only concerned for the wellbeing of the current generation, but also for future generations.

> It's their duty to help Māori people, it's their job and duty as opposed to non-Māori – it's a job they care about but it's not a duty. (Ex-workforce – BOP, informant 1)

According to ex-workforce interviewees, the desire to make a difference for Māori provides a clear purpose for remaining in the workforce. However, that in itself is not sufficient and must be reinforced by broader retention facilitating factors.

> People who have a commitment to the well-being of tāngata Māori. It's a big part of why people enter into the health workforce, but that has to be reinforced by good employers. Kaupapa can keep you there for a long time, but sooner or later you can get tired of just having kaupapa and no reward for your commitment to that kaupapa. (Ex-workforce – Man/Wan, informant 1)

Research respondents cited Māori health professionals frustrations at the limited contribution they are able to make to Māori health, particularly due to restraints placed on them by the health system and organisations, as a reason why some choose to leave the workforce. Workforce focus group participants identified disillusionment with the reactive nature of work in the health sector as a reason for Māori choosing to leave the workforce. It was recommended that a more proactive and prevention focussed system would facilitate increased retention.

> You want positive outcomes…some of our services tend to be a bit ambulance at the bottom of the cliff, and there's only so long that you want to work in that type of regime...it's important that you have a look at the scope of the health spectrum and positive preventative measures... (Focus group – Man/Wan, MHDW)

As well as the more direct benefits for whānau of having a health professional in the family, some key informants noted the desire by Māori to better themselves professionally and that this was considered by some as a vehicle through which to ensure that they could provide greater opportunities for their children.

Whānau commitments

Some key informants suggested that whānau commitments led to some Māori choosing to leave the workforce. Examples of whānau commitments included, women leaving the workforce to start families, and those with families who find that the long hours and stress levels are incompatible with family responsibilities.

> Demanding on family and personal life. It's an all encompassing job that uses all aspects of you holistically. Getting burnt out. (Key informant 19)

Expectations of communities

Ex-workforce interviewees and key informants noted that there are high expectations placed on Māori health professionals by Māori, as well as their own sense of obligation to Māori whānau.

> The work that you do in Māori health can be more demanding…when you're out in your community, the community expects more things of you too. (Ex-workforce – Man/Wan, informant 1)

Careers outside of the sector

When research participants were asked what careers Māori move into when they leave the health and disability workforce, responses indicated that individuals move into a wide variety of roles across sectors dependent on personal priorities and interests.

> Depends on their passions. Journalism, consultancy… (Focus group – BOP, community/voluntary)

The main areas identified by participants were Māori and iwi development, education, social services, management, business, community, consultancy and parenting.

> They move to public sectors like social services or education…the work that I'm doing at the moment is small contract work, this allows me more flexibility and it's

> a good change from having a hierarchical structure to work under. (Ex-workforce – Auckland, informant 2)

According to interviewees, when Māori move out of the health sector, their new roles are often linked to health.

> They don't stray far from the health field, they might end up at a school in a teaching position. (Ex-workforce - Man/Wan, informant 7)

Respondents noted that those that leave the sector often continue to work with, and make a difference for, Māori. Some believe they are able to have a greater impact for Māori outside of the sector, for example in work to address the determinants of Māori health.

> I work for the Ministry of Social Development. I can create an influence from a wider perspective, but I don't have direct influence. It means I can create a change from the inside. A good example of this is that I attended a MSD meeting of Senior Managers and that was the top 100, and I don't think there were more than two Māori in the room. (Ex-workforce – BOP, informant 4)

Characteristics of an optimum workforce

Key informants were asked to identify what they considered to be the main characteristics of an excellent and optimum MHDW. Responses can be grouped into five main categories; strategic workforce planning, structures and the environment, workforce capacity, workforce capability, and approaches and processes.

Strategic workforce planning

A number of key informants emphasised the importance of a "strategic" approach to MHDW planning that is outcomes centered, taking into account the need to strengthen Māori participation in the workforce across a range of occupational groups. Generally, key informant comments reflected a fundamental view that MHDW development is primarily concerned with building a workforce that is best able to address the health needs of Māori, and thereby contribute to improved health outcomes for Māori.

> There needs to be more focus on outcomes like…structures, skills and attributes…Māori need the right balance to meet the needs and improve outcomes. We need to be flexible and not get too caught up in specialisation. (Key informant 6)

It was also noted, that developing an optimum MHDW will rely on that promotion of health as a career option to Māori communities, and particularly to young Māori children.

> Target all areas not just one. Start in the homes from babies to elders and out to the community. Don't start at 7th form… (Key informant 5)

Structures and the environment

Respondents stressed that development of an excellent and optimum MHDW relies upon genuine commitment to this goal throughout the sector. This should be reflected in structures and systems that facilitate a supportive health sector environment for Māori workforce development.

Key identified elements of a supportive health sector environment are:

- Māori representation at all levels;
- links to Māori communities and mechanisms for accountability to Māori;
- well resourced efforts to support MHDW development;
- health services recognise Māori approaches to health and facilitate the use of Māori practice models;
- developed Māori health professional networks;
- clear career pathways;
- support for career planning and advancement opportunities;
- manageable workloads;
- appropriate levels of remuneration;
- Māori leadership and access to Māori mentoring;
- support for Māori-specific services and interventions;
- a sound Māori health information base;
- ongoing quality professional development opportunities and the recognition of dual competencies;
- support for the achievement of work/life balance;
- access to technology; and,
- that the health sector environment enables Māori health professionals to practice as Māori, and therefore does not constrain the expression of Māori values in practice settings.

Workforce capacity

Building MHDW capacity is concerned with increasing the numbers of Māori health professionals working in the sector across a range of professions and at all levels. Importantly, workforce capacity should be sufficient to meet the needs of the Māori population. Further, Māori capacity should be sufficient to ensure wide Māori representation in mainstream and to enable the provision of Māori controlled and managed services.

> Māori in all levels of health workforce. You'd have people at every level and opportunities to move from one level to the next. (Key informant 26)

Workforce capability

MHDW capability building is primarily concerned with increasing and strengthening the knowledge, skills, competencies, abilities, and experience of Māori health

professionals, so that they are better able to contribute to achieving health sector goals for improved health outcomes for Māori.

A strong theme that emerged from key informant interviews was the importance of dual competencies. That is, an optimum MHDW will have the skills to enable the delivery of high quality services for Māori, which requires health professionals with high levels of both technical and cultural competence.

> Cultural competency…no room for poor clinical skills...Clinical skills, practical Māori skills and experience, understanding of inequalities and determinants of health. (Key informant 22)

> To have a workforce that is able to deliver services in a way that supports Māori values, ways of working, frames of reference. (Key informant 1)

A facet of cultural competence noted by some key informants, was the development and maintenance of health professionals links with Māori communities.

Further, key informants noted the importance of workforce development across a wide range of occupational groups and at all levels, particularly in decision-making roles. Therefore, ongoing measures to address the under-representation of Māori across occupational groups will be important.

Key informants felt that given the relatively small numbers of Māori, that MHDW development strategies should be less concerned with development of specialised skills than with supporting the development of practitioners who are able to work in flexible ways.

Approaches and processes

Some key informants commented on the preferred approaches and processes utilised by Māori health professionals. Comments indicated the importance of a prevention focus, holistic and multidisciplinary approaches, working within Māori frameworks, and responsiveness to Māori community needs.

Strategies for workforce development

Key informants were asked to identify the core elements of an overarching strategy for MHDW development and to describe an effective MHDW development programme.

An overarching strategy

Key informants noted that there are broad determinants of MHDW participation, such as poverty, and that any effort to enhance Māori workforce participation should be contextualised within wider actions to address relative Māori disadvantage. Further, MHDW development strategies should be primarily driven by the need to improve Māori health outcomes. That is, that the major purpose of MHDW capacity and capability building is to enable the workforce to better contribute to health gains for Māori.

> Part of the strategy needs to look at poverty, if they don't have good health or food they can't be expected to perform properly at work or education. (Key informant 11)

The importance of a national long-term strategy, developed with strong Māori leadership and input, that engages all key stakeholders (including Māori communities) was emphasised. It was suggested that an independent Māori health workforce development commission be established to provide leadership and drive development. Further, the strategy should align with existing health sector strategies and include a focus on strengthening inter and intra sectoral relationships between stakeholders. The commitment of mainstream to the strategy was considered to be critical. As well, it was recommended that the successful learnings from MHDW development activities in the field of mental health be applied in other areas.

> National strategy has to include all stakeholders, with input from all stakeholders, most importantly including universities…We also need to talk to non-Māori. A lot of activity is influenced, and some of the barriers are coming from the non-Māori stakeholders… (Key informant 30)

> Needs to be owned, driven and governed by Māori…Focus on Māori best practice. An independent body…Māori mental health has led in workforce development. Don't re-invent the wheel. Māori mental health has international, regional, and local initiatives at all levels, a good model. (Key informant 1)

> We need to join the dots and work in collaboration with health, research and education as we're in danger of fragmentation. We need a common ground. Cross sector strategic relationships are vital. As currently we don't link up well with other sectors. (Key informant 7)

As well the strategy should be evidence-based drawing on wide information sources, linked to supply and demand data, and with clearly defined targets.

> …develop strategic capacity and capability in regards to programmes, research…organisational policies and affirmative action, set targets on occupational group... (Key informant 6)

It was recommended that the strategy focus on recruitment and retention, the development of dual technical and cultural competencies, increased Māori participation in decision-making roles within the sector, and the recognition and valuing of Māori frameworks.

Most importantly, according to interviewees, the success of the strategy would rely upon sufficient resourcing to enable its effective implementation.

A workforce development pathway

It was apparent from responses that there is a workforce development pathway that may begin at kōhanga reo and continue through school, transition into tertiary education and completion of basic qualifications, transition into the workforce, and for the duration of a health professionals career. Key informants identified multiple intervention points within that pathway and recommended an evidence-based approach whereby learnings from successful interventions currently offered are used to guide intervention development.

Ideally, features of the pathway should include seamlessness of the journey, a comprehensive approach, multiple links across the pathway (for example with Māori health professional role models speaking in schools), Māori control and leadership of interventions, access to technology, and ready access to quality career information throughout the pathway, through for example 'one stop shops'.

> One stop shop for Māori health training and career information that's accessible and not solely reliant on good IT. (Key informant 1)

Interventions that can be linked to specific phases of the pathway were identified by key informants.

It was recommended that marketing campaigns promoting careers in health target children at a very young age, from primary school and through secondary school. The use of Māori health professional role models for school age children, support for schools to promote careers in health, specific marketing to encourage childrens' interest in the sciences and curriculum changes to stimulate that interest, as well as opportunities for work experience in the health sector.

> National strategy to make Māori health or health an exciting place to work. If we want to appeal to younger people we need to market it and have younger funkier role models appealing to them, as the sports sector does…They need someone they can relate to. We need a young marketing strategy to attract and engage the younger market to make health hip, cool and happening as a career. Consult with young ones to see how they could market health careers and education to their peers, they have some really good ideas. (Key informant 8)

At the tertiary education level, it was recommended that greater support be provided for the transition for secondary school students and mature students into tertiary study. Further, that Māori students have access to both Māori and non-Māori academic mentors who are culturally safe. The importance of course counseling was noted, to ensure that students enter courses appropriate to their interests and academic abilities. A focus on promoting quality and excellence in academic performance was also considered by some key informants as important.

It was noted that tertiary education programmes should be aligned to strategic workforce development and employer needs, and that curriculums and course content should better integrate Māori frameworks and consideration of the determinants of

health. Further, that courses facilitate workforce dual competency development and transferable skills that enable flexibility for graduates to move into a variety of roles within the sector.

> More Māori components and relevant lectures, there is a lack of Māori curriculum and cultural safety. Young people doing science and a change of the education curriculum. (Key informant 22)

In order to address affordability as a barrier to participation in tertiary education in health fields, it was suggested that nil fee courses be available as well as scholarships. The importance of staircasing was emphasised, as well as the need to develop links between those studying in health fields and the MHDW (e.g. as role models and through student placements). One key informant suggested that incentives should be available to encourage providers to offer placements for those in training and new graduates.

For those already in the workforce, it was recommended that post-entry support be better developed, including greater clarification with regard to, for example, competency guidelines. Support for the ongoing development of technical and cultural competencies, the integration of Māori practice models and wellness centered approaches, and clear career pathways were considered to be necessary.

> Professional development includes continuing education and special training. As Māori, this would include reducing inequalities, Māori health training as a lot of Māori grow up dislocated from their culture but are expected to perform and know everything when it comes to Māori. Māori health competencies – te reo, tikanga, decolonisation. (Key informant 11)

For workers, access to Māori mentors and cultural supervision as well as increased Māori representation generally and as managers and in the area of human resources were considered to facilitate workforce retention. There was some indication that training for mentors should be available. Remuneration was also identified as an area for closer attention in order to encourage retention.

Summary of qualitative data review

The data presented in this section of the report indicates that while there are structural determinants of Māori retention in the health and disability workforce that will require ongoing society-wide action to address, there are also a broad range of direct barriers that are amenable to more immediate intervention and facilitators that may be strengthened in the short and medium term. As is the case for workforce recruitment, there are opportunities to strengthen action for MHDW retention.

In order to work most effectively towards achieving an optimum MHDW in terms of both capacity and capability, commitment of the sector as a whole to a comprehensive long term strategy is required, as is intersectoral collaboration – particularly with the education sector. In this respect, it is useful to consider MHDW development as a pathway from early pre-school education through to retirement from health careers.

Along that pathway there are multiple intervention points that will rely upon intersectoral action for maximum impact and gains.

Māori health and disability workforce survey

The 449 participants in the Māori health and disability workforce national survey provided information, which is summarized below, on retention facilitators and barriers and support for professional development.

Retention in the MHDW

Retention facilitators

Participants were asked to identify the extent to which a range of factors encourage them to keep working in the health and disability sector. Each factor was rated on a 0-3 scale ranging from 'No encouragement' to 'Major encouragement'. Respondents were also given the option to choose 'N/A'. Between four and 40 survey participants indicated that a given factor was not relevant to them (N/A) as a barrier to choosing a career in health. These respondents were excluded from further analysis, including calculation of number and mean score. Results are presented in Table 52.

Most respondents reported four main factors that provided a 'Major encouragement' for them to remain working in the health and disability sector. Those factors are; 'Making a difference for Māori health' (77%), 'Strengthening Māori presence in the health sector' (69%), 'Being able to work with Māori people' (69%), and 'Making a difference for my iwi/hapū' (67%). Almost all respondents indicated that those four factors provided 'Quite a lot' or a 'Major encouragement' for them to continue working in the sector.

Further, around half or more of the respondents indicated that the following factors provided a 'Major encouragement' for them to keep working in health; 'Opportunities to work in Māori settings' (60%), having 'Māori practice models and approaches valued' (58%), 'Having opportunities to work in Māori contexts using Māori practice models' (55%), 'Being a role model for Māori' (55%), 'Culturally safe work environment' (52%), 'Ability to network with other Māori in the profession' (52%), 'Supportive and culturally safe manager/supervisor' (51%), 'Recognition and valuing of Māori cultural competencies' (50%), 'Provision for whānau/Māori community commitments' (50%), 'Having Māori colleagues' (49%), and 'Access to cultural resources' (46%).

Almost all respondents indicated that the following factors at least to some extent encouraged them to keep working in the health and disability sector; 'Ability to network with other Māori in the profession' (95%), 'Having Māori colleagues' (93%), 'Being a role model for Māori' (93%), 'Opportunities to work in Māori settings' (92%), and 'Māori practice models and approaches valued' (92%).

Table 52. Retention factors for health professionals

Retention factors	N/A	Number*	Mean Score	No encouragement	A little	Quite a lot	Major
Contribution to Māori							
Making a difference for Māori health	2	411	2.7	2%	6%	15%	77%
Being able to work with Māori people	4	410	2.5	3%	8%	20%	69%
Making a difference for my iwi/hapū	19	389	2.4	6%	10%	17%	67%
Being a role model for Māori	9	396	2.3	7%	13%	25%	55%
Cultural factors							
Opportunities to work in Māori settings	13	394	2.3	8%	12%	20%	60%
Māori practice models and approaches valued	7	400	2.3	8%	11%	23%	58%
Opportunities to work in Māori contexts using Māori practice models	11	396	2.2	10%	12%	23%	55%
Ability to network with other Māori in the profession	6	401	2.3	5%	12%	31%	52%
Culturally safe work environment	8	390	2.2	9%	18%	21%	52%
Supportive and culturally safe manager/supervisor	16	388	2.1	11%	14%	24%	51%
Recognition and valuing of Māori cultural competencies	10	393	2.1	10%	15%	25%	50%
Access to cultural resources	11	390	2.1	11%	18%	25%	46%
Access to Māori cultural supervision	20	383	2.0	16%	15%	24%	45%
Professional development							
Paid professional development opportunities	22	378	1.7	13%	32%	27%	28%
Paid Māori cultural competency development opportunities	34	361	1.4	28%	27%	22%	23%
Scholarships and grants	40	346	1.2	34%	29%	17%	20%
Work conditions							
Provision for whānau/ Māori community commitments	10	394	2.2	9%	14%	27%	50%
Mana/prestige of my profession	26	368	1.8	19%	20%	26%	35%
Pay rates	15	381	1.7	19%	26%	22%	33%
Clear career pathways	24	368	1.7	17%	23%	28%	32%
Workforce composition							
Strengthening Māori presence in the health sector	4	410	2.6	3%	5%	23%	69%
Having Māori colleagues	10	390	2.2	7%	15%	29%	49%
Having Māori role models	10	392	2.1	12%	16%	24%	48%

- Respondents could choose not to answer a question therefore number totals may differ.

Factors relating to workforce conditions and professional development opportunities were also considered by almost half or more respondents to be 'Quite a lot' or a 'Major encouragement' to remain in the sector.

It is clear that the opportunity to contribute to Māori wellbeing, cultural factors, professional development opportunities, work conditions including a supportive work environment, and the degree of Māori representation in the workforce all contribute to MHDW retention.

Over a quarter of respondents indicated that 'Scholarships and grants' (34%) and 'Paid Māori cultural competency development opportunities' (28%) did not encourage them to keep working in the sector. Scholarships and grants may have little impact for those whose study is employer funded or who have already gained sufficient formal tertiary qualifications.

A small number of respondents identified the following additional retention facilitators; remuneration, equity, Māori cultural competencies, whakawhānaungatanga, whānau, and working face-to-face.

Demographic and workplace characteristics and retention facilitators

The factors that encourage respondents to remain in the MHDW were examined by major demographic and workplace characteristics utilising Wilcoxon (W) rank-sum test for differences between two categories and Kruskal-Wallis (KW) for more than two groups.

Significant differences were found across main employment settings (Māori provider/organisation, Māori unit within a mainstream organisation, and mainstream provider/organisations) for the following factors; 'Having Māori colleagues' (KW $\chi^2(2)=20.3$, $p<0.001$), 'Having Māori role models' (KW $\chi^2(2)=20.7$, $p<0.001$), 'Ability to network with other Māori in the profession' (KW $\chi^2(2)=15.4$, $p<0.001$), 'Being able to work with Māori people' (KW $\chi^2(2)=27.6$, $p<0.001$), 'Opportunities to work in Māori settings' (KW $\chi^2(2)=42.5$, $p<0.001$), 'Māori practice models and approaches valued' (KW $\chi^2(2)=25.5$, $p<0.001$), 'Opportunities to work in Māori contexts using Māori practice models' (KW $\chi^2(2)=37.4$, $p<0.001$), 'Making a difference for my iwi/hapū' (KW $\chi^2(2)=35.6$, $p<0.001$), 'Making a difference for Māori health' (KW $\chi^2(2)=19.4$, $p<0.001$), 'Supportive and culturally safe manager/supervisor' (KW $\chi^2(2)=20.1$, $p<0.001$), 'Access to Māori cultural supervision' (KW $\chi^2(2)=19.6$, $p<0.001$), 'Culturally safe work environment' (KW $\chi^2(2)=25.1$, $p<0.001$), 'Mana/prestige of my profession' (KW $\chi^2(2)=6.3$, $p<0.001$), 'Recognition and valuing of Māori cultural competencies' (KW $\chi^2(2)=17.1$, $p<0.001$), 'Provision for whānau/ Māori community commitments' (KW $\chi^2(2)=15.1$, $p=0.001$), 'Access to cultural resources' (KW $\chi^2(2)=17.9$, $p<0.001$), 'Being a role model for Māori' (KW $\chi^2(2)=11.7$, $p=0.003$), and 'Strengthening Māori presence in the health sector' (KW $\chi^2(2)=9.8$, $p=0.007$).

Respondents in mainstream providers/organisations rated 'Having Māori colleagues', 'Ability to network with other Māori in the profession', 'Being able to work with Māori people', 'Making a difference for Māori health', and 'Strengthening Māori presence in the health sector' lower than respondents employed in Māori provider/organisations and within Māori units in mainstream organisations. There were no differences between Māori provider/organisation and Māori units in mainstream organisations.

Respondents in Māori provider/organisations rated 'Mana/prestige of my profession' and 'Being a role model for Māori' higher than the other two groups, however, there

was no difference between respondents in Māori units in a mainstream organisation or those working in mainstream organisations generally.

There were rating differences by employment setting for the following factors; 'Having Māori role models', 'Opportunities to work in Māori settings', 'Māori practice models and approaches valued', 'Opportunities to work in Māori contexts using Māori practice models', 'Making a difference for Māori health', 'Supportive and culturally safe manager/supervisor', 'Access to Māori cultural supervision', 'Culturally safe work environment', 'Recognition and valuing of Māori cultural competencies', 'Provision for whānau/Māori community commitments', and 'Access to cultural resources'. The rating consistently showed that those working within a mainstream provider/organisation rated these factors lowest, that employees of Māori provider/organisations rated them highest, and those working within Māori units rated them somewhere in between.

No significant differences were found by occupational groups. However, further examination of the nursing group, as the largest occupational group, by years of experience elicited two factors that were significantly different. Those in nursing with six years or more work experience in the health sector rated 'Ability to network with other Māori in the profession' (W = 713.5, p=0.031), and 'Opportunities to work in Māori contexts using Māori practice models' (W = 697, p=0.027) significantly more important than nurses with less experience.

Over all occupation groups only one factor showed any significant differences, respondents with six years or more experience in the health and disability sector rated 'Recognition and valuing of Māori cultural competencies' (W = 24350, p=0.11) higher than those with less experience.

There were also significant differences across age groups for 'Mana/prestige of my profession' (KW $\chi^2(3) = 8.7$, p=0.03). This was rated highest for respondents aged less than 30 years, and for those aged 50 years and over.

Respondents with a tertiary qualification rated 'Pay rates' (W = 13319.5, p=0.012) as a factor that encouraged them to continue working in health significantly higher than those who did not hold tertiary qualifications.

Retention barriers

Respondents were asked to rate the extent to which nine factors were an issue for them as a health professional using a 0-3 scale ranging from 'Not an issue' to 'Major importance'. Respondents were also given the option to choose N/A. Between 4 and 17 survey participants indicated that a given factor was not relevant to them (N/A). These respondents were excluded from further analysis, including number and mean score calculations. The results are presented in Table 53.

Table 53. Issues for Māori health professionals

Issues	N/A	Number*	Mean score	Not an issue	A little	Quite a lot	Major
In mainstream roles, expected to be expert in and deal with Māori matters	17	403	1.9	16%	19%	19%	46%
Māori cultural competencies are not valued	4	417	1.9	17%	19%	21%	43%
Dual responsibilities to employer and Māori communities	11	399	1.7	26%	16%	18%	40%
Lack of or low levels of Māori cultural competence of colleagues	11	410	1.7	20%	22%	23%	35%
Limited or no access to Māori cultural support/supervision	7	409	1.5	31%	21%	18%	30%
Limited or no access to Māori cultural competency training	4	412	1.5	25%	24%	22%	29%
Racism and/or discrimination in the workplace	9	411	1.3	37%	24%	16%	23%
Isolation from other Māori colleagues	10	404	1.1	45%	22%	12%	21%
Difficult to be Māori in the workplace	11	402	1.0	50%	21%	10%	19%

* Respondents could choose not to answer a question, therefore, number totals may differ.

Five issues were rated as of 'Quite a lot' or 'Major' importance by approximately half or more of the respondents. Those issues were; 'In mainstream roles, expected to be the expert in and deal with Māori matters' (65%), 'Māori cultural competencies are not valued' (64%), 'Dual responsibilities to employer and Māori communities' (58%), 'Lack of or low levels of Māori cultural competence of colleagues' (58%), 'Limited or no access to Māori cultural competency training' (51%), and 'Limited or no access to Māori cultural support/supervision' (48%). There is an apparent tension between expectations that Māori health professionals have dual competencies (clinical and cultural) and the recognition and support for cultural competencies.

Around one in three respondents indicated that the following factors were an issue for them as a health professional, either 'Quite a lot' or of 'Major importance'; 'Racism and/or discrimination in the workplace' (39%), 'Isolation from other Māori colleagues' (33%), and 'Difficult to be Māori in the workplace' (29%).

Demographic characteristics and retention barriers

For those who were employed in mainstream providers/organisations, Māori units, and Māori provider/organisations significant differences were found for the following; 'Racism and/or discrimination in the workplace' (KW $\chi^2(2)=32.0$, $p<0.001$), 'Difficult to be Māori in the workplace' (KW $\chi^2(2)=35.9$, $p<0.001$), 'In mainstream roles, expected to be expert in and deal with Māori matters' (KW $\chi^2(2)=11.2$, $p=0.004$), 'Dual responsibilities to employer and Māori communities' (KW $\chi^2(2)=14.0$, $p=0.001$), 'Lack of or low levels of Māori cultural competence of colleagues' (KW $\chi^2(2)=24.5$,

p<0.001), ‘Māori cultural competencies are not valued’ (KW $\chi^2(2)=9.1$, p=0.01), and ‘Isolation from other Māori colleagues’ (KW $\chi^2(2)=25.2$, p<0.001).

Respondents who identified as being employed in a Māori unit within a mainstream organisation consistently rated the following issues higher than those who were employed in mainstream provider/organisations and Māori provider/organisations; ‘Racism and/or discrimination in the workplace’, ‘Difficult to be Māori in the workplace’, ‘In mainstream roles, expected to be expert in and deal with Māori matters’, ‘Lack of or low levels of Māori cultural competence of colleagues’, ‘Māori cultural competencies not valued’, and ‘Isolation from colleagues’. A significant difference was also found across occupational groups for ‘Isolation from other Māori colleagues’ (KW $\chi^2(2) =18.5$, p=0.002), with the medical group rating it higher compared to the support and administration/management groups. This is a likely reflection of the greater extent of Māori under-representation in the medical workforce.

There were no significant differences found in regards to respondents’ years of experience working in the sector.

Support for professional development

Respondents were asked to identify from a pre-determined list what, if any, additional support would encourage them to further up-skill through tertiary study or other mechanisms. Respondents were also able to identify support factors other than those listed. Table 54 presents additional support factors that would encourage respondents to further up-skill. Twenty eight survey participants did not answer this question, and were excluded from analysis.

Overall, responses indicated that almost all of the listed support factors would encourage over half of respondents to up-skill through tertiary study or other mechanisms. ‘Māori scholarships/grants’ were most commonly identified by respondents (78%), followed by ‘Support from my employer’ (72%), ‘Up-skilling leads to increased pay’ (72%), and ‘Increased professional development leave’ (71%).

Respondents also indicated the importance of other Māori specific support factors, that is, ‘Māori-relevant course content’ (66%), ‘Cultural competency development opportunities’ (64%), and ‘Comprehensive Māori student support programmes’ (57%). Although to a lesser extent, having ‘Accessible information on professional development options’ (52%) and ‘Accessible career guidance’ (40%) were also identified by respondents as important.
Some issues raised by a small number of respondents in the ‘Other’ category were; access to child care assistance, recognition of prior learning and experience, and the availability of Māori specific learning groups.

Table 54. Additional support for professional development

Support factors*	Number of respondents	Percentage
Māori scholarships/grants	328	78%
Up-skilling leads to increased pay	302	72%
Support from my employer	303	72%
Increased professional development leave	299	71%
Up-skilling leads to career progression	287	68%
Māori-relevant course content	277	66%
Cultural competency development opportunities	269	64%
Comprehensive Māori student support programmes	240	57%
Accessible information on professional development options	221	52%
Accessible career guidance	169	40%
Total number of respondents	**421**	

* Respondents could choose more than one category

Hauora Māori Scholarship Programme

As part of a linked research project evaluating the Ministry of Health's Hauora Māori Scholarship Programme (Ratima et al., 2006a), respondents were asked if they were aware of the Programme, whether they had applied for a scholarship, and for those who had not applied the reasons why not.

Just over half (57%) of the respondents were aware of the Programme. Of those who knew about the Programme, 29% had applied for a scholarship. The main reasons stated for not applying were that; they were not studying (24%), their course fees were covered from other sources, such as employers (32%), the perception that they did not meet the Programme eligibility criteria (16%), and, inadequacies in Programme administration (9%), including poor availability of Programme information.

Survey findings indicate that affordability of tertiary study in health-related fields is a barrier to recruitment of Māori into the health and disability workforce. The results also indicate that scholarships influence Māori to remain in the MHDW and therefore contribute to retention. Therefore, there is an apparent need for increased Programme marketing to raise awareness of the Hauora Māori Scholarship Programme and to improve access to accurate information regarding eligibility criteria, the application process and Programme administration, and thereby to improve application rates.

Summary of Māori health and disability workforce survey

The analysis presented in this section of the report indicates that are a range of barriers to MHDW recruitment and retention that are amenable to intervention. Further, that there are workforce recruitment and retention facilitators that may be

strengthened in order to increase MHDW capacity and capability. The findings support comprehensive action to accelerate MHDW development.

Retention facilitators

The main facilitators of retention within the workforce reflect a desire among respondents to make a contribution to Māori health development and the importance of a culturally relevant health sector. Major drivers for respondents were to make a difference for Māori health, being able to work with Māori people, and making a difference for their hapū or iwi. Strengthening Māori presence in the health sector was also identified as a primary driver of Māori retention. Many of the individual factors that reflect a Māori presence in the health sector were identified as facilitators - opportunities to work in Māori settings, having Māori practice models and approaches valued, having opportunities to work in Māori contexts using Māori practice models, being a role model for Māori, working in a culturally safe work environment, the ability to network with other Māori in the profession, recognition and valuing of Māori cultural competencies, access to Māori cultural supervision, and access to cultural resources.

The majority of these facilitators showed a progressively higher rating from those working in mainstream organisations through to Māori units within mainstream organisations through to Māori provider/organisations. In particular Māori provider/organisations rated mana/prestige and being a role for Māori higher than either those in mainstream provider/organisations or in Māori units within mainstream organisations.

Though given lesser emphasis by respondents, good work conditions were also identified as facilitators and included; clear career pathways, pay rates, supportive and culturally safe managers or supervisors, and flexibility to accommodate whānau or Māori community commitments. Professional development opportunities were also important for retention, such as paid Māori cultural competency development opportunities, paid professional development opportunities generally, and access to scholarships and grants.

It is clear that Māori retention within the workforce will be facilitated by support to work as Māori towards improved health outcomes for Māori. Inherent to that support will be culturally supportive and reinforcing workplaces, good work conditions, opportunities for professional development, and equitable Māori participation within the workforce.

Retention barriers

The main barriers to Māori retention within the workforce relate to competency issues, and highlight inconsistencies with regard to cultural competency expectations and opportunities. There is an apparent tension between expectations that Māori health professionals have dual clinical and cultural competencies in mainstream settings, and the general limited or lack of recognition or support for strengthening cultural competencies in terms of both training opportunities and access to cultural advice or supervision. A lack of or limited cultural competence among colleagues was also identified as an important barrier to retention.

Racism or discrimination in the workplace, isolation from Māori colleagues and the difficulty of 'being Māori' in the workplace were also identified issues for Māori health professionals. This was particularly evident where respondents where employed in a Māori unit within a mainstream organisation.

All of these retention barriers are amendable to intervention.

Support for professional development

Survey findings indicate that there are straightforward ways in which to better support the MHDW to up-skill. Respondents indicated a range of support factors that would encourage them to up-skill through tertiary study or other mechanisms.

The main factor identified was the provision of financial support through scholarships or grants. It is worth noting here that only 57% of respondents were aware of the Ministry of Health's Hauora Māori Scholarship Programme. Therefore, alongside any increase in funding for scholarships and grants, proactive measures to promote the Programme among the workforce are required.

Other important factors were the support of employers, a direct association between up-skilling and increased remuneration, and increases in professional development leave. A number of Māori-specific factors that would support respondents to up-skill were also identified – Māori-relevant course content, cultural competency development opportunities, and comprehensive Māori student support programmes. Accessible information on professional development options and career guidance were also indicated to support up-skilling.

WORKFORCE DEVELOPMENT ACTIVITIES

This section of the report draws on data collected through literature review, key informant interviews, focus groups, and surveys in identifying MHDW development interventions and analysing Māori recruitment and retention programmes. Few of the recruitment and retention programmes have been subject to comprehensive evaluation.

Using a framework for workforce development activities, an indication is provided of the range of initiatives being carried out in MHDW development generally, which provides a context for recruitment and retention programmes. Promising or successful recruitment and retention programmes for which reliable information was publically available are described in greater detail and analysis includes an identification of programme strengths which relate directly to the research data. For example, in identifying the strengths of a given recruitment programme consideration was given to the recruitment barriers and facilitators identified in the research, the extent to which a programme might complement current information provision to Māori about careers in the health and disability workforce, and existing support mechanisms for Māori. Similarly, in identifying the strengths of recruitment programmes consideration was given to retention statistics for the MHDW and barriers and facilitators of Māori retention. A small number of relevant recruitment and retention programmes in other sectors and among non-Māori indigenous peoples are also discussed.

A framework for workforce development activities

The recent report 'Health Workforce Development – an Overview' (Ministry of Health, 2006e) provides a summary of key current and proposed national health workforce development activities. It is apparent that a range of health and education sector stakeholders are investing substantial resources in health workforce development, however, while some effort has been put into improving the co-ordination of activities much remains to be done in this respect. In describing the range of activities, the report uses a framework of five areas for workforce development action. These areas are based on the five strategic imperatives for mental health workforce development identified in the Ministry of Health document 'Mental Health (Alcohol and Other Drug) Workforce Development Framework' (Ministry of Health, 2002b). The five areas are: workforce development infrastructure; organisational development; training and development; information, research and evaluation; and, recruitment and retention. The Framework is used below in describing examples of a range of Māori health workforce development activities currently underway. While the Framework has been selected because it is comprehensive and is able to encompass the breadth of activities, to some extent the divisions are artificial and there is overlap between categories. Further, successful recruitment and retention of Māori into the health and disability workforce will require activities to be carried across each of the five areas.

Workforce development infrastructure

The Māori health workforce development infrastructure, as it is used in this report, is concerned primarily with strengthening systems for national and regional coordination of Māori health workforce development planning and action in order to avoid duplication of effort and facilitate comprehensive approaches. Action to strengthen the workforce development infrastructure will include maintaining an overview of national and regional workforce development activities and monitoring progress; strengthening stakeholder communication, relationships, and collaboration within and across sectors; and, supporting funding mechanisms that enable Māori models of care and address Māori health workforce training needs. Examples of initiatives that contribute to strengthening the MHDW development infrastructure are the recently disestablished HWAC Māori Health and Disability Sub-Committee, Te Rau Matatini, and Hauora.com. Both Te Rau Matatini and Hauora.com also have recruitment and retention functions, and are therefore described later in this chapter.

The HWAC Māori Health and Disability Sub-Committee (Health Workforce Advisory Committee, 2006a) was tasked with: providing independent advice to the Minister of Health on MHDW development issues in collaboration with HWAC; identifying initiatives to increase Māori participation in health training courses; facilitating collaboration between health providers and education providers with regard to the allocation of funding for MHDW development; monitoring other organisations (such as the Tertiary Education Commission) on their delivery of health and disability workforce development; and, monitoring and evaluating the implementation of HWAC recommendations with regard to the Māori workforce.

Although the Māori Sub-Committee acted through HWAC, it provided a national strategic focus for MHDW development. It also strengthened the capacity of HWAC, as a major stakeholder in health and disability workforce development, to incorporate a Māori analysis within its recommendations. Sub-Committee membership included Māori HWAC members, and 3-5 members co-opted by HWAC. HWAC, and therefore the Sub-Committee, were recently disestablished. A new body, the Workforce Taskforce, has been established. The role of the Taskforce is to develop plans to streamline workforce planning and to address recruitment and retention issues (Hodgson, 2006).

Organisational development

Organisational development within mainstream and Māori-specific health institutions is concerned with supporting these institutions to develop the organisational culture and systems that will facilitate the recruitment, retention and professional development of Māori health workers. This would include, for example, activities to enhance Māori input at governance levels, implementation of Māori models of care, and access for workers to Māori cultural advice and expertise. Organisations or initiatives in place to support health service organisational development include Māori Co-ordinated Care and Co-Purchasing Organisations, Māori Development Organisations and the Ministry of Health Māori Provider Development Scheme.

Māori Co-ordinated Care and Co-Purchasing Organisations (MAPO) were established in the mid 1990s by the Northern Regional Health Authority, and continue to operate in the northern region. MAPO are currently funded by the Ministry of Health, however, funding will be shifting to DHBs (Auckland, Counties-Manukau and Waitemata). MAPO are responsible for working with DHBs in the strategic planning, purchasing, and monitoring of health and disability services for iwi and Māori (Ministry of Health, 2003). Central to this role is facilitating health service cultures and processes that are responsive to both Māori health professionals and Māori service users. The MAPO have an advocacy role in working with mainstream providers, including DHBs and PHOs, to enhance responsiveness to Māori. The role of MAPO includes the provision of advice to DHBs in relation to MHDW development, including guidance with regard to Māori workforce development plans.

Māori Development Organisations were set up, largely in areas outside of the northern region, to contribute to strengthening the Māori health and disability sector. One of the ways these organisations achieve this is in assisting Māori provider development by providing direction and guidance with regard to strategic planning, quality and business management. Strengthening Māori health providers contributes to Māori health workforce development by creating robust organisations that provide a healthy working environment that will attract and retain Māori health professionals. Māori Development Organisations receive funding from the Māori Provider Development Scheme (http://www.executive.govt.nz/minister/king/cabinet00-08/Māori/model_01.htm, http://www.executive.govt.nz/minister/king/cabinet00-08/docs/model-for-Māori-partnership.pdf).

The Māori Provider Development Scheme was established in 1997 and is administered by the Ministry of Health. The objectives of the Scheme are to accelerate MHDW development, to improve health and disability services for Māori including their integration and co-ordination, and to support providers to develop more effective service provision. Contestable development funding is provided to Māori health and disability support service providers, and the Scheme also funds a range of Māori health workforce development activities including the Ministry of Health Hauora Māori Scholarship Programme and Māori health professional bodies and networks. The Scheme's funding categories are; infrastructure development, workforce development, service integration, accreditation and best practice, and Māori scholarships. The annual funding allocation for the Scheme is $10 million per annum gst inclusive (State Services Commission, 2005).

Key informant interviews highlighted that Māori Provider Development Scheme funding has been used by providers to support the following types of activities; strengthening information technology systems, purchase of clinical equipment, production of business plans, regional planning, integrated service approaches, accreditation to national quality standards, and supporting MHDW training.

Training and development

The tertiary education sector, working with medical colleges, registration authorities and professional associations, is responsible for health professional education. Under the provisions of the Health Practitioners Competence Assurance Act 2003 (http://www.moh.govt.nz/hpca) registration authorities are required to develop standards for clinical competence, cultural competence, and ethical conduct which must be met by registered practitioners. Māori health professional bodies and networks have an important role in advocating for education and training that is consistent with MHDW development needs. The Clinical Training Agency (CTA), which administers funding for health and disability workforce post-entry clinical training, is also a major stakeholder.

Māori health professional associations have a primary focus on supporting and strengthening Māori participation within their respective professions. As an example, Te Ohu Rata o Aotearoa/the Māori Medical Practitioners Association (Te ORA) has provided advice to registration authorities regarding cultural competence standards and has advised medical colleges in relation to the recruitment and retention of Māori doctors. As well, Te ORA provides support for Māori doctors and Māori medical students.

The CTA is a division of the Ministry of Health responsible for the funding of post entry clinical training. The CTA administers a budget of $100,730,000, of which approximately three million dollars was allocated to initiatives to improve Māori health (Ministry of Health, 2006a). A limited number of initiatives to improve Māori health have been funded including: the Certificate of Clinical Teaching – Māori; the Certificate of Hauora Māori, Child and Family; rongoā Māori training; and, Directors of Māori Training for the Royal New Zealand College of General Practitioners and the Australasian Faculty of Public Health Medicine.

The CTA has substantial unrealised potential to contribute to MHDW development. In an unpublished strategic plan prepared for the CTA in 1997 (Lawson-Te Aho, 1997), a crisis of underdevelopment of the MHDW was highlighted and ten goals were recommended to improve post entry clinical training outcomes for Māori including; targeted funding for Māori, better national co-ordination and oversight by Māori; improving access to CTA training opportunities particularly for nurses and community health workers, improving the CTA and its providers' responsiveness to Māori needs, and facilitating Māori provider placements. In a subsequent scoping report which carried out a cultural audit of CTA contracted providers and was commissioned by Te ORA, Hodges & MacDonald (2000) made additional recommendations to enhance the responsiveness of CTA to Māori. The recommendations were consistent with the Lawson-Te Aho report. The report made a number of recommendations including that the CTA review clauses to ensure; relevance to health strategies and workforce development for Māori, alignment to professional requirements for the Māori workforce, improved Māori participation in the health workforce, and that Māori community expectations are met. While some progress has been made in the last few years based on the recommendations from these reports,

there is still much that could be done by CTA to fully address the recommendations and to maximise its contribution to MHDW development.

A number of changes have also been recommended for CTA programmes as a result of the State Services Commission review of ethnically targeted programmes and policies (State Services Commission, 2005). Inconsistent with the goal of increasing Māori representation and participation in the workforce, the Review recommended removing the criterion via provider contracts that trainees be Māori in order to be eligible for Māori specific training programmes.

Information, research and evaluation

Informed workforce development planning relies upon accurate data to profile the workforce and research to better understand Māori specific workforce development issues. There is currently a limited information base upon which to plan MHDW development (DHB/District Health Boards New Zealand, 2005). There is, however, recognition of the problem and work that is underway to address information gaps.

Health professional registration authorities and NZHIS are the main sources of regularly collected information on registered health practitioners, though data quality, particularly for ethnic data, is variable across professions (Health Workforce Information Steering Group, 2005). Some registration authorities do not collect ethnic data and the commitment to improving ethnic data collection is variable.

DHBs recognise the need to improve health and disability workforce information systems and data, and the Health Workforce Information Programme (HWIP) is a National DHB CEO Group initiative underway to progress that aim. The Programme is governed by a steering group with membership from DHBs and the Ministry, and is managed by DHBNZ.

The HWIP is a strategic framework that will provide a health workforce information system to enable the central collection of the sector's health workforce data and analysis, modeling, and forecasting to inform workforce management and planning (District Health Boards New Zealand, 2000). It is intended to be comprehensive, and ethnicity and iwi affiliation data will be captured (Health Workforce Information Steering Group, 2005). The type of information that will be available through HWIP would enable DHB workforce planning groups, such as the Workforce Development Group and the Workforce Strategy Groups, to support implementation of DHB strategic workforce development plans. It will inform ongoing development of DHBs Māori Health Workforce Plans and associated initiatives, requirements under the Crown Funding Agreement with DHBs.

There is relatively little research that specifically explores MHDW issues. The Ministry of Health and the Health Research Council have funded the current project to explore MHDW recruitment and retention, and the recent review of the Hauora Māori Scholarship Programme (Ratima et al., 2006). In 2004, the Auckland Regional Public

Health Service undertook to identify the requirements for Māori public health workforce development (Auckland Regional Public Health Service, 2004). The resulting report identified a number of barriers to Māori public health workforce participation including; a lack of career pathways and access to training opportunities, inadequate levels of support from management and organisations, culturally unsafe environments, and institutional racism. The report recommended; the development of a Māori public health workforce development strategy that encompasses Māori worldviews and includes meaningful Māori participation, the adoption of a framework similar to Te Rau Matatini and relevant to the public health sector, further investigation into the development of a public health industry training organisation, and improved access to public health careers and workforce development opportunities. Some research has also been funded at the regional level by DHBs for example; Te Rau Matatini was contracted by Hutt Valley District Health Board to customise a workforce development programme to increase mental health education and training opportunities for Māori health workers (http://www.matatini.co.nz/projects/hutt_valleyDHB.asp).

Recruitment and retention

Recruitment programmes

A number of formal Māori specific initiatives are in place within the health and education sectors to facilitate the recruitment of Māori into the health and disability workforce. Most of the established interventions focus on recruiting secondary school students or second chance learners into health field tertiary programmes and supporting qualification completion. Some interventions have been identified that aim to encourage secondary school students interest in science, but do not have a specific focus on encouraging careers in health. For example, the University of Otago one week long Hands-on Science Camp for year 11-13 students.

Interventions identified and discussed in this section are: Rangatahi Māori Recruitment Model and Mentoring Programme; Te Rau Puawai; the Science, Technology, English, Architecture and Maths Programme; the Tuakana Programme; Vision 20:20; the Ministry of Health's Hauora Māori Scholarship Programme; the Health Research Council's Māori Career Development Awards Programme; Hauora.com's career pathway project; Te Ara Hauora Māori; and ADHB Therapy Workforce Development Framework. While these interventions are mainly concerned with recruitment, a number also incorporate a more limited focus on retention. The programmes are complementary, and no duplication of effort has been identified. Individual interventions are described below, and key success factors that align with recruitment barriers and facilitators are identified.

Rangatahi Māori Recruitment Model and Mentoring Programme

The Auckland District Health Board (ADHB) have recently developed a recruitment model to encourage Māori youth (rangatahi) into health careers. The model focuses on providing support for youth to overcome barriers to progression along the MHDW

development pathway. The model emphasises collaboration with whānau and links to the education sector (Auckland District Health Board, 2007).

The Rangatahi Mentoring Programme is a joint initiative between ADHB and the Rangatahi Māori Mentorship Trust, and is the first intervention within the recruitment model. The Programme was piloted in September 2006 with six Māori students from Ngā Puna o Waiorea Rumaki Reo (Western Springs College) participated in week long workforce experience at the DHB. The Programme was co-ordinated by a Māori nurse educator and involved an orientation day at Auckland City Hospital, a three day mentored experience with health professionals, and attendance at workshops and forum with health professional guest speakers. All six of the students to participate in the pilot project have gone on to enroll in tertiary health field programmes.

The recruitment model is consistent with the MHDW development pathway and aims to address the types of barriers to recruitment identified in this research, including access to career information for Māori youth. It is also consistent with the identified facilitators of providing practical experience in the health sector for students, using Māori role models, reinforcing the presence of Māori within the sector and acknowledging the important role of whānau.

Te Rau Puawai

In terms of Māori health workforce development, the field of mental health has benefited from the most comprehensive, consistent, co-ordinated and well resourced efforts in the past decade. Activities in this area have been well supported by the Ministry of Health, and have enjoyed the leadership of eminent Māori patrons.

Te Rau Puawai Workforce 100 was established in 1999 (L.W Nikora, Levy, Henry, & Whangapirita, 2002) as a Ministry of Health and Massey University joint venture with the goal of accelerating the development of the Māori mental health workforce. At the end of 2003, Te Rau Puawai had achieved its initial goal of contributing 100 Māori graduates to the Māori mental health workforce. A further contract for 3 years was negotiated with the Ministry of Health, with the objective of contributing an additional 50 Māori graduates to the workforce. As of 2005 a further 46 students have gained a Māori mental health related qualification. In total, Te Rau Puawai has contributed 146 graduates to the Māori mental health workforce (Koia, 2006). The Programme has received $675,000 in funding annually since 2004 (State Services Commission, 2005). This is approximately 2.6% of the total Ministry of Health mental health and addiction-related training and workforce development budget for 2004/2005. Negotiations are underway to secure a contract for an additional three years.

Te Rau Puawai is governed by a Board of Management which comprises representatives from Massey University and the Ministry of Health. The Programme is staffed by a full-time co-ordinator, a part-time support tutor, an administrator, call centre staff and supported by academic and peer mentors. The Programme provides comprehensive support to Māori students seeking university qualifications in mental health-related fields (e.g. psychology, nursing, rehabilitation, social work, social policy, Māori health).

Support provided includes: financial assistance through scholarships ($5000 for undergraduates, and $7000 for postgraduates) for course fees and related costs, travel to hui and other expenses; academic mentoring; individual learning and personal support; course planning assistance; advocacy; facilitation of access to Māori and student networks; regional support visits to distant bursars; a website containing programme information; student hui; dedicated facilities (physical space with internet access); telephone team learning support; and curriculum vitae and interview preparation assistance. In 2006 Te Rau Puawai launched an accelerated leadership programme that provides the opportunity for part-time extramural recipients to accelerate academic progress and to return to employment with a completed qualification (Durie & Koia, 2005).

Te Rau Puawai is demonstrably a successful Māori health workforce development programme. The Programme seeks to address key barriers to Māori health workforce recruitment including the high cost of tertiary study, the distant location of tertiary institutions and poor access to course planning information. It aims to facilitate recruitment through the provision of financial assistance, Māori specific learning support (including to distant bursars), the establishment of positions for Māori support staff, providing Māori friendly learning environments and course planning information and providing opportunities for Māori students to network. Programme evaluation indicated that key factors underpinning the success of the intervention are; that it is integrated within the university environment, that it is Māori focused with strong leadership, the high standard of Programme co-ordination, provision of financial assistance, access to Māori mentoring and peer support and the comprehensive nature of the support provided (L. W Nikora, Rua, Duirs, Thompson, & Amuketi, 2005).

Te Rau Matatini

Te Rau Matatini, which was launched in 2002, is a national Māori mental health workforce development organisation funded by the Ministry of Health and initially established in partnership with Massey University (Hirini & Maxwell-Crawford, 2002). Te Rau Matatini contributes to national and regional Māori mental health workforce policy development, increasing the capacity and capability of the Māori mental health workforce, and promoting career opportunities in mental health among Māori.

Te Rau Matatini has carried out a variety of projects that support MHDW recruitment including the development of clinical placement guidelines for Māori tertiary students. The guidelines aim to provide direction for enhanced mental health placement opportunities for students (Adsett, Whiting, & Ihimaera, 1996). However, they have wider applicability and will be useful in other health fields. Particular strengths of the guidelines are their wide applicability and that they support a positive experience of clinical and professional placements for Māori students. The programme has also developed Māori specific health career information resources and carrys out work to strengthen relationships between health providers and tertiary education institutions.

The key strength of Te Rau Matatini is that it has a broad mandate in the sense that it operates at a number of levels. That is, it contributes to Māori mental health workforce

development through activities with regard to workforce development infrastructure; organisational development; training and development; information, research and evaluation; and, recruitment and retention. Recruitment specific strengths of the programme include its work to improve Māori access to career information, strengthen students' links to the health sector, facilitate collaborations between health providers and tertiary education institutions, and encourage increased commitment on the part of health and tertiary education institutions to Māori health workforce development (http://www.matatini.co.nz/about_us/index.asp).

Business, Engineering, Architecture, Medicine and Science Programme (BEAMS)

Originally called the STEAM programme (science, technology, engineering, architecture and maths), BEAMS started as a University of Auckland recruitment initiative that targeted and supported Māori and Pacific students from Year 10 at secondary school. The programme was run by current Māori and Pacific tertiary students and promoted maths and science subjects at school and linked school students to University of Auckland science, technology, english, architecture and maths programmes in Year 12 and 13. The goal of STEAM was to encourage Māori and Pacific students'; interest in related specified subjects, retention in secondary school, and development of a career in science, technology, english, architecture or maths related fields (Manu Keung, personal communication, 2006).

Recently the decision was made to change the areas of programme focus in STEAM. The programme name has now changed to BEAMS to reflect the revised focus on business, engineering, architecture, medicine and science (Marcia Murray, personal communication, 2007).

Strengths of the programme are that it contributes to enhancing the responsiveness of secondary schools to Māori students in terms of preparing them for entry into tertiary health field programmes by promoting science among Māori secondary school students. The programme provides access to quality health career information for students and provides them with exposure to tertiary health field programmes to faciliate the transition from secondary school to tertiary education. The programme also provides access to Māori role models and mentors and makes explicit the relevance of school subjects to areas of interest for students and health careers

Tuakana Programme

In 1991 the University Of Auckland School Of Biological Sciences established the Tuakana Programme which provides mentoring and peer-tutoring for Māori and Pacific students. The intervention has led to a rapid increase in Māori and Pacific student pass rates, and substantially increased participation of these groups in the School. The programme has more recently taken on an expanded mandate to include Māori and Pacific secondary school and graduate students.

The Programme's strengths are that it targets students at different levels (school, undergraduate, and graduate), provides mentoring and learning support specifically designed for Māori students, provides access to course planning and health career information, reinforces the Māori presence within tertiary education institutions and the extent to which the institutions may be viewed by students as 'Māori friendly', provides access to Māori role models, provides exposure and a tangible link for students to tertiary health field programmes, includes students in a community of learning and has been been delivered consistently over a 15 year period (http://www.engineering.auckland.ac.nz/uoa/engineering/engstaff/Māori-pasifika/tuakana.cfm#prog).

Vision 20:20

Vision 20:20 (Gluckman & Mantell, 1997) is the University of Auckland's Faculty of Medical & Health Sciences commitment to increasing the number of Māori training in health disciplines and moving into the health professions. Vision 20:20 has three components – the Māori and Pacific Admissions Scheme (MAPAS), Hikitia Te Ora - Certificate in Health Sciences, and the Whakapiki Ake Project.

MAPAS

The University of Auckland Faculty Of Medical & Health Sciences established MAPAS to increase the number of Māori and Pacific students enrolled within their health programmes and graduating as health professionals. The Scheme provides entry into nursing (BNurs), pharmacy (BPharm), medicine (MBChB), the health sciences (BHSc) and the Certificate in Health Sciences (CertHSc).

All applicants to MAPAS must produce verification of Māori or Pacific whakapapa/ancestry to be eligible. Eligible applicants then undergo an interview process to determine their most appropriate academic pathway within the Faculty of Medical and Health Sciences. The interview process has the following five components:

1. Pōwhiri – applicants and their whānau attend a pōwhiri at Waipapa Marae prior to interviews.
2. Multiple Mini Interview – applicants rotate through six stations of 10 minutes duration each. Stations include a variety of methods (e.g. problem solving, scenarios, role playing, one on one discussions) to assess an applicant's exposure to senior science (Year 12-13), motivation, career aspirations, communication skills, and perceived whānau support.
3. Maths test.
4. English literacy test.
5. Whānau feedback - applicants are invited to receive the outcomes of their assessment with their whānau on the day of the interview. This feedback will be based on an assessment of the multiple mini-interview, maths test and english test and will include an academic pathway recommendation.

The following support is offered to students who choose the MAPAS entry pathway: a support team; mentoring; additional tutorials as required; pre-exam study weekends;

peer/whānau support through regular shared lunches; 'Fresher's Camp' and marae cultural experience, scholarships information; support to apply to Faculty of Medical & Health Sciences programmes; support to apply for annual University of Auckland Access Award; support to access the Student Learning Centre; summer studentship research opportunities; access to Māori and Pacific medical and research staff; and a supportive environment to learn te reo Māori or Pacific languages.

MAPAS students are expected to attend the Freshers Camp, attend classes and complete required assignments, attend required tutorials, attend MAPAS events, notify MAPAS early if academic or other support is required, and support and mentor other Māori and Pacific students to be high achievers.

MAPAS success factors include; an enhanced admissions process which takes account of broad competencies, facilitates access to course and career information and advice, access to Māori role models and mentors, measures to enhance the learning environment for Māori, inclusion in communities of learning and 'Māori friendly' learning environments, efforts to assist students to access financial assistance, endorsement of Māori values and cultural development opportunities, and support for a culture of success (http://www.fmhs.auckland.ac.nz/faculty/undergrad/mapas.aspx).

Hikitia te Ora/Certificate in Health Science

Hikitia te Ora is a one-year foundation programme which prepares Māori and Pacific students for tertiary study in a range of health programmes. The Certificate has traditionally targeted school leavers, however, the course also seeks to attract older Māori and Pacific applicants. It is designed to enable Māori and Pacific school leavers or alternative entry applicants to make a supported transition from secondary school or their community/workplace to university. The course supports study skill development including training in note-taking, computing, report writing, and critical thinking. On completion of the Certificate, successful students receive a university entrance equivalent qualification and are encouraged to apply for entry into a range of tertiary health field programmes.

Strengths of the programme are that it supports the transition into tertiary education, provides a supportive and 'Māori friendly' learning environment, gives access to Māori role models and mentors, provides access to course planning and career information, reinforces the Māori presence on campus, includes students in a community of learning, and assists in the development of skills necessary for success in health field tertiary education (http://www.fmhs.auckland.ac.nz/faculty/undergrad/certhsc/certhsc.aspx).

Whakapiki Ake Project

The Whakapiki Ake Project began in July 2003 with the intention of attracting greater numbers of young Māori into health related tertiary courses through engagement with Māori secondary school students and their whānau. The Project facilitates student entry into Hikitia Te Ora/the Certificate in Health Sciences course, and aims to recruit 100

Māori students per year, half of whom would at the completion of the course be channeled into the School of Medicine with the other half moving into a variety of health field programmes. The purpose of the programme is to increase the number of Māori health professionals. It is funded through the Ministry of Health's Māori Provider Development Scheme.

Generally students gain access to the programme through selected schools with which formal relationships have been developed. Protocols of Relationship have been agreed with 31 secondary schools. A range of health careers are promoted through school based presentations and the provision of career information to students and whānau, and there are opportunities for work experience at the Liggins Institute, Department of Physiology, and School of Pharmacy. The Project provides assistance with applications and course costs, and ensures access to learning and other support throughout the students' programmes of study. In 2006 a new initiative was introduced as part of the Whakapiki Ake Project - the Individual/Whānau Tono for Hikitia te Ora. By written application to the Faculty's Tumuaki (Māori Dean), exceptional Year 13 Māori students are invited to apply for access to the 'fees break' assistance for enrolment in Hikitia te Ora.

Since the Project was initiated there has been rapid growth in the number of Māori enrolling in Hikitia Te Ora, with 24 students enrolled in 2003, and 49 enrolments in 2006.

Strengths of the Programme include its focus on Māori secondary school students and supporting transitions to tertiary health field study, provision of course planning and career information to students and whānau, the establishment of formal relationships between secondary schools and tertiary institutions, outreach to schools, whānau outreach which enables exposure for students and whānau to tertiary education health programems, provision of financial assistance, practical opportunities for science and health learning experience, and ongoing learning and other support for the duration of health field study (Manu Keung, personal communication, 2006; http://www.Māorihealthcareers.auckland.ac.nz/homepage.php).

Hauora Māori Scholarship Programme

The Hauora Māori Scholarship Programme is administered by the Ministry of Health and funded through the Māori Provider Development Scheme. The purpose of the Programme is to provide financial assistance to students studying in health and disability related disciplines in order to build Māori workforce capacity and capability within the sector. Eligibility criteria are that students must be enrolled in an established tertiary institution in a health related course with NZQA accreditation, have whakapapa and/or cultural links with Māori and show a commitment to Māori health. Scholarships are offered in a number of health professional categories, and at the undergraduate and postgraduate levels (Ratima et al., 2006b).

The Programme has been recently reviewed (Ratima et al., 2006b), and shown to be successful in terms of contributing to positive student outcomes with regard to entry into and retention in tertiary health-related programmes of study, and qualification completion rates. Further, the review provided evidence that the Programme has made a substantial

contribution to the MHDW in terms of both capacity and capability through reducing financial barriers to tertiary study. Eight Programme success factors were identified in the review: a history of governance-level champions; a clear intervention logic; targeting of Māori and an evidence-based rationale; consistency with Government policy; an interdisciplinary and multi-level focus; the complementary nation of the Programme; provision of financial support to address the barrier of affordability of tertiary education; and, that the Programme has been well administered.

HRC Māori Career Development Awards Programme

The HRC invests approximately one million dollars annually in Māori career development awards mainly at the masters, PhD and post doctoral levels through a contestable annual funding process. Rangahau Hauora awards are also available for active Māori community members to obtain research skills training relevant to a Māori health research project for a period of up to six months. The purpose of the Māori Career Development Awards Programme is to foster the capacity and capability of the Māori health research workforce. Although the Programme has not been formally evaluated, its success is indicated in the growing numbers of PhD qualified Māori health researchers who are past recipients of the awards and who are now actively pursuing research careers (Health Research Council of New Zealand, 2004).

The HRC also offers Māori Summer Studentship Awards that support Māori tertiary health field students to undertake a distinct piece of research by working on a supervised 10 week project over the summer break in a research setting. The awards are intended to foster students' interest in pursuing a research career (http://www.hrc.govt.nz/root/pages_research_funding/Summer_Studentships.html).

Key success factors of the HRC Māori Career Development Awards Programme include a long term strategy with consistent funding, strong Māori leadership, the provision of financial assistance, opportunities for broad training with a variety of research institutions and across disciplines, opportunities for placement with Māori academic centres, access to Māori health researcher networks and Māori role models, and a robust selection process with measures to facilitate quality supervision (http://www.hrc.govt.nz/assets/pdfs/funding/MHCDA%20exp%20notes%20-%20Masters.pdf).

Te Papa Oranga

A two year pilot project by Hauora.com named Te Papa Oranga, is exploring issues for Māori in the transition from tertiary education to employment in the sector. The project will identify a transition pathway, from enrolment in tertiary education, through training, and into employment, to support Māori health professionals to achieve their career potential. This project has only recently been initiated, but has much potential to contribute new knowledge in an area where there is established need. The project specifically addresses the need for supported transitions from tertiary study to the workforce

(http://www.moh.govt.nz/moh.nsf/pagesmh/5586/$File/nga-kawai-implementing-whakatataka-2002-2005.pdf).

Te Ara Hauora Māori

In 2006, the AUT University Faculty of Health and Environmental Sciences established Te Ara Hauora Māori to further support MHDW development. Te Ara Hauora Māori provides opportunities in Faculty undergraduate degrees for students to pursue a career path in Māori health across a range of disciplines (e.g. physiotherapy, nursing, podiatry, oral health, occupational therapy). Aspects of the pathway include incorporation of Māori health papers into study programmes, access to Māori learning support, opportunities for placements or experience in Māori contexts, regular hui and peer support, and access to Māori mentors (Kate Haswell, personal communication, 2006)

Strengths of the programme include activities to enhance the learning environment for Māori, inclusion within Māori communities of learning, opportunities for practical experience within the health sector, access to Māori role models and mentors, the development of Māori specific study pathways across disciplines, and opportunities to incorporate Māori content and papers into health programmes (http://www.aut.ac.nz/Māori/Māori_health/).

Kaupapa Māori pre entry into nursing

Te Manu Toroa is an umbrella organisation for a number of Māori health providers in the Western Bay of Plenty. In response to a shortage of kaupapa Māori registered nurses in the region, Te Manu Toroa established a one year kaupapa Māori pre entry nursing course as a kaupapa Māori bridging programme to the Bachelor of Nursing Studies. The course is a Māori-led initiative developed in response to identified need, is Māori delivered, and operates within a kaupapa Māori framework. The course is currently piloted in partnership with the Ministry Social Development, Waiariki Polytechnic and Te Manu Toroa.

Strengths of the Programme include that it is a Māori provider driven initiative developed to address local needs, is Māori led and delivered providing access to Māori role models and mentors, supports the transition into tertiary study, includes students within a Māori community of learning, and operates within a kaupapa Māori framework incorporating Māori course content (http://www.temanutoroa.org.nz/).

Retention programmes

A limited number of retention programmes have been identified in the sector. Key interventions are: Te Rau Matatini; Hauora.com; Māori health professional bodies and networks; CTA funded Directors of Māori Training; and, Henry Rongomau Bennett Memorial Scholarships. Individual interventions are briefly described below, and key success factors that align with retention barriers and facilitators identified in this report are also noted.

Te Rau Matatini

Te Rau Matatini has a number of projects that contribute to Māori mental health workforce retention.

Te Rau Whakaemi is a Te Rau Matatini project that aims to enhance the co-ordination of training for Māori mental health workers by working with educational providers to better ensure that programmes align with the needs of the Māori mental health workforce (Moko Business Associates, 2003). The project Te Rau Arataki is in development, and aims to increase the numbers of Māori moving into and remaining in the workforce and improve job satisfaction during the transition into the Māori mental health sector through an on-line orientation and preceptoring model. In 2004 work was carried out on the development of Māori mental health core career pathways for Māori registered nurses with experience in mental health (Emery & Maxwell-Crawford, 2004; Moko Business Associates, 2004a, 2004b).

Retention related strengths of Te Rau Matatini include strengthening professional development opportunities for Māori (particularly as they relate to cultural competence), supporting the recognition and valuing of Māori cultural competencies, clarifying career pathways, and carrying out work to support Māori transitions into the mental health workforce and strengthen the Māori presence within the health sector.

Hauora.com

Hauora.com Trust is the Māori-led National Māori Workforce Development Organisation formed in 2000 by Te ORA with the support of a number of Māori professional bodies and networks. The mission of Hauora.com is to build a unified, effective and Māori-led MHDW. The organisation's focus has been on building capacity in MHDW by supporting Māori professional bodies and networks to develop their own capabilities for workforce development in order to contribute to Māori health gain. Hauora.com works across sectors and seeks to strengthen relationships within the health sector, and is intended to provide a focal point for workforce data, research, resources, and other information relevant to MHDW development. The functions of the organisation include national leadership and strategy, advocacy with government agencies, facilitating training opportunities, and providing support and strategic and management advice for stakeholders. Other functions include workforce planning, training needs analysis,

workforce auditing, and the development and implementation of a career pathways programme. Hauora.com has received funding from a range of sources including the Ministry of Health.

Key strengths of Hauora.com are that it was established by Māori health professionals and is Māori led, is independent, has close relationships with Māori professional bodies and networks, and takes an inter and intra sectoral approach. The organisation supports Māori cultural competency training, advocates for recognition of Māori cultural competencies and practice frameworks within the sector, and supports Māori networking within professions and the sector (http://www.hauora.com/).

Māori health professional bodies and networks

Māori health professional bodies and networks have been set up in a number of professions to support Māori health professionals (http://www.hauora.com/). Key Māori professional organisations include Taeora Tinana (Māori Physiotherapists), Te ORA, Ngā Maia (Māori Midwives Collective), Te Kaunihera o ngā Neehi Māori o Aotearoa (the National Council of Māori Nurses), Te Whiringa Trust (Māori Community Health Workers), Ngā Ringa Whakahaere o te Iwi Māori (Māori traditional practitioners), Māori Health Protection Officers, Ngā Kaitiaki o te Puna Rongoā o Aotearoa (Māori Pharmacists), Māori Allied Health Workforce, Te Ao Mārama (Māori Dentists Collective), and Te Rangihaeata (Māori Needs Assessment Co-ordinators and Māori Counsellors). The Māori Provider Development Scheme provides funding to support national organisations established to focus on Māori workforce issues (http://www.teora.maori.nz/). Te Whiringa trust, Ngā Ringa Whakahaere o te iwi Māori, Māori Health Protection Officers, Māori allied workforce and Te Rangihaeata are more appropriately refered to as ‘networks’ and not professional/occupational boards.

As an example, Te ORA represents the interests of Māori medical students, Māori doctors, and Māori medical practitioners working in a variety of roles. The functions of Te ORA include promotion of the recruitment and retention of Māori medical students, provision of advice to stakeholders regarding increasing Māori entry into medical education and expansion and strengthening of the workforce, the provision of peer support for Māori doctors, fostering of collegial relationships, and support for members to enhance their competencies (http://www.teora.Māori.nz/). Te Ngakau is a confidential initiative for members who are at risk and require specific support.

Māori professional bodies and networks are important sources of support for Māori health professionals and provide access to networking opportunities with Māori colleagues. The organisations also raise the profile of Māori within professions and

strengthen the Māori presence within the sector, provide access to Māori mentors and role models for more junior professionals, and advocate for MHDW development and recognition of Māori practice frameworks, approaches and competencies within the sector.

Directors of Māori Training

The Royal New Zealand College of General Practitioners incorporates a Māori faculty, Te Akoranga a Maui. The College employs the Tumuaki Whakangunguhau Māori/Director of Māori Training, who has a close association with the Faculty. The role of the Tumuaki includes the recruitment and retention of Māori general practice trainees and Māori general practice teachers. Similarly, the Australasian Faculty of Public Health Medicine also employs a Director of Māori Training, with a similar role. Both positions are funded by the CTA.

The 'Directors of Māori Training' provide a Māori workforce development focus within influential mainstream organisations that would not otherwise have access to a regular source of internal Māori workforce development expertise. The role facilitates an increased Māori presence within the profession, and more consistent action by the organisations to address Māori professional development needs that will contribute to workforce retention (Keri Ratima, personal communication, 2006).

Henry Rongomau Bennett Memorial Scholarships

The Henry Rongomau Bennett Memorial Scholarships are intended to contribute to Māori mental health workforce development. The purpose of the scholarships is to strengthen Māori leadership in the mental health sector. Scholarships are available in the following categories: mental health workers, child and adolescent mental health services, mental health nurses, fifth year medical students, registrars entering into the psychiatry programme, and psychologists.

Given that affordability of tertiary education has been identified as a major barrier to Māori participation in health field courses and that opportunities for paid professional development opportunities (including cultural competency development) have been identified as a retention facilitator in this research, the Programme is likely to impact positively on Māori mental health workforce retention (http://www.matatini.co.nz/funding_scholarships/hrb.asp.

Initiatives in other sectors

There are a number of initiatives in other sectors that support Māori workforce development. However, there are few publicly available evaluation reports on those initiatives. Six programmes have been selected and are discussed below in terms of key success factors that may be applicable to the health sector. The criteria for selection were that; information about the programme is accessible; the programme targets Māori, incorporates a Māori focus, or has high relevance to Māori; there are indications that the programme has been successful, and elements of the programme are relevant to the health

sector. As well, selected programmes are drawn from different sectors and have a varied scope in terms of, for example, target groups. It should also be noted, that while the programmes are considered to be relevant to Māori health workforce development, their location within other sectors means that they have been subject to demands, expectations, accountabilities and resource issues that may be distinct from those within the health sector. The selected programmes are Te Kotahitanga and Quality Career Advice for Students, Te Mana, Futureintech, TeachNZ Scholarships, Rangatahi Maia, Te Ohu Kaimoana 'Fishfingers', and Manaaki Tauira.

Te Kotahitanga Programme and Quality Career Advice for Students

The Ministry of Education's Te Kotahitanga Programme seeks to improve the quality of teaching for Māori students in mainstream schools. The Programme aims to improve classroom interactions and promotes the concept of reciprocal learning, whereby teachers acknowledge students cultural capital and that while students are learning from teachers, teachers are also learning from students. The Programme was initially run with 11 teachers in four schools with Year 9 and 10 students. In 2006, the Programme received a major budget increase. While the Programme is not science and maths specific, preliminary results indicate positive outcomes in terms of increasing Māori student achievement and this will be important in the academic preparation of Māori students for health careers (Bishop, 2003).

Similarly, the Ministry of Education and Career Services 'Quality Career Advice for Students' initiative due to be implemented in 2007 is not Māori specific, but prioritises schools with high numbers of Māori and Pacific students. The initiative aims to support the transition from secondary school to further study and employment. Building on the Designing Careers pilot that was run in 75 schools, the new initiative will involve 100 additional schools and support them to improve career information, advice and guidance (http://www2.careers.govt.nz/933.html).

The major strength of Te Kotahitanga is that it focuses on enhancing the responsiveness of secondary school education for Māori students, and from a health sector perspective may better enable students to leave school academically prepared to pursue a career in health. The Quality Career Advice for Students initiative, particularly in prioritising schools with high numbers of Māori students, has much potential to contribute to addressing current poor access for Māori secondary school students to quality health career information. In order to maximise its impact for Māori, the programme will need to promote science and health careers in a way that engages Māori students and make use of culturally appropriate resources.

Te Mana

Te Mana is a Ministry of Education promotional campaign which aims to increase Māori educational achievement levels and raise the expectations of Māori educational achievement among Māori, educational providers and the broader community (Ministry of Education, 2000). The campaign utilises television and mainstream and Māori radio.

The media campaign is supported by: a Te Mana study guide which provides study tips for students; Taiohi, a quarterly magazine for rangatahi; a teachers resource Te Mana Kōrero; and, brochures and other promotional materials including bags, beanies and beanbags. All these promotional tools cater for Māori youth in a manner that is appealing to them.

Twenty Pouwhakataki (Māori community liaison officers) are based around New Zealand to provide support for education providers from kōhanga reo to the tertiary level. They work face to face with Māori and education providers to support Māori to receive maximum benefits from education.

Strengths of Te Mana include; the comprehensive nature of the media campaign and the way in which the campaign is tailored to Māori through, for example, the use of te reo and Māori imagery; the development of Māori specific resources to support the campaign; targeting of Māori youth, whānau and Māori communities to raise Māori expectations of educational success and raise the profile of a Māori presence within the education sector; targeting from kōhanga reo through to tertiary level; and, the employment of Māori in liaison roles to work in communities with providers to enhance the education system and educational institution commitment. While these elements of the Te Mana campaign are of particular relevance to MHDW recruitment, it is important to note that the campaign has been very well resourced and that there has been much groundwork over time carried out to develop and support the campaign (http://www.minedu.govt.nz/index.cfm?layout=document&documentid=6662&data=l).

Futureintech

The Institution of Professional Engineers New Zealand's education and industry recruitment initiative Futureintech (Futureintech, 2004) has been identified by HWAC as a model for an ambassadors scheme that has high applicability to Māori and the health sector. The Futureintech initiative includes a website providing information about study and career options in technology, engineering and science. Seven Futureintech regional facilitators throughout the country facilitate meaningful relationships between industry and schools, and work with teachers, career advisors, students and their families. Suitable young professionals working in technology, engineering and science are identified and trained as ambassadors. The ambassadors work on practical curriculum projects directly with schools, teachers and students as role models and a source of relevant career information.

In recommending that the Minister of Health explore options for an ambassadors programme to encourage Māori participation in the health and disability workforce, HWAC suggested that; such a programme should be offered alongside a comprehensive marketing campaign to encourage Māori into health careers; the intervention start at Year 10; students are able to access ambassadors electronically; the information provided by ambassadors be supported by a website; the financial and other rewards of a career in health be emphasised; and, the programme include a community outreach component (Health Workforce Advisory Committee, 2006d).

While the programme does not specifically target Māori, it has high relevance to Māori in that it addresses important Māori health workforce recruitment facilitators and barriers. That is, access to quality health career information, the need for strengthened links between educational institutions and health sector organisations, limited whānau exposure to tertiary education and health professionals, and access to Māori role models in health.

TeachNZ Scholarships

In 1998 the Ministry of Education established TeachNZ Scholarships for Māori and Pasifika (Ministry of Education, 2006) to contribute to addressing their under-representation as teachers. The Scholarships have been effective in the recruitment of Māori into teaching, with 128 Māori TeachNZ primary and secondary teaching scholarships taken up in 2001 (Ministry of Education, 2004). However, following a review of the Programme, in 2004 the Minister of Education disestablished the TeachNZ scholarships for Māori and Pasifika, and introduced new categories of scholarships. In 2006, the TeachNZ Scholarships targeted Māori medium teachers, early childhood education, and secondary teachers of specific subjects. The previous approach taken by the Programme, which specifically targeted Māori, provided a straightforward mechanism to address Māori under-representation as teachers in both mainstream and Māori medium settings. Removal of ethnic targeting and introduction of a category for Māori medium teachers, while continuing to address inadequate numbers of Māori medium teachers does not address Māori under-representation as teachers at all levels and across the range of subjects in mainstream.

TeachNZ Scholarships are intended to attract prospective students into teacher training, encourage qualified teachers to return to the workforce, and to encourage teaching in subject areas where positions are difficult to fill. For fulltime students, the scholarships pay core tuition fees plus an allowance of $10,000 for the duration of the course of study. Recipients are bonded to teach in New Zealand for a period of time equal to the time during which they received the Scholarship. The TeachNZ Scholarship Programme is extensively advertised through television media, expo days, and career events.

The likely key success factors of the TeachNZ Scholarship Programme that are relevant to Māori health workforce development are the high profile of the Programme due to a well resourced marketing strategy and generous levels of scholarship funding which cover full tuition fees and contribute substantially to living expenses. A well resourced Māori marketing strategy would contribute to addressing the lack of promotion of science and careers in health in a way that engages Māori. As well, the generous level of scholarship funding is significant given that the affordability of tertiary education has been idenfified as a major barrier to Māori recruitment into the health workforce (http://www.teachnz.govt.nz/scholarships).

Rangatahi Maia

Rangatahi Maia is a Tertiary Education Commission funded vocational training and education programme targeting young Māori (Tertiary Education Commission, 2003).

The scheme has assisted recipients to gain qualifications at Level 3 of the National Qualifications Framework and above. Recipients may complete a qualification and be supported to move into the workforce, or complete the first year of study in working towards a higher qualification.

Rangatahi Maia programmes are offered throughout New Zealand in a wide range of fields such as carpentry, aquaculture and business management, and through a variety of training institutes including polytechnics and whare wānanga. The courses are fully funded with no cost to the learner. The tertiary education organisation provides all course materials including tools and equipment, and covers travel costs. Participants may also receive assistance towards living and accommodation costs. Programmes are required to cater to the cultural needs of the learner and offer appropriate support to enable learners to maximise their success in the Programme, achieve the desired educational outcomes and successfully transition into employment.

In 2003, 79 percent of those on the Programme were Māori (Ministry of Education, 2004a). The Scheme has recently been restructured to target demand areas in the labour market following the review of ethnically targeted policies and programmes (Tertiary Education Commission, 2005). The restructuring has resulted in a greater focus on trade skill development.

Likely key success factors of the Rangatahi Maia scheme relevant to the health sector are that it specifically targets Māori, it is a national programme and therefore there are opportunities to participate throughout the country, that courses are fully funded with no costs for learners, and that young people are introduced to the tertiary education environment through culturally appropriate programmes. These latter two features could contribute to addressing recruitment barriers of the affordability of tertiary education and perceptions that tertiary institutions are not 'Māori friendly'.

Te Ohu Kaimoana 'Fish Fingers'

In 1995 Te Ohu Kaimoana established a Māori scholarship programme, 'Fish Fingers' (Te Ohu Kaimoana, 2006) which aims to strengthen Māori participation in the seafood industry workforce (van Grondelle, 2003). Approximately $1 million is invested annually in the Programme, and to date around 2,500 scholarships have been awarded (personal communication, Darrin Apanui, 28 April, 2006).

Scholarships are awarded in three categories; technical, management, and applied science and technology. Largely unskilled participants in the technical stream are recruited through agencies such as Work and Income New Zealand and skillnz and are supported to complete the Commercial Fishing Processing Course at the Westport Deep Sea Fishing School or the Certificate in Seafood Vessel Operations at the Bay of Plenty Polytechnic. The scholarship covers course fees, travel costs, accommodation, and a small living allowance. Approximately 90% of programme participants in this stream complete courses and enter into the seafood industry workforce. The management stream operates in partnership with iwi. Students with financial support from iwi to complete programmes of study relevant to the seafood industry receive scholarship funding that matches iwi

investment dollar for dollar up to a maximum of $5000. Key rationale behind this approach are; to build iwi capability to manage their own fisheries resources, and to enable iwi to take greater responsibility for growing their own workforce. Scholarships for tertiary level applied science and technology training range in value from $6,000-$20,000 depending on the course of study.

The Programme is run by a team of three staff, one of whom is responsible for pastoral care. There are also identified 'champions' in each tertiary institution who maintain contact with students and provide support. Recipients are assisted to attend the annual conference of Te Ohu Kaimoana (generally 250-300 students participate) and have the opportunity to learn about the industry and network. While participating students pay their own travel costs, all other costs are covered.

Identified strengths of the Programme are that; it specifically targets Māori; it maintains strong links with iwi; it supports training at a variety of entry points (e.g. unskilled through to doctoral candidates); it is closely linked to industry and workforce demand; the level of funding available to recipients is sufficiently generous to minimise learner costs; and, alongside financial support the programme also offers pastoral care and opportunities to connect with industry. These features, when applied to the Māori health workforce development would address affordability as a barrier to recruitment, would attract second chance learners to the sector, may support opportunities to work with Māori communities, and there are opportunities to develop links with the industry and network with Māori working in the field (Te Ohu Kaimoana, 2006).

Manaaki Tauira

The Manaaki Tauira grant scheme is a national initiative for Māori studying at tertiary level in any discipline at an NZQA registered tertiary institution. The Scheme was established to ensure that Māori participation in tertiary education was not negatively affected when tertiary education fees increased in the early 1990s (Controller and Auditor General, 2004). The Scheme was taken over by the Ministry of Education in 1994, and was administered by the Māori Education Trust since 2002. Students apply for the lesser of $1250 or 90% of their tuition fees. The annual budget for the scheme was capped at $4.3 million (Controller and Auditor General, 2004). Criteria for eligibility included commitment to kaupapa Māori and financial need. The Ministry of Education determined the income level for eligibility. Approximately 10,000 students received grants for the year 2001-2002 (Ministry of Education, 2003b). In this years budget, the Government revealed that the Manaaki Tauira scheme will be disestablished (New Zealand Treasury, 2006, p. 400). Disestablishment of the Scheme is inconsistent with stated objectives to increase Māori participation in tertiary education.

Key strengths of the Manaaki Tauira scheme are that it has targeted Māori and aimed to address affordability as a barrier to Māori recruitment into tertiary education (a key barrier within health fields) and that students have been able to apply from across disciplines and levels of study (Ministry of Education, 2003b).

Success factors

Analysis of these six interventions enables the identification of a number of success factors of assistance offered in other sectors that may be transportable to health. These factors are:

- programmes that specifically target Māori and are therefore designed to engage Māori, including whānau;
- use of role models and student mentoring;
- access to study and career advice, including targeted information resources;
- well resourced and comprehensive marketing strategies that engage Māori of all ages, increase Māori expectations of academic success, and raise the profile of initiatives and are therefore likely to lead to high uptake rates;
- levels of scholarship funding that minimise costs to learners and therefore cover, for example, full tuition fees, other course costs, and living expenses;
- strong links between courses offered, industry needs and workforce demand;
- programme links to Māori stakeholders, including iwi, and support for Māori networking;
- facilitate student links to iwi and industry, including industry outreach to schools;
- opportunities to study in a variety of geographical locations;
- courses at varied skill levels and across disciplines are supported, and thereby there is a greater likelihood of attracting second chance learners;
- assistance in the transition between study and work; and,
- the provision of broad based support including pastoral care.

International approaches to recruitment and retention

There is limited literature specifically regarding workforce development interventions for indigenous peoples in other countries. In the United States, it is apparent in the literature that measures to address the under-representation of indigenous peoples in the professional health workforce are generally subsumed within wider initiatives that target ethnic minorities. For that reason, evaluated interventions that target ethnic minorities and aim to increase participation in the health professions are included in the discussion below.

American Indian/Alaska Native M.S.-to-Ph.D Nursing Science Bridge Program, University of Minnesota School of Nursing

The National Institutes of Health have funded the 'American Indian/Alaska Native M.S.-to-PhD Nursing Science Bridge Program', an initiative of the University of Minnesota School of Nursing established in 2000. The Programme aims to increase the number of PhD qualified nurses, from around 12 at the time the Programme was set up. There are now an additional nine indigenous nurses in the programme, which in time will greatly strengthen the indigenous nurse researcher workforce. The Programme involves indigenous elders and traditional health experts, draws on advice from suitably qualified indigenous consultants who are also role models for students, provides cultural

immersion experiences for students (including retreats), and provides education for staff (Pattock, 2003).

Biology Undergraduate Scholars Program (BUSP), University of California College of Biological Sciences

BUSP is an initiative of the College of Biological Sciences, University of California. The Programme particularly targets underrepresented minority students and offers academic support, financial assistance and a four week summer programme.

Students meet regularly with academic advisors who provide both academic and personal support, have the opportunity to participate in supplemental workshops (including a tailored pre-chemistry class and supplementary classes in chemistry and calculus) and study groups, are able to attend a seminar course in professional skills development, and have the opportunity to work in a biology, medical or veterinary research laboratory during their first year at university.

An evaluation of the Programme compared academic outcomes for Programme students to a cross-section of matched biology students and to matched students pre-BUSP (Barlow & Villarejo, 2004). Programme students were more likely to complete general chemistry, calculus and biology, and to achieve higher grades in the chemistry and calculus. They were also more likely to graduate with a degree in biology.

Ventures in Education Program

The Ventures in Education Program (Bediako, McDermott, Bleich, & Colliver, 1996) is a national American high school enrichment programme that aims to increase access to higher education for minority students. The Programme networks a consortium of tertiary education institutions and professional associations that contribute to supporting Venture Scholars to participate in tertiary health-field courses and move into a career in health. The Programme includes educational support in health sciences, including tutoring. Students are encouraged to communicate with consortium institutions, which have appointed a contact person for Venture Scholars. Communication is maintained with students via: a biweekly electronic newsletter; targeted emails that update students on activities in their area that are relevant to them, such as seminars and expos; a listserv that facilitates communication with support services; and, an e-dialogue centre to make contact with undergraduate Venture Scholars. Students are able to retain their status as Venture Scholars while undertaking postgraduate study.

The success of the Programme was evaluated in measuring medical college matriculation (Bediako, McDermott, Bleich, & Colliver, 1996). At the time the Programme was initiated, no students from the five participating high schools had taken the Medical College Admission Tests. However, the Programme evaluation demonstrated that five years from the establishment of the Programme, 72 students from these schools had matriculated into medical school.

Minority Recruitment and Retention Initiative, University of Mississippi Medical Center School of Nursing

In 1998, in response to low levels of participation of ethnic minorities in the University of Mississippi School of Nursing programmes and as faculty (only three minority faculty members were employed between 1948-1991), the Minority Recruitment and Retention Initiative was launched. The Initiative was essentially a committee comprised of minority faculty members, minority student representatives, the Associate Dean of Academic Affairs for the School of Nursing, and the Director of the Division of Minority Student Affairs. It was emphasised by minority faculty members, however, that the responsibility for minority student recruitment rested with all faculty. The group developed strategies for increasing minority participation (http://findarticles.com/p/articles/mi_m0MJU/is_4_10/ai_113304787/pg_7).

Strategies adopted by the Initiative were; increased mentoring for minority students; three forum per academic year for ethnic minority students and faculty from all programmes; partnerships established with health care profession-education groups to support ethnic minority student academic success; involvement of Initiative members with the Minority Student Health Care Association (student association covering four health professional schools); and, activities to increase community awareness of admission requirements. Programme analysis has demonstrated an increase in minority faculty staff (by 2003 there were 10 minority appointments), and a substantial increase in ethnic minority enrolments to 21% of total enrolments in nursing (Fletcher et al., 2003).

Medical/Dental Education Preparatory Program (MEDPREP), Southern Illinois University School of Medicine

MEDPREP was established in 1972. It is a post-bachelors degree programme to facilitate underrepresented/minority student entry into medical and other health professional schools (in the United States, students normally apply for entry into medical school following completion of an undergraduate degree). Students participate in a two year academic programme which is specifically tailored to their needs, has high expectations of academic achievement, and provides a supportive environment. In year one, most students prepare for the Medical College Admissions Test and complete science background courses. In the second year, as the student applies for entry into a health professional school they enrol in further professional school preparatory courses in subjects such as anatomy and biochemistry. Students also receive comprehensive support including tutorials, mentoring, counseling, small-group study, clinical experience, and assistance with the application process (http://www.siumed.edu/medprep/).

In the first 30 years of the Programme, 688 minority student participants were accepted into a health professional school and 578 matriculated and either graduated or were expected to graduate at the time of Programme review (Bramley, Broad, Harris, Reid, & Jackson, 2003).

Health Professional Summer Academy, Baylor College of Medicine

Baylor College of Medicine, a United States private medical school, ran a three week summer programme for 14-15 year old minority students who ranked in the bottom one-third of students in terms of academic grades and who were attending two Texas high schools specialised for health professions. The Programme, Health Professional Summer Academy, included health career counseling, allied health career related activities, science problem solving, and communication skills.

In pre/post programme testing to measure student knowledge of science skills, an increase in average scores was reported. Students showed an improved ability to analyse and solve science problems, increased knowledge of nine allied health professions that were the focus of the Programme, and a greater awareness of factors that may negatively impact on pursuit of health careers (Thomson et al., 1992).

Queensland University of Technology School of Nursing

The Queensland University of Technology School of Nursing has introduced an initiative to increase indigenous participation in and completion of the Bachelor of Nursing (Meiklejohn, Wollin, & Cadet-James, 2003b). Key elements of the initiative are a targeted marketing strategy and a streamlined application process for the Bachelor of Nursing. The interview process is carried out in collaboration between the School of Nursing and the university enrolment unit. Admission interviews are led by an indigenous academic and include family participation. Discussions include university and student expectations, family concerns, and an individualised academic plan is developed for the student at the interview. Efforts are made to offer students a place at the interview if appropriate to provide certainty and enable maximum time to prepare for study. Indigenous and community career days are also run by the university.

Programme strengths

A range of programme strengths can be identified in the indigenous and ethnic minority health workforce development interventions described above:

- opportunities for networking and peer support;
- assistance with admission applications and streamlined admissions processes;
- tailored academic and learning support;
- interventions at varied levels including high school and undergraduate levels;
- practical workplace experience and enhanced links to educational institutions and health care providers;
- maintenance of links between programmes and students;
- mentoring and role models;
- involvement of indigenous communities;
- leadership, guidance and/or advice provided by indigenous ‘experts’;
- targeted marketing and an emphasis on information provision;

- opportunities to strengthen cultural skills;
- enhanced communication between faculty and students; and,
- provision of financial support.

While it is likely that there are lessons that can be learnt from these programmes and applied in action to support MHDW development, many of these features are already apparent in the Māori health recruitment and retention initiatives described.

Summary

There are a range of MHDW development interventions already in place at a variety of levels to strengthen workforce capacity and capability. The interventions, however, tend to operate in somewhat isolated ways and there is not a sense of overall co-ordination. Successful Māori health recruitment and retention programmes have been described and discussed in terms of their capacity to address recruitment and retention barriers and facilitators. It is clear that some of the more established programmes may provide models for intervention that could be more widely applied within the sector. There are lessons that may be learnt from key strengths and success factors of Māori workforce development interventions in health and other sectors, and the approaches taken in other countries to indigenous and ethnic minority health workforce development.

DISCUSSION

Māori participation in the health and disability workforce

Despite improvements over time, this research reinforces previous work by HWAC and others that demonstrates major and enduring under-representation of Māori in the health and disability workforce. In many occupational groups or specialist areas Māori are either not-represented or are vastly under-represented. Māori tend to be clustered in areas that require lower levels of formal qualifications, such as service workers (13.2% of service workers are Māori). The Māori health and disability workforce is very under-represented in the 'professional' occupational group with only 5.7% of the 'professional' workforce being Māori. Of particular concern is that this grouping includes the nursing and counsellor categories, in where Māori have 'reasonable' representation and these groups equate to approximately 50% of the 'professional' workforce. In the remaining 'professional' occupational categories (e.g. surgeon, dentist and dental surgeon) Māori account for only approximately 2% of the workforce.

In terms of retention in the workforce, where workforce data enabled measurement, it appears that there are generally moderate levels of retention (60%-80%) across health professions. However, the data is very sparse and often affected by the response rates to workforce surveys and the loss of even one member of a profession can have a large impact on its retention rates.

Caution is warranted in interpreting official figures for tertiary health field enrolments and completions for Māori, as some course categories are strongly inflated by the effects of short courses in subjects such as first aid and massage. Overall, however, it appears that strategies to increase Māori enrolments and completions in health programmes within tertiary institutions may be having an impact, with increased enrolments and completions in several areas.

Progress across occupational categories is varied and this may reflect differences in the level of commitment to MHDW development across professions, including training institutions and professional bodies. For example, in recent years there has been rapid growth in nursing and midwifery enrolments and completions and a substantial increase in medical school enrolments (though completions have remained stable as it will take some time for enrollees to complete). There have been small and stable enrolments and completions in dentistry which is an area of significant under-representation for Māori. There are several occupational groups where there are increasing numbers of tertiary students that have the potential to impact upon the MHDW, however, many of the groups have very small numbers of Māori in the active workforce and/or small numbers of tertiary students studying for qualifications. There is also some suggestion that higher rates of Māori participation as health professionals in a given occupational group provides a catalyst for Māori recruitment and retention within that group. This would suggest that a critical mass of Māori health professionals enables effective Māori advocacy for recruitment and retention within these occupational groups.

There are strong mainstream and Māori specific rationale for increasing Māori participation in the health and disability workforce at all levels and in a range of professional roles. Mainstream arguments are concerned with projected excess health and disability workforce demand overall, and recognition that increasing and strengthening the Māori workforce is part of a sustainable long-term solution to addressing the shortfall. Equitable health outcomes for Māori are, however, a fundamental rationale for Māori health and disability workforce development, though this does not imply a 'one size fits all' approach.

Importantly, equitable Māori representation in the workforce is consistent with the Government's vision and direction for the coming decade of economic transformation; making life better for families, young and old; and building our national identity.

A representative and culturally competent national health and disability workforce is best placed to enable optimal health outcomes for all New Zealanders, as the basis for a healthy workforce overall to drive the transformation of our economy. It is critical to New Zealand society that the increasing proportion of the population that is Māori are healthy and well, and able to maximise their contribution to the country's economic productivity. Reducing inequalities in health between Māori and non-Māori will underpin achievement of a better life for whānau, and this will rely in part on the development of MHDW capacity and capability to ensure the health sector is best equipped to facilitate health gain for Māori. A strong Māori identity is fundamental to New Zealand's national identity and, like other elements of our national identity, should be nurtured and reflected in all domains, including health. A strengthened MHDW, which facilitates the provision of culturally responsive health services, supports Māori to be healthy as Māori and contribute fully to the New Zealand national identity.

Raranga Tupuake Māori Health Workforce Development Plan 2006 is the Government's strategic framework for MHDW development over the coming 10-15 years. The Raranga Tupuake vision focuses on workforce capacity building, strengthening capability, and enabling equitable access for Māori to training opportunities. As well, it outlines a number of pragmatic actions to be taken by identified health and other sector organisations to progress achievement of that vision.

This research reinforces the approach taken in Raranga Tupuake and provides direction for expansion of the scope and actions identified in the framework document with particular regard to recruitment and retention.

An optimum workforce

MHDW development is the process of strengthening the capacity and capability of the Māori health and disability workforce in order to maximise its contribution to improved health outcomes for Māori. The purpose of MHDW development is to contribute to building a representative New Zealand health and disability workforce that through evidence-based practice facilitates the best possible health outcomes for Māori. A number of characteristics of an optimum MHDW have been identified in the literature (including Kia Puāwai Te Ararau) and in data generated from this research.

Those characteristics are:

- diverse professional backgrounds, roles, and locations within health services (e.g. primary, secondary, tertiary services in Māori and mainstream settings);
- equitable representation at all levels within the sector and proportional to the Māori population spread and Māori health needs;
- dual technical/clinical and cultural competencies to enable Māori responsive practice;
- tangible links to Māori communities, including whānau, hapū, iwi and other Māori organisations;
- well connected to Māori health professional networks;
- transferable skill sets to enable flexibility and movement between roles;
- ongoing professional development consistent with the philosophy of life-long learning across the health professionals career lifespan;
- evidence-based practice;
- Māori health outcomes focused and prevention centred practice;
- well developed intra and intersectoral relationships;
- change responsiveness; and,
- able to achieve work/life balance.

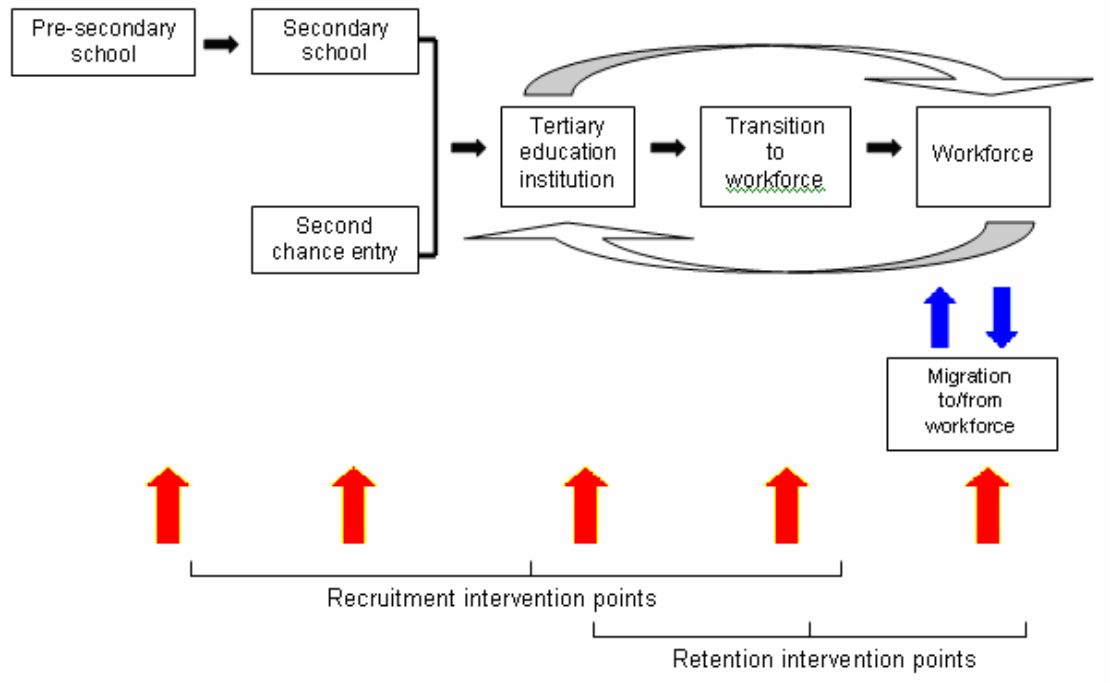
There has been substantial work towards the goal of developing an optimum MHDW by a wide range of stakeholders including the Ministry of Health, Māori health policy advocates (e.g. Te Rau Matatini and Hauora.com), HWAC, DHBs, Māori health providers, and Māori recruitment and retention intervention providers. This work provides the foundation for ongoing initiatives to strengthen workforce capacity and capability.

A MHDW development pathway

International literature refers to a 'pipeline' for the generation and recruitment of the health workforce (Council on Graduate Medical Education, 2005a; World Health Organisation, 2006). Essentially, the concept is that individuals progress through educational institutions and graduate with the qualifications and skills that enable them to then be recruited by employers into the health and disability workforce. According to this model, the number of entrants into the health workforce is determined by criteria for entry into training institutions, training attrition, and the health-related labour market (World Health Organisation, 2006). The 'pipeline' has typically focused on the role of educational institutions, mainly at the tertiary level but also at the secondary school level, in workforce development.

Data from this research suggests an expanded 'pipeline' or 'pathway' for Māori health and disability workforce development **(**Figure 1). The pathway would extend through five distinct phases: pre-secondary school; secondary school and second chance entry; tertiary education, transition to the workforce, and the workforce phase. Importantly, the pathway explicitly accommodates tertiary level professional development opportunities that may facilitate workforce retention and are consistent with a 'life-long learning approach to professional development. It is recognised, however, that there are many other legitimate MHDW professional development opportunities outside of tertiary education institutions.

Figure 1. A Māori health and disability workforce development pathway



The last three phases of the pathway encapsulate the health workers career lifespan, including potential migration in and out of the health workforce. This acknowledges that health sector skill sets are transferable and that there is much demand in other sectors for Māori competencies.

There is value in attracting Māori from other sectors who have skill sets that are required in the health sector (e.g. information technology or management) and of encouraging former health workers, many of whom may have developed additional valuable skills in other sectors, to return to health. Multiple intervention points for workforce recruitment and retention can be identified along the pathway.

The pathway concept highlights the reliance of health sector workforce development on quality education at all levels and the labour market, and thereby the inextricable links between the health sector and the education and labour sectors. Therefore, a comprehensive approach to MHDW development is recommended, that relies on interventions along and across the pathway that bridge the health, education and labour sectors. Further, that long term investment from kōhanga reo/preschool through to all stages of the health workers career lifespan will be required in order to achieve an optimum workforce. Interventions should aim to address the range of known determinants of MHDW participation.

Careers outside of the health sector

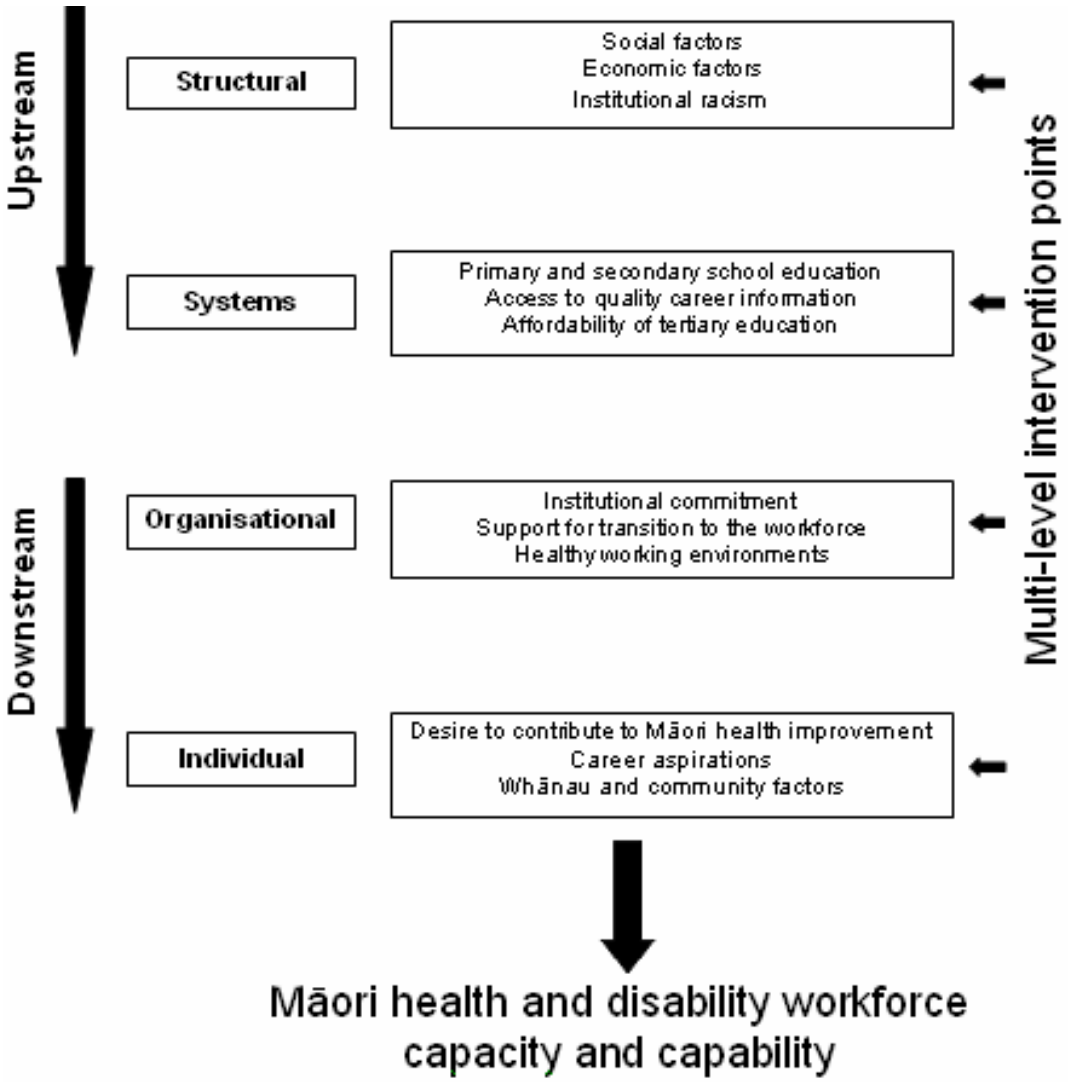
Findings from this research indicate that when Māori leave the health and disability workforce they move into a wide variety of roles across sectors dependent on personal priorities and interests. The main areas identified by participants in this research, in particular ex-workforce survey respondents, were Māori and iwi development, education, social services, management, business development and community level work. It appears that often the new roles may be linked to health and/or Māori development. Respondents indicated that those that leave the sector often continue to work with, and make a difference for, Māori. There was some indication that those moving into other sectors may consider that their work outside of what is conventionally considered the health field may have a greater impact for Māori, for example in addressing the determinants of health.

Determinants of MHDW participation

A range of factors have been identified in this research that influence, positively and/or negatively, Māori recruitment and retention in the health and disability workforce and therefore progression along the workforce development pathway. A number of these factors influence the extent to which Māori are able to access tertiary health field education programmes, and thereby have the option of entering the workforce. Access, as it is used here, refers not only to enrolment in tertiary programmes, but also to the successful and timely completion of qualifications.

The recruitment and retention barriers and facilitators identified in this report can be grouped into the following four categories: structural factors; health and education system factors; organisational factors; and, individual level factors (Figure 2). Structural factors (e.g. historical, social, economic, political and cultural factors) are the fundamental drivers of Māori participation in New Zealand society generally and therefore of MHDW participation. Health and education system factors relate to the health or education system as a whole, rather than to the characteristics of individual institutions. Organisational factors relate to specific health and educational institutions and services. Individual factors operate at the level of the person. Figure 2 provides examples of influencing factors identified in this research that fall within each of the categories.

Figure 2. Determinants of Māori health and disability workforce participation



The first two categories (structural and systems) include upstream factors that are distal influences on workforce development, while organisational and individual level factors are downstream determinants that impact more directly on the person. Factors that fit within each of the four categories generally have the potential to act as either a barrier or facilitator of workforce recruitment and/or retention. Further, there is a degree of overlap and some factors interact across categories. For example, the relative economic deprivation of Māori is a structural barrier that is linked to the education system barrier of affordability of tertiary education.

Factors influencing Māori recruitment

Barriers to recruitment

Structural barriers to workforce recruitment and retention were identified by key informants, in particular the socio-economic position of Māori and institutional racism. This indicates the importance of contextualising workforce development within Māori development strategies. That is, ongoing work to address structural barriers to the full participation of Māori within New Zealand society is necessary in order to optimise Māori progression along the workforce development pathway and thereby make health professions a real career option for Māori.

Structural factors are to a large extent outside the control of the health sector. However, health (and education) is part of the structure and is well positioned to take a leadership role in advocating for an integrated approach that marries social, economic and cultural dimensions.

A number of health and education system recruitment barriers were identified; primary and secondary school education systems; poor access to quality career information; the tertiary education system; the low Māori presence in the health and education sectors; lack of clear career pathways, and workforce entry qualification requirements.

There are relatively more Māori secondary school leavers with qualifications than there were 10 or so years ago. However, despite improvements, there remain systematic barriers for Māori within primary and secondary school education. Māori are less likely to take and pass high school science subjects than secondary school students as a whole (Health Workforce Advisory Committee, 2006b). Often Māori emerge from primary and secondary schools inadequately academically prepared for tertiary study in health fields. It is clear that distance education, second chance education, and retraining will remain important avenues for Māori at least for another two decades, by which time school leavers may have more uniformly high achievement. This approach is also consistent with the Tertiary Education Strategy (Ministry of Education, 2002) focus on life-long learning.

While there is a substantial amount of information available about health field study pathways and careers in the health and disability sector, according to all categories of respondents that information is not readily accessible to Māori. Almost half of the workforce survey respondents indicated that inadequate information on a career in health, and the lack of promotion of health careers in a way that attracts them were a medium to large barrier to recruitment. Tertiary student survey respondents indicated that inadequate career guidance and lack of information regarding course options were recruitment barriers. Qualitative research findings were consistent, indicating that Māori have low levels of awareness of health as a career option and the range of available career pathways in health, that specific skills are required in order to access relevant health career information, that information is often not produced or made available in a form that engages Māori, that there is poor access to quality career advice and guidance for Māori secondary school students and second chance learners, and that the inadequate promotion of science and health careers to Māori children and their whānau is a recruitment barrier.

With regard to secondary school career advisors, concerns identified in this research were that; the caliber of career advisors varies; there may be low expectations of Māori students held by career advisors which limits information provision; career information is not readily available and must be actively sought by students; a narrow range of health professions are promoted if at all; and, that health careers are not promoted in a way that attracts Māori students. This may lead to a loss of capable Māori students during the transition from secondary school to tertiary study.

Also at the systems level, tertiary education recruitment barriers identified were the high cost of tertiary education, the distant location of tertiary education institutions, long course length, heavy study workloads, health field programme entry criteria, and inadequate support mechanisms in place for those wanting to develop a career in health including Māori enrolled in health and disability education and training programmes. The affordability of tertiary education was identified by tertiary student survey respondents as the major barrier to Māori entry into health field programmes. Further, it appears that there may be low levels of awareness of tertiary study funding sources among Māori tertiary students. The distant location of institutions was identified as at least a medium barrier to recruitment by over half of the tertiary student survey respondents, and to a lesser extent the long course length was considered a barrier. Focus group participants expressed some concerns that heavy study workloads presented a recruitment barrier. Narrow academic criteria for entry into health field programmes that do not take account of wider experience or skills and are not relevant to contemporary contexts were identified as a barrier. Tertiary student survey respondents indicated that there are insufficient Māori specific support programmes and that there are inadequate educational institution support services, including educational liaison services.

The extent to which there is a Māori presence in the health and education sectors was considered to exert a strong influence on Māori choosing a career in health. A Māori presence refers to levels of participation of Māori as lecturers, health professionals (and therefore the ability to network with other Māori in the profession), mentors, role models and students, and to formal links between academic departments and Māori communities. It is also concerned with the extent to which the culture of the health and education systems are 'Māori friendly' and enable Māori to learn and work 'in a Māori way'. A lack of or low Māori presence was identified as a barrier to recruitment into health field tertiary study and into the workforce. Almost half of the workforce survey respondents indicated that low numbers of Māori in the health workforce is a recruitment barrier.

Almost half of the workforce survey respondents indicated that the lack of clear career pathways was a medium to large barrier to recruitment. There was an indication among some research respondents that workforce entry qualification requirements presented a recruitment barrier.

At the organisational level, low educational institution commitment to Māori workforce development was identified as a barrier to Māori participation in health field tertiary education and the health workforce. Between one third and one half of tertiary student survey respondents indicated that the following factors were at least a medium barrier to taking up tertiary study in health fields; institution not 'Māori friendly', programme not 'Māori friendly', lack of Māori specific study pathways, and limited Māori specific course content. Additional barriers identified by key informants were; a lack of value or recognition of Māori approaches, a lack of or

limited access to programmes delivered in a way that is appropriate to Māori, lack of Māori specific study pathways, and personally mediated racism. Workforce survey respondents also identified the limited Māori content in health courses and personally mediated racism in tertiary institutions as problematic. Lack of recognition and accommodation of Māori cultural preferences and norms, and racism, creates an environment where Māori entry into and performance in academic programmes may be compromised.

In terms of the working environment, personally mediated racism in the workplace was identified by workers as a recruitment barrier. There were also indications among tertiary student survey respondents of perceptions of limited employment opportunities.

At the individual level, tertiary student survey respondents indicated that not knowing someone working in the health professions is a barrier to taking up health field study. Almost half of the workforce survey respondents identified limited whānau experience in tertiary education and whānau commitments as a medium or large barrier. Pressures to meet high Māori community expectations of constant availability were also identified in workforce focus groups as recruitment barriers.

Barriers to Māori recruitment identified in this research are summarised in Table 55**.**

Table 55. Barriers to Māori recruitment

Categories	Barriers
Structural	social factors economic factors institutional racism
System	primary and secondary school education barriers poor access to quality health career information • lack of Māori engaging promotion of science and health careers • inadequate quality and availability of career guidance • poor information regarding course options/range of professions • specific skills required to access health career information tertiary education system • high cost and low awareness of funding sources • distant location of institutions • long course lengths/heavy study workloads • narrow entry criteria • inadequate Māori specific support programmes low Māori presence in the health and education sectors • low Māori representation • lack of formal links between Māori and academic departments • system is not 'Māori friendly' • lack of opportunities to work 'in a Māori way' lack of clear career pathways restrictive workforce entry qualification requirements
Organisational	low educational institution commitment • institutions/programmes not 'Māori friendly' • lack of Māori specific study pathways or programmes delivered in a way that is appropriate to Māori • limited Māori course content • lack of value attributed to Māori approaches • lack of or limited access to programmes delivered in a way that is appropriate to Māori • personally mediated racism personally mediated racism in the workplace perceptions of limited employment opportunities
Individual	limited whānau experience in tertiary education whānau commitments not knowing someone working in health Māori community expectations

Recruitment facilitators

Addressing ethnic inequalities with regard to the socioeconomic position of Māori in New Zealand society and institutional racism were indicated to facilitate MHDW recruitment.

Health and education system recruitment facilitators identified were; measures to enhance primary and secondary school education systems; improved access to quality career information; enhancement of the tertiary education system; a strong Māori presence within the health and education sectors; the high status of health professions; career development opportunities in the health sector; flexible workforce entry qualification requirements; and, formal Māori support mechanisms and recruitment interventions. As well, over half of the workforce survey respondents indicated that career development opportunities and earning potential provided quite a lot or a major encouragement to initially choose a career in health. Earning potential was also identified as at least important for most tertiary survey respondents in terms of influencing their decisions to take up health field study.

Research findings indicate the need to promote health careers to Māori children at a very young age, perhaps starting at kōhanga reo and continuing through to Year 13. Māori students should be encouraged to develop an interest in science through health career marketing that targets students, whānau, and Māori communities as well as improvements to the way in which science-related information is presented and taught so that it is relevant and engaging for Māori students.

Increased provision of accessible information about health field study pathways and careers in the health and disability sector was identified as a recruitment facilitator. Information should be made available in a form that engages and attracts Māori, and there should be ready access for Māori secondary school students and second chance learners in particular to relevant quality career advice and guidance. For almost one third of tertiary student survey respondents school career guidance was important or very important in influencing their decision to study in health fields.

Health field tertiary education recruitment facilitators identified mainly by tertiary survey respondents were; financial support for tertiary education, local access to tertiary education programmes and part time study options, access to relatively short length courses, flexible health field programme entry criteria, and the availability of bridging programmes and educational institution Māori support services.

The availability of financial support through, for example, scholarships and grants, was identified as a tertiary study recruitment facilitating factor. This may in part be addressed by developing a more comprehensive marketing strategy for the Hauora Māori Scholarship Programme, as recommended in a recent Programme review (Ratima et al., 2006). Academic criteria for entry into health field programmes that take account of wide experience and skills and are relevant to contemporary contexts was identified as a faciltator.

A strong Māori presence within the health and education sectors was considered to be an important facilitator of Māori recruitment into a career in health. Around three quarters of workforce survey respondents indicated that a strengthening Māori presence in the sector provided quite a lot or a major encouragement to them to initially choose a career in health. The workforce survey respondents also indicated

the importance of encouragement from Māori health professionals and increasing numbers of Māori working in their professions in their decisions to choose a career in health. Similarly, tertiary student survey respondents indicated that Māori health sector role models and the number of Māori enrolled in courses influenced their decisions to move into health field study.

At the organisational level, bridging courses were identified as recruitment facilitators. Bridging courses are offered by most tertiary institutions, and will continue to be important facilitators of Māori participation in the workforce for some time. Close to half of tertiary student survey respondents indicated that the availability of Māori course content influenced their decision to take up study in health fields. Also within tertiary institutions, opportunities to incorporate Māori papers and non-science papers into study programmes and access to childcare facilities were identified as recruitment facilitators.

In terms of the working environment; employer expectations and support for study, culturally safe and supportive workplaces, the recognition and valuing of Māori competencies, adequate pay rates, and clear Māori health career pathways were identified as recruitment facilitators.

A number of individual level drivers were identified that facilitate recruitment into health field tertiary education programmes were identified by tertiary student survey respondents. Career aspirations was the most highly rated, followed by family/whānau, practical experience in the health sector, and knowing someone working in health.

Whānau exert a strong influence on health career choices, indicating the value of strategies to promote health careers not only to potential candidates, but also to the wider Māori community. Around half of the workforce survey respondents indicated that whānau provided quite a lot or a major encouragement to initially choose a career in health.

Having a pre-existing link to the sector through practical experience or knowing someone working in health was influential for tertiary students, which suggests that interventions which link potential and current students to the sector in practical ways may facilitate enrolment in tertiary health field programmes and transition into the workforce. For workforce survey respondents, knowing someone working in health also encouraged them to initially choose a career in the sector. It is apparent that there is likely value in the utilisation of informal Māori networks in workforce recruitment.

A personal desire to contribute to Māori development and Māori health improvement was identified as a key motivator to take up a career in health by workforce survey respondents. That is, to make a difference for Māori health, to work with Māori people, to work with hapū and iwi, and to help address the underperformance of the health system for Māori. Well over half of the workforce survey respondents indicated that opportunities to make a difference for Māori health, to work with Māori people and to work with their own hapū and iwi provided quite a lot or a major encouragement to initially choose a career in health.

Facilitators of Māori recruitment identified in this research are summarised in Table 56.

Table 56. Facilitators of Māori recruitment

Categories	Facilitators
Structural	social factors economic factors institutional racism
System	enhanced responsiveness of primary and secondary school education access to quality career information and advice • Māori engaging promotion of science and health careers enhancement of the tertiary education system • financial support • locally provided, part time, and short length courses available • flexible entry criteria • bridging programmes and Māori student support a strong Māori presence within the health and education sectors high status of health professions career development opportunities flexible workforce entry qualification requirements formal Māori support mechanisms and recruitment interventions. career development opportunities earning potential
Organisational	educational institution commitment • Māori course content • Māori/non-science papers in programmes • bridging courses • childcare facilities health institution commitment • employer study expectations and support • culturally safe and supportive, valuing Māori competencies • adequate pay rates • clear career pathways
Individual	whānau encouragement and support practical experience and links to the health sector desire to work with Māori and make a difference to Māori health desire to improve health system responsiveness to Māori

Factors influencing Māori retention

Barriers to retention

Institutional racism was identified by a number of key informants as a structural barrier to MHDW retention.

Health system retention barriers identified were; health sector funding mechanisms, low levels of flexibility within the system, a low Māori presence in the sector, and opportunities in other sectors.

Current health sector funding mechanisms were considered by key informants and ex-workforce interviewees to disadvantage Māori providers to the extent that low levels of funding do not enable these providers to pay salaries equitable with mainstream and to fully support workforce development. As well, short term funding was considered to undermine Māori provider planning for strategic workforce development. The issue of the inflexible and bureaucratic nature of the health system

was raised as a barrier to retention, in that it limits opportunities for Māori health professionals to fully contribute to improved Māori health outcomes. As with recruitment, the extent to which there is a Māori presence in the health sector was considered to have a strong influence on Māori retention. Low levels of Māori participation as health professions was considered by key informants to be a barrier to retention. There was also recognition that other sectors offer opportunities that attract Māori health professionals, and retention will require at least the same degree of opportunity for Māori in health fields.

The following organisational barriers to Māori workforce retention were identified by workforce survey respondents, key informants, focus group participants and ex-workforce interviewees: high expectations placed on Māori in mainstream roles to be expert in and deal with Māori matters; dual responsibilities to employers and Māori communities; a lack of value given to Māori cultural competencies; lack of or low levels of Māori cultural competence of colleagues; and, limited or no access to Māori cultural support/supervision. Ex-workforce interviewees noted that high expectations, unrealistic workloads and the limited numbers of culturally competent Māori health professionals were factors leading to 'burnout'. Ex-workforce interviewees commonly referred to 'burnout' as a reason for their decision to leave the sector. Some workforce survey respondents indicated concerns regarding racism and/or discrimination in the workplace, isolation from other Māori colleagues, and the difficulty of 'being Māori' in the workplace.

It is apparent that there is a tension between expectations of the dual technical and cultural competence of Māori health professionals, and; inadequate support for workers to develop and strengthen those competencies (including poor access to cultural supervision), and low levels of recognition of cultural competence and the associated increased workload from fulfilling cultural requirements. The importance of Māori access to Māori health professional networks in order to avoid a sense of isolation was also apparent.

The following factors relating to general work conditions were identified as retention barriers; inadequacies of managers, low flexibility, poor access to professional development opportunities, heavy workloads, poor pay rates, lack of clear career pathways.

Whānau commitments and the expectations of Māori communities were identified as barriers to retention. Whānau commitments, as a barrier, imply the need for flexible working conditions to enable those with family responsibilities to move into and remain within the health sector. High expectations from Māori communities were indicated to place demands on Māori health professionals, to the extent that they may become a barrier to retention.

Barriers to Māori retention are summarised in Table 57.

Table 57. Barriers to Māori retention

Categories	Barriers
Structural	institutional racism
System	health sector funding mechanisms for Māori providers low flexibility within the health system low Māori presence in the health sector opportunities in other sectors
Organisational	high expectations to be expert in and deal with Māori matters dual responsibilities to employers and Māori communities low value given to Māori cultural competencies low Māori cultural competence of colleagues poor access to Māori cultural support/supervision isolation from Māori colleagues difficulty of 'being Māori' in the workplace and racism poor work conditions • inadequacies of managers • low flexibility • poor access to professional development opportunities • unrealistic/heavy workloads • poor pay rates • lack of clear career pathways
Individual	whānau commitments expectations of Māori communities

Retention facilitators

Within the health system, a strengthening Māori presence and supported transitions from study to work were identified as retention facilitators. Workforce survey respondents indicated that having Māori colleagues, opportunities to network with other Māori health professionals and Māori role models encourage them to keep working in the sector. According to tertiary student focus groups the period of transition from study to the workforce could be better supported to facilitate the retention of new Māori graduates.

Key factors influencing Māori workforce retention at the organisational level relate to the provision of culturally safe and reinforcing working environments, and rely on institutional commitment to Māori workforce development. The following retention facilitators are consistent with a positive working environment: a culturally safe work environment; recognition and valuing of Māori cultural competencies and practice models; access to cultural supervision and Māori resources; paid professional development opportunities to gain and strengthen cultural competencies; opportunities to work in Māori settings and to use Māori practice models in Māori contexts; culturally safe management; and, flexibility to work within known Māori frameworks and practice models.

The following factors relating to general work conditions were identified as retention facilitators; paid professional development opportunities generally (some participants indicated the value of scholarships and grants), clear career pathways, and adequate pay rates.

At the level of the individual, three factors were identified by workforce survey respondents as providing a major encouragement to them to keep working in the health and disability workforce. These factors relate to making a contribution to Māori, specifically; making a difference for Māori health, being able to work with

Māori people, and, making a difference for their hapū or iwi. Being a role model for Māori was also identified by over half of the respondents as providing a major encouragement. There was also an indication from focus group participants that the capacity for Māori health professionals to both receive and provide whānau, hapū and iwi support facilitates workforce retention.

Facilitators of Māori retention identified in this research are summarised in Table 58.

Table 58. Facilitators of Māori retention

Categories	Facilitators
System	strengthening Māori presence in the health sector • Māori role models • networking with other Māori in profession supported transitions from study to work
Organisational	culturally safe and reinforcing work environments • recognition and valuing of Māori cultural competencies and practice models • access to cultural supervision and Māori resources • paid cultural competency professional development • opportunities to work in Māori settings and to use Māori practice models in Māori contexts • culturally safe management • flexibility to work within Māori frameworks and practice models positive work conditions • paid professional development opportunities • clear career pathways • adequate pay rates
Individual	desire to make a difference for Māori health opportunities to work with Māori people being a role model opportunities to make a difference for hapū and iwi capacity to receive and provide whānau, hapū and iwi support

Career information available to Māori

It is apparent that access to quality health career information underpins the recruitment of Māori into the health and disability workforce. There is extensive career information available in the public domain, relating to all aspects of developing a career in health. However, it is an issue that knowledge and skills are often required in order to access information, including determining what material is both relevant and accurate. Further, there are relatively few examples of Māori specific health career resources that specifically target Māori school students or second chance learners, use Māori role models, describe careers in health in relevant terms that are likely to engage Māori, and, incorporate Māori images, language and other cultural features. Two examples of quality resources specifically designed to engage Māori are 'Toi ki te Ora: Public Health Careers for Rangatahi' (Auckland Regional Public Health Service, 2005) a DVD/booklet resource to promote careers in public health to Māori youth developed by Auckland Regional Public Health and 'Whaia te Ara Mōu: Finding the Career Pathway for You (K. Maxwell-Crawford & R. Gibbs, 2004), a mental health career study guide developed by Te Rau Matatini. Despite the development of a limited number of excellent resources, findings from this research indicate that Māori currently have poor access to health career information, and that this is a major barrier to recruitment into the health and disability workforce.

While there is clearly limited access to career information, around half of the tertiary student survey respondents indicated that they had accessed information about careers in health. The types of information accessed by respondents related to: education and training options; funding and scholarships; career planning; career advancement and pathways; career opportunities in the Māori health field; opportunities for Māori people in the sector; potential employers; the range and types of jobs; and, salary ranges.

Tertiary student survey respondents were asked to rate the extent to which a variety of information sources had encouraged them to take up study or a career in the health and disability sector. The highest rated information source was 'word of mouth from Māori networks' (including information provided by friends and whānau), which indicates the importance and potential of informal networks in disseminating health career information and perhaps the value of targeting not only individuals but also whānau and the wider Māori community. It may also, however, be an indication of gaps in career information availability. Other highly rated information sources were career expos and university or educational institution open days (particularly for younger Māori and those considering extramural studies), the internet, iwi and Māori community organisations (especially for those with experience working in the sector) and pamphlets. Print media and television also rated reasonably well.

Some key providers of health career information to Māori are described below.

Hauora.com provides a website (http://hauora.com/) with Māori targeted information for those considering a career in health and for Māori health professionals. For example, the site contains information about careers in medicine including study pathways, scholarship opportunities, qualification requirements, medical career options, and links to relevant university sites.

Career Services (http://www.careers.govt.nz/) is a Crown entity that aims to provide career information, advice and guidance. A wide range of generic career information (e.g. a database of training and course options, scholarship and funding opportunities, job information, and tools to assist in career planning) is available online and support is also available via a freephone service. The homepage includes a link to the section 'Mahi Māori', which contains five pages of information on: Taiohi Tu, Taiohi Ora Career Planning Workshops, Te Whakamana Taitamariki Career Awareness Seminars, Kia Kaha (encouragement for Māori to seek career advice) and Career Services Māori artwork. Taiohi Tu, Taiohi Ora career planning workshops are run for Year 11-13 Māori students throughout New Zealand. Te Whakamana Taitamariki Career Awareness Seminars are run with junior Māori secondary school students to encourage them to begin to consider issues relevant to their future careers
Health institutions, including the Ministry of Health and DHBs, provide information or links regarding careers in health on their websites as well as advertising position vacancies. Information on these sites tends to be generic.

Tertiary education institutions routinely use their websites to provide information about health field courses and study pathways to prospective students, and to link prospective students to liaison, learning, and career support services. Twenty tertiary institution websites were searched for Māori specific study or career information, and 15 of those sites included a Māori-specific link or contact person. There was wide variation in terms of the ease of access to information and the extent to which a given

institution included Māori specific information in its website. Generally, the types of Māori-specific information provided on websites related to: enrolment; courses and programmes; career advice; learning support; formal support programmes including mentoring; cultural support; Māori student and staff profiles; financial assistance opportunities; kōhanga reo and other child care facilities; bridging courses; counseling; social activities; Māori events; and Māori academic courses and programmes.

The types of career support provided by some tertiary institutions include personal career counseling, assistance with job search strategies, interview skill training and assistance with CV preparation. University career services are generally not Māori specific. However, most sizeable tertiary institutions employ Māori liaison officers and some employ Māori learning support staff who have particular responsibilities relating to Māori recruitment and academic achievement.

Some Māori liaison officers arrange Māori secondary school student visits to tertiary institutions to orient students, discuss entry criteria and enrolment processes, and to make explicit the link between secondary school, tertiary study, and career objectives. Career expos are a mechanism for drawing together key stakeholders (e.g. tertiary institutions and employers) and providing information to secondary school students (usually Year 11-13) and second chance learners regarding study and career pathways. While career expos are not generally health specific, they include a health career focus. As an example, AUT University hosts a biannual Māori career exposition at the Aotea Centre (due to be held next on 31 August 2007), Auckland City. The Expo involves bringing together higher learning communities and showcasing Māori achievement across disciplines. The Expo features: entertainment by Māori performers; exhibitions from over 50 tertiary education providers, businesses and community organisations; Māori art exhibitions; a Māori fashion show; and debates involving high profile Māori.

While it would seem reasonable to assume that secondary school career advisors are a regular source of quality career advice for Māori students, responses from research participants indicates that this may not be the case. Concerns were expressed regarding the perceived poor access to quality career advice for Māori. This is clearly an area with much potential that requires urgent attention.

Overall, it is apparent that despite progress substantial gaps remain in terms of Māori access to information about careers in the health and disability sector.

Support mechanisms for Māori

A limited number of support mechanisms were identified for Māori secondary school students and second chance students wanting to develop a career in the sector, Māori enrolled in health and disability education and training programmes, and Māori community and voluntary workers already in the sector.

Secondary school students

The main support mechanisms for secondary school students identified by key informants and focus group participants were school career advisors, which were noted to be of variable quality, and recruitment programmes run by tertiary institutions. University recruitment initiatives identified as support mechanisms were: Vision 20/20; Science, Technology, English, Architecture and Maths Programme (STEAM); the KATTI programme; and Māori liaison services. Some respondents noted the value of university open days. Some university based initiatives offered across institutions were also noted by respondents; Māori specific student services, Māori tertiary institution liaison services, and foundation and bridging programmes. Whānau support was mentioned by tertiary student focus groups as a major informal support mechanism.

Second chance students

There were some concerns among research participants that tertiary education institutions are better equipped to recruit students directly from school, and are less adept at targeting and providing support for mature students considering a career in health.

Bridging courses were identified by key informants and focus group participants to be of particular value for Māori second chance students in providing staircasing opportunities. Hikitia Te Ora (Certificate in Health Sciences) which is part of Vision 20:20 and offered by the University of Auckland, the Certificate in Māori Health offered through Mauri Ora Associates, and Te Manu Toroa kaupapa Māori pre-entry nursing programme were specifically mentioned.

Community and voluntary workers

Few support mechanisms for community and voluntary workers already working in the sector were identified, and those that were tended to be informal supports. Community and voluntary workers in focus groups identified the need for ‘on the job’ support and noted the value of a buddy system to provide collegial support, especially for new staff.

Community level support mechanisms, such as kaumātua (both koroua and kuia) support, were identified as a necessary part of successfully operating at the local level. Collegial support was also considered important. Other support that is available tends to come from employers as well as Te Whiringa Trust, the Māori community health workers network.

Some key informants identified regional initiatives that support voluntary and community health workers to undertake further training, such as a joint venture

between the Manukau Institute of Technology and Counties Manukau DHB, whereby voluntary and community workers are encouraged to upskill at the institution and to do field placements at the DHB. Another key informant referred to the provision of financial support by Te Tai Tokerau Māori Rural Health Training Consortium.

Tertiary health field students

Tertiary student survey respondents indicated that there are a variety of support mechanisms, particularly Māori specific mechanisms that are likely to encourage Māori to enrol, be successful in, and complete tertiary study in health fields. The availability of Māori scholarships and grants was identified as the most important support mechanism. This is not surprising given that affordability of tertiary study emerged as the key barrier for Māori in taking up tertiary study in health. Identified scholarship and grant programmes that support health studies were Manaaki Tauira, the Henry Rongomau Bennett Scholarship Programme, the Ministry of Health Hauora Māori Scholarship Programme, and iwi grants.

Responses demonstrated the value placed on a variety of Māori specific interventions in the areas of career guidance, dedicated facilities, liaison services, comprehensive support programmes, increased support for student networks, learning support, recruitment programmes, and tutorials. Most specifically identified Māori student support mechanisms were offered by universities including: AUT University programmes – the Integrated Team Model of Student Success (ITMOSS) and Te Ara Hauora (Māori Health Pathway); University of Auckland programmes - Vision 20/20 and the Tuakana/Teina Programme; and, the Massey University programme Te Rau Puawai. Te Rau Matatini, which was originally established in partnership with Massey University, was also identified as a support mechanism. Key informants acknowledged that there are comprehensive generic student support services available through universities, the challenge identified was to connect Māori students to that support.

The following measures to enhance the Māori presence within institutions were also rated highly; increasing the numbers of Māori students, a learning environment that endorses Māori values, increasing numbers of Māori staff, formal links between departments and Māori communities, increased numbers of Māori staff at all levels, and Māori language use on campus. More generally, access to childcare facilities was also identified as important. In terms of programme content, there was support for opportunities to incorporate Māori papers and non-science papers into study programmes, as well as Māori specific course content.

Some key informants noted that support is provided to Māori health students by Māori professional bodies such as Taeora Tinana[7] and Te Kaunihera o Ngā Neehi Māori o Aotearoa/the National Council of Māori Nurses.

The tertiary students focus group participants indicated that the informal support provided by other students, whānau, and workplaces is important. Workforce survey participants also emphasised the importance of employer support for tertiary education.

[7] Taeora Tinana is a standing committee of the New Zealand Society of Physiotherapists (the professional body), which on a voluntary basis undertakes activities to strengthen the profession's contribution to improving Māori health outcomes.

Successful Māori recruitment and retention programmes

Determinants of MHDW participation impact along the entire workforce development pathway as barriers and facilitators of Māori recruitment and retention. Interventions to enhance Māori representation within the health and disability workforce will need to address upstream and downstream determinants of workforce participation at each phase of the workforce development pathway in order to reduce the impact of barriers, and strengthen the influence of facilitators.

Interventions should not only be concerned with enabling Māori to 'cope' within existing educational and health institutions, but also with societal, systemic and organisational change to produce healthy learning and working environments for Māori that support workforce recruitment and retention. Though individual programmes may have major impacts, no one programme will address the range of determinants that influence Māori recruitment and retention.

Multiple interventions that target Māori are required that work across the MHDW development pathway and at the structural, systems, organisational and individual levels. This will necessarily include both phase-specific and comprehensive interventions that operate across the length of the pathway. Importantly, links between the phases should also be emphasised. For example, partnerships between tertiary education health field providers like university faculties of health and secondary schools with high Māori enrolments should be encouraged. As well, opportunities for secondary school students and tertiary students to gain practical experience with health providers would be of high value. While a culture of success and achievement should be nurtured, a core aim will be to not only develop leaders but to support the successful qualification completion and movement into the workforce of all Māori enrollees. Consistent with Māori preferences, interventions should be Māori-led but draw on the range of relevant expertise and experience.

Progress has been made in recent years in terms of increased co-ordination of workforce development activities. However, strong national Māori leadership will be required to facilitate formal co-ordination of what are largely discrete and somewhat isolated programmes. This will facilitate a strategic and evidence-based approach to MHDW development that avoids duplication, and will ultimately contribute to improved health outcomes for Māori.

The field of mental health has been identified as an area that has had the most co-ordinated, comprehensive, consistent, and resource intensive investment in Māori health and disability workforce development in the previous decade. Work in this area has also had a high level of support from the Ministry of Health Mental Health Directorate and has benefited from the involvement of eminent Māori leaders as programme patrons. Examples of key Māori mental health workforce development initiatives that target each phase of the MHDW development pathway and address determinants at different levels are provided in Table 59. A number of interventions address determinants at more than one level, and therefore interventions are not directly matched to a specific level (structural, system, organisational or individual). In combination the interventions are a model for a comprehensive approach to Māori health workforce recruitment and retention.

Māori mental health workforce development intervention has had consistent investment over a prolonged period that has focused on workforce capacity and capability building (emphasising dual competencies). There is a comprehensive national strategy for Māori mental health workforce development, though it has been developed after the initiation of some key interventions, it draws together the range of activities underway in a coherent manner and seeks to guide and provide a framework for future co-ordination.

Table 59. Māori mental health workforce development intervention

Pathway phases	Determinants	Interventions[8]
Multiphase	Structural System Organisational Individual	• Destigmatisation campaign (Māori one target audience) • Kia Puāwai Te Ararau National Māori Mental Health Workforce Development Strategic Plan (Te Rau Matatini, 2006b). • DHBNZ Mental Health Workforce Numbers Project and New Zealand Mental Health Epidemiology Study
Pre-secondary	System Organisational Individual	• Kia Puāwai Te Ararau supports action at this phase
Secondary /second chance learner	System Organisational Individual	• Te Rau Matatini videos to promote mental health careers (K. Maxwell-Crawford & R. Gibbs, 2004) • Whaia te Ara Mōu: Finding the Career Pathway for You (K. Maxwell-Crawford & R. Gibbs, 2004) • Te Kotahitanga Programme
Tertiary level	System Organisational Individual	• Te Rau Puawai • Hauora Māori Henry Rongomau Bennett Memorial Scholarships • Access to Māori health science study support programmes such as Vision 20:20
Transition to workforce	System Organisational Individual	• Clinical Placement Guidelines for Māori Tertiary Students (Ihimaera & Tassell, 2004) • Te Rau Matatini preceptorship and orientation models (Maxwell-Crawford & Gibbs, 2003) • Handbook to assist workers to align practice with Kia Puāwai Te Ararau (Te Rau Matatini, 2006a)
Workforce	System Organisational Individual	• Development of Māori mental health nurses core career pathways (K. M. Maxwell-Crawford & R. Gibbs, 2004; Moko Business Associates, 2004a) • Te Rau Tipu national quarterly networking hui • Māori mental health specific training packages (K. M. Maxwell-Crawford, Hirini, & Durie, 2003)

Māori mental health workforce development has been Māori led and seeks to stimulate positive change at multiple levels, though particularly at the level of health and education institutions, and to foster learning and working environments that are more conducive to Māori recruitment and retention.

There are a wide range of workforce development activities in the Māori mental health field, and this is a key to success as work to strengthen the infrastructure is

[8] Interventions identified in 'Kia Puāwai te Ararau National Māori Mental health Workforce Development Strategic Plan 2006-2010'

required in order to provide a suitable context for the flourishing of specific recruitment and retention interventions. Te Rau Puawai (comprehensive university-based support programme for Māori studying towards tertiary mental health field qualifications) and Te Rau Matatini (Māori mental health workforce development organisation) are Māori mental health workforce recruitment and retention programmes that provide successful models that may be readily applied more widely within the health sector.

While the characteristics of these interventions have already been discussed in the preceding chapter, it is worth restating some of the intervention key success factors.

Te Rau Puawai seeks to address key barriers to Māori health workforce recruitment including the high cost of tertiary study, the distant location of tertiary institutions and poor access to course planning information. It aims to facilitate recruitment through the provision of financial support, Māori specific learning support (including to distant bursars), the establishment of positions for Māori support staff, providing Māori friendly learning environments and course planning information and providing opportunities for Māori students to network. Programme evaluation indicated that key factors underpinning the success of the intervention are; that it is integrated within the university environment, that it is Māori focused with strong leadership, the high standard of Programme co-ordination, provision of financial assistance, access to Māori mentoring and peer support and the comprehensive nature of the support provided (Nikora, Rua, Duirs, Thompson, & Amuketi, 2005).

The key strength of Te Rau Matatini is that it has a broad mandate in the sense that it operates at a number of levels. That is, it contributes to Māori mental health workforce development through activities with regard to workforce development infrastructure; organisational development; training and development; information, research and evaluation; and, recruitment and retention. Recruitment specific strengths of the programme include its work to improve Māori access to career information, strengthen students' links to the health sector, facilitate collaborations between health providers and tertiary education institutions, and encourage increased commitment on the part of health and tertiary education institutions to Māori health workforce development. Retention related strengths include facilitating relevant professional development opportunities for Māori (particularly as they relate to cultural competence) that are consistent with industry requirements, supporting the recognition and valuing of Māori cultural competencies, clarifying career pathways, and carrying out work to support Māori transitions into the mental health workforce and strengthen the Māori presence within the health sector.

Four intervention components emphasised by Te Rau Puawai and Te Rau Matatini that are of particularly high relevance across the sector are:

a) facilitating the experience of clinical placements for students (Te Rau Matatini – leads to improved recruitment and retention)
b) inclusion in communities of learning (Te Rau Puawai – leads to enhanced pass rates)
c) preceptorships for new employees (Te Rau Matatini – leads to improved retention)
d) good relationships between providers and tertiary education institutions (Te Rau Matatini – leads to smoother transitions and opportunities for on-the-job training)

There are a number of other programmes outlined in the previous chapter which also have high merit and address identified barriers and facilitators of workforce recruitment. These programmes also provide models that could be applied more widely within the sector, in particular the recruitment programme Vision 20:20 (MAPAS, Hikitia te Ora, Whakapiki Ake Project) and the HRC Māori Career Development Awards which contribute to both recruitment and retention of Māori health researchers. Vision 20:20 is well recognised within the sector as a successful recruitment model. It has evolved over many years with very strong leadership. The Directors of Māori Training which focus on both recruitment and retention for the Royal New Zealand College of General Practitioners and the Australasian Faculty of Public Health Medicine also have much potential as the basis for a model within mainstream organizations, though greater attention would be required to the support available to those positions.

Outside of the health sector there are elements of the models underlying Te Mana, Futureintech, TeachNZ Scholarships, Rangatahi Maia, Te Ohu Kaimoana 'Fish Fingers', and Manaaki Tauira that are highly applicable to health. For example, much could be learnt from Te Mana in the development of a marketing campaign targeting students, whānau and Māori communities which highlights the benefits to individuals and Māori communities of careers in health. While components of these interventions may be usefully applied within health sector initiatives it is worth noting that their location within other sectors means that they have been subject to demands, expectations, accountabilities and resource issues that may be distinct from those operating within the health sector.

In reviewing local and international recruitment and retention interventions, and drawing on other qualitative and quantitative data from this research, components of successful recruitment and retention interventions have been identified. Examples of key identified components are summarised in Table 60. There are a wide range of intervention components that may be integrated into phase specific or comprehensive initiatives to support MHDW recruitment and retention. Specific interventions that incorporate each of these components have been discussed in the Workforce Development Activities chapter of this report.

Table 60. Components of successful recruitment and retention interventions

Pathway phase	Intervention components
Pre-secondary school	• Promote science/careers in health • Introduce role models • Academic preparation
Secondary school/second chance learners	• Promote science/careers in health and a culture of success making use of role models/mentors/ambassadors • Practical science/health learning experience through, for example, university and provider outreach • Quality course and career information, advice and counselling to support the transition from secondary school to tertiary study
Tertiary level	• Facilitate supportive and culturally reinforcing learning environments, including access to financial support, enhanced admissions processes and a culture of success • Enable inclusion in communities of learning • Strengthen relationships between providers and tertiary education institutions – enables clinical placements and work experience
Transition to workforce	• Preceptorships for new employees • Career counseling and clear career pathways • Facilitate access to Māori health professional networks
Workforce	• Institutional commitment to MHDW development • Facilitate healthy and culturally reinforcing working environments • Enable access to Māori colleagues and professional bodies
Comprehensive pathway intervention	• Address the structural determinants of Māori workforce participation • Operates across the MHDW development pathway • Complementary and coordinated interventions

Progressing MHDW development

Achieving an optimal MHDW relies on a comprehensive approach whereby interventions span the MHDW development pathway and address determinants at all levels. Recruitment and retention programmes are a critical element of that comprehensive approach. While Raranga Tupuake provides a good strategic framework for MHDW development overall, currently interventions (including recruitment and retention interventions), are somewhat disconnected and there is not a sense of co-ordination and cohesion. Achieving a comprehensive and co-ordinated approach to Māori health workforce development will rely upon strong leadership that builds on the substantial progress that has already been made. The establishment of an independent Māori health workforce development commission has been raised in the past as one mechanism to provide strong national leadership with a strategic and co-ordinating function with regard to policy, interventions and funding. While strong Māori leadership in health workforce development has underpinned successful interventions to date and is clearly consistent with Māori preferences, this does not enable the many other stakeholders to abdicate their responsibilities for MHDW

development. There are a wide range of stakeholders that include government, independent workforce development organisations, health service providers, professional bodies, educational organisations and key players in other sectors. All of these stakeholders have a critical role to play. Therefore, there should be collaboration between health sector stakeholders (both Māori and mainstream) and partnerships between sectors (in particular the health, education and labour sectors) to facilitate MHDW recruitment and retention.

Importantly, effective MHDW recruitment and retention relies on strategic investment of adequate and dedicated resources. Further, there is a need for ongoing strengthening of data collection, management and reporting to inform decision-making and action, including with regard to resource decisions.

Overall, however, there has been substantial progress made in MHDW development in the past 15 years as reflected in the range of interventions currently in place and increasing numbers of Māori health professionals in a variety of health sector roles. The remaining wide and sustained disparities in Māori workforce participation provide opportunities for immediate and ongoing action to address inequities.

There is sufficient understanding of the MHDW development pathway and barriers and facilitators to recruitment and retention, as well as local and international experience in indigenous workforce development to enable strong action to address inequities. The Māori mental health sector in particular provides models for an overall approach to Māori workforce development, as well as specific recruitment and retention interventions that may be applied in other areas.

Political will is a vital ingredient in the formula to address disparities, and there are strong political incentives to encourage that support. While the direct benefits of equitable Māori participation in the workforce are likely to be measured in improved Māori health outcomes and thereby greater capacity for Māori to contribute to the prosperity of the country, increasing the numbers and proportion of Māori health professionals also provides part of the solution to the rapidly rising excess in demand for health professionals in New Zealand.

There are opportunities to have both an immediate impact and to embed longer term strategies for the sustained participation of Māori as health professionals. It will be for the benefit not only of Māori, but for all New Zealanders, that these opportunities are seized.

IMPLICATIONS OF THE RESEARCH

In order to address the wide-ranging barriers and facilitators of MHDW recruitment and retention identified in this research, six overlapping areas for action have been identified – leadership and collaboration, monitoring and research, policy, funding, technical and cultural competence, and recruitment and retention interventions. Findings of the research indicate that MHDW recruitment and retention would benefit from additional work in these areas.

Specific actions within these categories are identified and are directed towards key stakeholders in both the health and educations sectors. The identified actions are intended to build on progress made by the Ministry of Health, HWAC, DHBs, professional bodies, Māori, the education sector and other MHDW development stakeholders, and to inform the ongoing implementation of Raranga Tupuake.

Leadership and collaboration

1. Findings of the research indicate that MHDW recruitment and retention would benefit from more consistent and coordinated leadership and intra and intersectoral collaboration, specifically:

a. Give consideration to the establishment of a body charged with providing national leadership for MHDW development, that would have a strategic and co-ordinating function with regard to Māori health and disability workforce development. - Government
b. That the Ministers of Health, Education and Tertiary Education instruct their respective Ministries to work together to facilitate MHDW development through the alignment of relevant policies and recruitment and retention interventions. - Government
c. Evaluate established and proposed health workforce development bodies in terms of their capacity to address inequities in Māori workforce recruitment and retention, and as required facilitate strengthening of that capacity including ensuring effective Māori participation. – Ministry of Health
d. Put in place formal mechanisms for inter-sectoral and intra-sectoral collaboration to address MHDW recruitment and retention. An inter-sectoral MHDW development forum of key stakeholders is one potential mechanism. The Forum could include representatives from the Ministry of Health, the Ministry of Education, the Tertiary Education Commission, Te Puni Kōkiri, the Department of Labour, the Ministry of Social Development and the Ministry of Economic Development. These mechanisms should also facilitate Māori health professionals' input into training and education programmes to better ensure their relevance to the workforce and Māori health needs. –

Ministry of Health, tertiary education institutions, TEC, Te Puni Kōkiri, professional bodies

e. Facilitate formalised collaboration and communications between the Māori health sector and the education sector. This should contribute towards the goals of enhancing the performance of pre-school, primary school and secondary school educational institutions in terms of strengthening the academic preparedness of Māori students to take up a career in health and to develop an interest in the health professions. This could also include facilitating Māori health professional bodies input into secondary school science curriculum development and health field training and education programmes to better ensure their relevance to the sector and Māori health needs. As well, it should encourage opportunities for outreach between education and health institutions. – Ministry of Health, DHBs, health sector NGOs
f. Māori stakeholders, in particular rūnanga and Māori authorities, promote the relevance and value of science and careers in health to Māori students, whānau and communities. - Māori stakeholders
g. Hauora.com, Māori health professional bodies, Māori authorities and other Māori stakeholders consider the recommendations provided in this report and as appropriate advocate for their implementation by relevant stakeholders. – Māori stakeholders
h. Recognise the value and support the critical role of Māori health professional bodies in MHDW development, and ensure close relationships and open lines of communication. Support Māori health professional bodies in identification of and advocacy to address the specific training requirements for Māori health professionals. – Professional bodies

Monitoring and research

2. Improve the quality and scope of MHDW workforce data collection, management and reporting and strengthen MHDW research in order to inform decision-making and action, specifically:

a. Continue work to strengthen systems for the routine monitoring, analysis and reporting on Māori workforce participation (including retention) across the range of health professions. The Ministry of Health should work with the Ministry of Education and the Tertiary Education Commission to strengthen systems for the routine monitoring, analysis and reporting on Māori secondary school science participation and achievement rates, and Māori health field tertiary education enrolments, attrition, achievement and completions. – Ministry of Health, Ministry of Education, TEC
b. Routinely collect, analyse and report on the ethnicity profile of the relevant professional workforce and compile a database of Māori health professionals to facilitate information dissemination and targeted support for Māori practitioners. – Professional bodies

c. In terms of health workforce development research, prioritise research with regard to the MHDW to reflect inequalities in Māori participation and disproportionately high Māori health needs. – Ministry of Health, Health Research Council of New Zealand
d. Investigate mechanisms for organisational change to facilitate culturally safe and reinforcing working environments conducive to the recruitment and retention of Māori health professionals. – Ministry of Health, Health Research Council of New Zealand

Policy

3. Improve MHDW development policy frameworks and processes to facilitate a comprehensive approach across the Māori workforce development pathway that is more fully informed by Māori perspectives and aspirations, specifically:

a. That, consistent with He Korowai Oranga, the Māori Health Directorate expand the scope and coverage of Raranga Tupuake to more comprehensively address issues and action across the full length of the Māori workforce development pathway and determinants of workforce development at all levels. Identified actions arising from this research should be considered for incorporation into Raranga Tupuake and to inform the development of implementation activities. – Ministry of Health
b. Ensure consistent and quality Māori input into workforce development strategic planning and policy. This may include the establishment of a formal mechanism for input from Māori health policy advocates such as Hauora.com, Te Rau Matatini, and Māori health professional bodies. – Ministry of Health

Funding

4. Effective MHDW recruitment and retention will rely upon strategic investment of dedicated, secure and adequate levels of funding, specifically:

a. Provide dedicated resources for MHDW development and ensure consistent and quality Māori input into Māori workforce development funding decisions. – Ministry of Health
b. Assess current and proposed funding decisions for differential effect discrimination and/or the potential to contribute to or reduce inequalities in Māori workforce recruitment and retention. – Ministry of Health
c. Recognise the critical contribution of Māori health providers to workforce recruitment and retention through the provision of secure

and adequate funding such that they are able to support strategic MHDW development. – Ministry of Health

d. Ensure adequate levels of resourcing for Māori health professional bodies and Hauora.com to facilitate recruitment and retention through Māori advocacy for workforce development and peer Māori health professional support. – Ministry of Health
e. Resource curriculum revision to better ensure the responsiveness and relevance of health programmes to Māori, particularly with regard to the use of Māori models and frameworks in practice settings. – Tertiary education institutions, TEC

Technical and cultural competence

5. Ongoing and increased attention is required to supporting the development and strengthening of dual technical and cultural competencies among the MHDW, specifically:

a. Ensure recognition of health professionals' dual technical and cultural competencies through, for example, compensation in respect of pay rates and opportunities for progression. – Ministry of Health, DHBs, health sector NGOs
b. Continue to support and resource technical and cultural competency training (e.g. te reo Māori, use of Māori practice models) for Māori health professionals, so that they are able to fully contribute to addressing Māori health needs. – Ministry of Health, DHBs, health sector NGOs
c. Prioritise the development of guidelines and competency standards that will address Māori priorities for workforce development. – Ministry of Health
d. Ensure Māori health professionals have access to cultural supervision. – DHBs, health sector NGOs
e. Incorporate dual competency learning outcomes into tertiary health field programmes. – Tertiary education institutions, TEC
f. Proactively recruit Māori teaching and research staff, and ensure that pay scales and opportunities for progression reflect recognition of dual competencies. – Tertiary education institutions, TEC
g. Support the explicit identification of the cultural competencies required of practitioners in professional standards for competence. Standards should fully integrate the principle of cultural competence, and therefore clinical competencies will explicitly incorporate cultural components. – Professional bodies

Recruitment and retention interventions

6. There is sufficient understanding of the MHDW development pathway, factors that influence progression along the pathway, and interventions to facilitate that progression, to enable increased action to strengthen Māori participation in the health and disability workforce. Findings of this research indicate that the following specific actions could facilitate MHDW recruitment and retention.

a. Apply successful models for Māori recruitment and retention interventions more widely across health professions and disciplines. Te Rau Puawai and Vision 20:20 provide successful models for recruitment intervention, and Te Rau Matatini provides a successful model for Māori health policy advocacy and retention intervention. – Ministry of Health, tertiary education institutions, TEC
b. Consistent with the barriers and facilitators of MHDW recruitment identified in this report and HWAC recommendations (Health Workforce Advisory Committee, 2006c), the Ministry of Health in collaboration with education sector stakeholders initiate a comprehensive and co-ordinated project to improve Māori engagement in science and access to accurate and targeted quality health career information (including information on scholarships and grants for Māori). Key recommended components of the programme would be a marketing campaign targeting students, whānau, and Māori communities; enhanced access to accurate and relevant career advice in schools; an ambassadors programme; a website tailored to Māori; and, the development of quality Māori specific health career resources. – Ministry of Health, Tertiary education institutions, TEC
c. Increase the use of Māori health professional role models and mentors in promoting workforce development. – Ministry of Health, DHBs, tertiary education institutions, TEC
d. Better promote the Hauora Māori Scholarship Programme and other funding sources for potential and current Māori health field tertiary students. – Ministry of Health
e. Undertake further work to develop and/or clarify career pathways for Māori health practitioners across professions. – Ministry of Health, DHBs, health sector NGOs
f. Prioritise piloting of workforce development interventions with Māori, consistent with the wide disparities between Māori and non-Māori workforce participation and disproportionately high Māori health needs. – Ministry of Health
g. Encourage emphasis on the goal of reducing inequalities in workforce participation in the implementation of HWAC National Guidelines for the Promotion of Healthy Working Environments through reorienting working environments towards cultural criteria to ensure culturally safe and/or culturally reinforcing working environments. This could

be achieved through integration of the concept of reducing inequalities within each of the identified principles for a healthy working environment. These environments should be sufficiently flexible to accommodate Māori health professionals' whānau and community responsibilities. As well, activities in this area could include strengthening training for managers to enhance their capacity to provide culturally safe management for Māori staff. – Ministry of Health

h. Develop and implement health career marketing and outreach programmes that target Māori primary, secondary and tertiary students and Māori communities. Provide practical opportunities for Māori secondary school students, second chance learners, and tertiary students with an interest in health to gain practical experience in DHBs. - DHBs
i. Introduce preceptoring programmes for Māori entering the health and disability workforce. -DHBs
j. Review and broaden admissions criteria to limited entry health programmes (e.g. medicine and dentistry) to better reflect predictors of success as a health professional able to provide quality services to all New Zealanders, including Māori. Criteria should facilitate the admission of Māori students who have the mix of academic and personal qualities and experience to successfully complete programmes. This will best ensure that the profile of programme graduates is representative (consistent with university charters) and most likely to meet the needs of communities. The Vision 20:20 MAPAS should be used as a model and applied across a range of health disciplines. – Tertiary education institutions, TEC
k. Establish and strengthen formal initiatives to increase Māori health field student recruitment and completions. – Tertiary education institutions, TEC
l. Develop formal Māori outreach programmes to secondary schools with high Māori rolls and Māori communities to facilitate recruitment. The programmes should aim to engage Māori in science, promote and provide quality information about careers in health, provide practical opportunities for school students and second chance learners to participate in placements, and support schools to academically prepare Māori students for careers in health. - TEC
m. Strengthen and better integrate culturally effective learning support for Māori health field tertiary students. – Tertiary education institutions, TEC
n. Increase access to bridging programmes and foundation courses that target Māori. – Tertiary education institutions, TEC
o. Promote a positive and relevant image of professions to Māori communities using targeted resources. – Professional bodies
p. Advocate for the establishment of postions similar to the Director of Māori Training used by the Royal New Zealand College of General Practitioners and the Australasian Faculty of Public Health Medicine. – Professional bodies

GLOSSARY[9]

awhi	help, assist
hapū	sub-tribe
hauora	health and wellbeing
hui	gathering, meeting
iwi	tribe
kaumātua	elders
kaupapa	topic, theme
kawa	formal Māori process
kōhanga reo	Māori language and cultural immersion preschool
koroua	male elder
kuia	female elder
kura kaupapa	Māori language and cultural immersion school
kura	school
mana	prestige, power
manaakitanga	hospitality, caring
marae	Māori community complex
motu	country
pākehā	New Zealander of European descent
poroporoaki	farewelling ceremony
pōwhiri	welcoming ceremony
pūtea	finances
rangatahi	youth
tāngata	people
tangi	funeral
tauira	student, example
tauiwi	New Zealander of non-Māori descent
te ao	the world
te reo	Māori language
tikanga	protocol, custom
tono	request, apply
wānanga	learning institution
whakapapa	genealogy
whakawhānaunga	strengthening relationships
whakawhānaungatanga	act of forming or strengthening relationships
whānau	extended family
whare wānanga	higher learning institution

[9] Translations are provided in the context of this research project and are not intended to be definitive.

APPENDICES

Appendix 1 Literature review

Literature search strategy

Literature search strategy

Key search questions:

What are the key identified issues for Māori and other indigenous peoples entering the health workforce, in particular influences and barriers in choosing a career in the health sector?

What are the key identified issues with regard to Māori and other indigenous peoples' retention in the health and disability workforce?

What support mechanisms and other interventions are in place to recruit and retain Māori and other indigenous peoples in the health workforce? How successful are those mechanisms/interventions, and what are the underpinning success factors? Are there relevant support mechanisms and interventions in other sectors.

What is the Māori health and disability workforce profile?

Search framework:

Topic	Sub-topics
Health and disability workforce recruitment	Māori and health workforce recruitment New Zealand and health workforce recruitment Indigenous and health workforce recruitment Racial/ethnic and health workforce recruitment Māori and professions and recruitment Indigenous and professions and recruitment Racial/ethnic and professions and recruitment
Health and disability workforce retention	Māori and health workforce retention New Zealand and health workforce retention Indigenous and health workforce retention Racial/ethnic and health workforce retention Māori and professions and retention Indigenous and professions and retention Racial/ethnic and professions and retention
Interventions to improve recruitment and retention	Māori-specific interventions New Zealand interventions Indigenous interventions Interventions and racial/ethnic groups/disparities
Health workforce profile	Māori and health workforce New Zealand and health workforce Indigenous and health workforce Racial/ethnic and health workforce Māori and professions Indigenous and professions Racial/ethnic and professions

Search strategy:

Examples of key search terms

- Māori
- Indigenous
- Ethnic/racial
- New Zealand
- Employment/profession/workforce
- Health/disability
- Development
- Culture
- Retention
- Recruitment
- Barriers
- Intervention/initiative
- Access
- Academic/education/tertiary/secondary/tertiary
- Career

Examples of electronic databases to be searched

- Medline
- Cochrane library
- Embase
- AMED
- Current Contents
- Web of Science
- Index New Zealand
- Pub Med
- Ebsco Host
- Te Puna
- ProQuest
- DATEX
- NZ Science

Examples of internet sites to be searched

http://www.moh.govt.nz/moh.nsf, http://www.nzhis.govt.nz/, http://www.stats.govt.nz/default.htm, http://www.tpk.govt.nz/, http://www.worksite.govt.nz/, http://www.careers.govt.nz/, http://www.careers.govt.nz/, http://hauora.com/, http://www.hwac.govt.nz/, http://www.minedu.govt.nz/, http://www.tec.govt.nz/

Bibliographies of published research

Unpublished material that can be identified though stakeholders

Appendix 2 Key informant interviews

Participant information sheet
Consent form
Interview schedule

Participant Information Sheet

Key informant interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland, and Rātateitei Associates.

Researcher contact details:
Rachel Brown, Research Officer
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in the study?
You will be asked to participate in an interview, either over the telephone or face to face at a location that suits you.

How are people chosen to be part of the study?
You are being asked to participate as we consider you to be an important source of information in regards to this research and we would value your contribution. You have been recommended by a member of our research team, advisory group, the community, a health provider and/or another stakeholder.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the interviews will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

If you take part in the study, you:

- can refuse to answer any questions or stop at any time;
- can ask any questions you want about the study;
- can ask another person to be present at the interview;
- can request a copy of notes taken at the interview;
- will receive a summary of findings at the end of the project; and,
- will not be identified and your responses will remain confidential.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihi.ratima@aut.ac.nz, 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant consent form

Consent to participate in key informant interviews

Title of Project: Participation and retention within the Māori health and disability workforce

Project Supervisor: Associate Professor Mihi Ratima

Researcher: Rachel Brown

1. I have read and I understand the information sheet for taking part in the research which explores participation and retention issues in the Māori health and disability workforce.
2. I have had the opportunity to discuss this research study and I am satisfied with the answers I have been given.
3. I understand that taking part in this interview is voluntary (my choice) and that I may withdraw from it at any time.
4. I understand that my participation is confidential and that no material that could identify me will be used in any reports regarding this research.
5. I know whom to contact if I have any questions about the research.
6. I agree to take part in this interview session.

Verbal consent given? YES / NO
Written consent given? YES / NO

Signature: _____

Name: _____

Date: _____

Office Use

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Key informants
Interview schedule

1. Factors that influence Māori in choosing a career in the health and disability sector.
2. Barriers to Māori taking up a career in the health and disability workforce.
3. Information available to Māori about careers in the health and disability sector.
4. Recruitment programme success factors.
5. Identify models of recruitment and retention from other sectors.
6. Support mechanisms for Māori
    - Secondary/second-chance students
    - Community and voluntary workers
    - Tertiary students
7. What keeps Māori in the health and disability workforce?
8. What prevents Māori from staying in the health and disability workforce?
9. What careers Māori move into when they leave the health and disability workforce?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 3 Ex-workforce informant interviews

Participant Information sheet
Consent form
Interview schedule

Participant Information Sheet

Ex-workforce interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

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Project Supervisor:
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Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this research?
You will be asked to participate in an interview, either over the telephone or face to face at a location that suits you.

How are people chosen to be part of the study?
You are being asked to participate as we consider you to be an important source of information in regards to this research and we would value your contribution. You have been recommended by a member of our research team, advisory group, the community, a health provider and/or another stakeholder.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the interviews will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Consent to participate in research
Ex-workforce interview

Title of Project: Participation and retention within the Māori health and disability workforce

Project Supervisor: Associate Professor Mihi Ratima

Researcher: Rachel Brown

- I have read and understood the information provided about this research project.
- I have had an opportunity to ask questions and to have them answered.
- I understand that the interview will be transcribed.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at any time.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this interview session.
- I wish to receive a copy of the report from the research tick one: Yes O No O
- Verbal consent tick one: Yes O No O

Participant signature: .....

Participant name: .....

Participant contact details (if appropriate):

.....

.....

.....

.....

Date: .....

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Please circle Manawatu Bay of Plenty Auckland

Ex-workforce Interview schedule

Personal details

1. Do you identify as New Zealand Māori?

☐ Yes ☐ No

Gender

2. ☐ Male ☐ Female

Age group

3. Which of the following age groups do you fit into?

☐ 15-19 ☐ 20-24
☐ 25-29 ☐ 30-39
☐ 40-49 ☐ 50-59
☐ 60+

4. What year did you leave employment in the health sector?

5. Which category best fits your former role?

☐ clinical ☐ community work
☐ management ☐ policy
☐ administration ☐ other, please specify _____

6. What was/were your former role(s) in the health sector? (starting with the most recent role)

7. What region(s) were you resident in at the time you worked in the health sector?

☐ Northland ☐ Auckland
☐ Waikato ☐ Bay of Plenty
☐ Taranaki ☐ Hawkes Bay
☐ Manawatū–Wanganui ☐ Wellington
☐ Nelson-Marlborough ☐ West Coast
☐ Canterbury ☐ Otago
☐ Southland

Please circle Manawatu Bay of Plenty Auckland

8. Describe what prevents Māori from staying in the health and disability workforce.

Prompts
- Was there a specific event or factor that triggered your decision to leave the health sector?
- What was the main reason you decided to leave the health sector?
- Were there other things, other than what we have already discussed, that influenced your decision to leave the health sector?
- Why do you think Māori leave the health and disability workforce?

9. Describe what keeps Māori in the health and disability workforce.

Prompts
- What could have encouraged you to stay working in the health sector?
- What, if anything, would persuade you to return to the health and disability workforce?
- What could be done to encourage Māori to stay working in the health sector?

10. Identify what careers Māori move into when they leave the health and disability workforce.

Prompts
- What was more appealing about your new field of work, than continuing to work in the health sector?
- When you left the health sector, what field or career did you move into?
- What is your current role?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 4 Focus groups

Secondary school students

Information sheet
Consent form
Focus group schedule
Letter to parents of secondary school students
Parental consent form

Tertiary students

Information sheet
Consent form
Focus group schedule

Māori health and disability workforce

Information sheet
Consent form
Focus group schedule

Community and voluntary workers

Information sheet
Consent form
Focus group schedule

Participant Information Sheet

Focus group interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Researcher contact details:
Rachel Brown, Research Officer
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this research?
One focus group will be held in each of the three regional sites (Auckland, Bay of Plenty and Manawatū/Whanganui) with each of the following participant categories; secondary school students, tertiary students, community and voluntary workers, and, the Māori health and disability workforce (twelve focus groups in total). Refreshments will be provided and you will receive a $50 voucher in recognition of your time.

How are people chosen to be part in this research?
You are being asked to participate as we consider you to be an important source of information in regards to this research. You will have been identified in one of the following ways; a previous interview, written indication of your interest noted in a previous survey, or by recommendation from a knowledgeable source such as your school or a person within the community. When approached to consider taking part in this research, the study will be explained and you will have an opportunity to ask any questions.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the focus groups will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

What opportunity do I have to consider this invitation?
With your agreement this information sheet will be sent to you and a time arranged for one of our research team to contact you within two weeks of the focus group session. At that time you will have an opportunity to ask questions about the research, and your signed informed consent will be sought to participate in the study using a consent form.

How do I agree to participate in this research?
By signing the consent form that will be explained to you, and if you are under 16 years of age having a parent sign the parental consent form.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihi.ratima@aut.ac.nz, 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Consent to participation in research
Secondary school focus group session

Title of Project: Participation and retention within the Māori health and disability workforce

Project Supervisor: Associate Professor Mihi Ratima

Researcher: Rachel Brown

- I have read and understood the information provided about this research project
- I have had an opportunity to ask questions and to have them answered.
- I understand that the focus group session will be audio-taped and transcribed.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at anytime.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research. tick one: Yes O No O
- Verbal consent tick one: Yes O No O

Participant name: .....

Signature: .....

Postal address:

.....

.....

.....

.....

Date:.....

Interviewer name .....

Area session held .....

Interviewer signature .....

Participant code / /

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Secondary School Focus Group Schedule

1. What information is available to students about careers in the health and disability sector?

2. What influences students to consider a career in the health and disability workforce?

3. What would encourage students to choose a career in the health and disability field?

4. What discourages students from study in the health sciences or pursuing a career in the health and disability field?.

5. What support mechanisms are in place for students who want to develop a career in the health and disability field?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Letter to parents

Tēnā koe

Re: Secondary school focus group

Taupua Waiora, Centre for Māori Health Research, AUT University, is leading a research project which aims to identify what attracts and discourages Māori from entering into and continuing to work within the professional health workforce. The project is being carried out in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Currently Māori are under-represented across all health professions and in particular within frontline clinical roles. This project will contribute towards providing an evidence-base for planning and action to increase Māori participation in the professional health workforce, and thereby support improved health outcomes for Māori.

The project will involve focus groups (small group interview sessions) of six to eight year 13 Māori secondary school students that are over 16 years of age. Focus groups will be held at schools during school hours. We will be seeking student views on topics such as; career path choices, future employment opportunities and levels of awareness regarding career opportunities in the health sector. <**School**> has agreed to support the project and we are now seeking parental consent to approach eligible students who may agree to participate in the study. With parental consent, we will explain the project to eligible students and seek their consent to take part in the study. I have enclosed copies of the information sheet and consent form that would be used to explain the study to students.

This project will only be a success if it is supported by parents. We hope that you will see the value of the study, and agree that we may approach your son or daughter to seek their participation in the study. If you are agreeable to us seeking your son or daughters involvement in the study, please fill in the attached parental consent form and pass it to your son or daughter to return to their teacher. Your child will receive a $50 warehouse voucher for their contribution to this project.

If you have any queries please do not hesitate to contact me on (09) 921-9999 extn 7234 or via email mihi.ratima@aut.ac.nz.

Nāku noa, nā

Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
AUT UNIVERSITY

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Parental consent form

Focus group sessions

1. I have read and I understand the information sheet for the research which explores participation and retention issues in the Māori health and disability workforce.
2. I have had the opportunity to discuss this research study and I am satisfied with the answers I have been given.
3. I agree to the researchers approaching my son/daughter to explain the research to them and seek their consent to participate in a focus group.
4. With my son/daughters consent I agree to their participation in the focus group.

Signature: _____

Parent Name: _____

Student Name: _____

Date: _____

Office Use

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant Information Sheet

Focus group interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Researcher contact details:
Rachel Brown, Research Officer
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this research?
One focus group will be held in each of the three regional sites (Auckland, Bay of Plenty and Manawatū/Whanganui) with each of the following participant categories; secondary school students, tertiary students, community and voluntary workers, and, the Māori health and disability workforce (twelve focus groups in total). Refreshments will be provided and you will receive a $50 voucher in recognition of your time.

How are people chosen to be part in this research?
You are being asked to participate as we consider you to be an important source of information in regards to this research. You will have been identified in one of the following ways; a previous interview, written indication of your interest noted in a previous survey, or by recommendation from a knowledgeable source such as your school or a person within the community. When approached to consider taking part in this research, the study will be explained and you will have an opportunity to ask any questions.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the focus groups will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

What opportunity do I have to consider this invitation?
With your agreement this information sheet will be sent to you and a time arranged for one of our research team to contact you within two weeks of the focus group session. At that time you will have an opportunity to ask questions about the research, and your signed informed consent will be sought to participate in the study using a consent form.

How do I agree to participate in this research?
By signing the consent form that will be explained to you, and if you are under 16 years of age having a parent sign the parental consent form.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihi.ratima@aut.ac.nz, 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

……

……

Date:

Note: The Participant should retain a copy of this form.

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Tertiary focus group schedule

1. Factors that influence Māori in choosing a career in the health and disability workforce/choosing to study in a health field.
2. Barriers to Māori taking up a career in the health and disability workforce/choosing to study in a health field.
3. Factors that encourage Māori to take up a career in the health and disability workforce/study in a health field.
4. Support mechanisms for those enrolled in health and disability education and training programmes.
5. Recruitment programme success factors
6. Identify models of recruitment and retention from other sectors.
7. What information is available to Māori about careers in health fields?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Consent to participation in research
Tertiary focus group session

Title of Project: **Participation and retention within the Māori health and disability workforce**

Project Supervisor: **Associate Professor Mihi Ratima**
Researcher: **Rachel Brown**

- I have read and understood the information provided about this research project.
- I have had an opportunity to ask questions and to have them answered.
- I understand that the focus group session will be audio-taped and transcribed.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at any time.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research. Tick one: Yes ☐ No ☐
- Verbal consent Tick one: Yes ☐ No ☐

Participant name: ……

Signature: ……..

Postal address: ……

……..

……..

Date:

Note: The Participant should retain a copy of this form.

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant Information Sheet

Focus group interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Researcher contact details:
Rachel Brown, Research Officer
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this research?
One focus group will be held in each of the three regional sites (Auckland, Bay of Plenty and Manawatū/Whanganui) with each of the following participant categories; secondary school students, tertiary students, community and voluntary workers, and, the Māori health and disability workforce (twelve focus groups in total). Refreshments will be provided and you will receive a $50 voucher in recognition of your time.

How are people chosen to be part in this research?
You are being asked to participate as we consider you to be an important source of information in regards to this research. You will have been identified in one of the following ways; a previous interview, written indication of your interest noted in a previous survey, or by recommendation from a knowledgeable source such as your school or a person within the community. When approached to consider taking part in this research, the study will be explained and you will have an opportunity to ask any questions.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the focus groups will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

What opportunity do I have to consider this invitation?
With your agreement this information sheet will be sent to you and a time arranged for one of our research team to contact you within two weeks of the focus group session. At that time you will have an opportunity to ask questions about the research, and your signed informed consent will be sought to participate in the study using a consent form.

How do I agree to participate in this research?
By signing the consent form that will be explained to you, and if you are under 16 years of age having a parent sign the parental consent form.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihi.ratima@aut.ac.nz, 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

.....

.....

Date:

Note: The Participant should retain a copy of this form.

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code _____/_____/_____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Consent to participation in research
Māori health and disability workforce focus group session

Title of Project: **Participation and retention within the Māori health and disability workforce**

Project Supervisor: **Associate Professor Mihi Ratima**
Researcher: **Rachel Brown**

- I have read and understood the information provided about this research project.
- I have had an opportunity to ask questions and to have them answered.
- I understand that the focus group session will be audio-taped and transcribed.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at any time.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research. Tick one: Yes ☐ No ☐
- Verbal consent Tick one: Yes ☐ No ☐

Participant name: ……

Signature: ……..

Postal address: ……

……..

……..

Date:

Note: The Participant should retain a copy of this form.

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Māori health and disability workforce
Focus group schedule

1. Factors that influence Māori in choosing a career in the health and disability workforce.
2. Barriers to Māori taking up a career in the health and disability workforce.
3. Factors that encourage Māori to take up a career in the health and disability workforce.
4. Support mechanisms for those enrolled in health and disability education and training programmes.
5. Recruitment programme success factors.
6. Identify models of recruitment and retention from other sectors.
7. What keeps Māori in the health and disability workforce?
8. What prevents Māori from staying in the health and disability workforce?
9. What careers do Māori move into when they leave the health and disability workforce?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

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Participant Information Sheet

Focus group interviews

Participation and retention issues in the Māori health and disability workforce

Invitation
You are invited to take part in this research project which explores participation and retention issues within the Māori health and disability workforce.

What is the purpose of the study?
The purpose of the research is to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The research will also identify and assess a number of models of recruitment and retention that may be usefully applied to building the capacity of the Māori health and disability workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Researcher contact details:
Rachel Brown, Research Officer
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
Tel. (09) 921 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this research?
One focus group will be held in each of the three regional sites (Auckland, Bay of Plenty and Manawatū/Whanganui) with each of the following participant categories; secondary school students, tertiary students, community and voluntary workers, and, the Māori health and disability workforce (twelve focus groups in total). Refreshments will be provided and you will receive a $50 voucher in recognition of your time.

How are people chosen to be part in this research?
You are being asked to participate as we consider you to be an important source of information in regards to this research. You will have been identified in one of the following ways; a previous interview, written indication of your interest noted in a previous survey, or by recommendation from a knowledgeable source such as your school or a person within the community. When approached to consider taking part in this research, the study will be explained and you will have an opportunity to ask any questions.

What will I be asked to do?
We will be asking for your views on a range of issues related to Māori participation and retention in the Māori health and disability workforce.

How long will it take?
We anticipate that the focus groups will take up to and no more than one hour.

What are the benefits?
This research project will contribute to the evidence-base for planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

What opportunity do I have to consider this invitation?
With your agreement this information sheet will be sent to you and a time arranged for one of our research team to contact you within two weeks of the focus group session. At that time you will have an opportunity to ask questions about the research, and your signed informed consent will be sought to participate in the study using a consent form.

How do I agree to participate in this research?
By signing the consent form that will be explained to you, and if you are under 16 years of age having a parent sign the parental consent form.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihi.ratima@aut.ac.nz, 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Consent to participation in research
Community and voluntary focus group session

Title of Project: **Participation and retention within the Māori health and disability workforce**

Project Supervisor: **Associate Professor Mihi Ratima**
Researcher: **Rachel Brown**

- I have read and understood the information provided about this research project.
- I have had an opportunity to ask questions and to have them answered.
- I understand that the focus group session will be audio-taped and transcribed.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at any time.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research. Tick one: Yes ☐ No ☐
- Verbal consent Tick one: Yes ☐ No ☐

Participant name: ……

Signature: ……..

Postal address: ……

……..

……..

Date:

Note: The Participant should retain a copy of this form.

Interviewer name _____

Area session held _____

Interviewer signature _____

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Community and voluntary Focus group schedule

1. Factors that influence Māori in choosing to work, whether paid or voluntary, in the health and disability sector.
2. Barriers to Māori working in the health and disability sector.
3. Factors that encourage Māori to work in the health and disability sector.
4. Support mechanisms for community and voluntary workers in the health and disability sector.
5. Recruitment programme success factors.
6. Identify models of recruitment and retention from other sectors.
7. What keeps Māori in the health and disability workforce?
8. What prevents Māori from staying in the health and disability workforce?
9. What careers Māori move into when they leave the health and disability workforce?

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 5 Letter to secondary schools

Letter to school

Tēnā koe

Taupua Waiora, Centre for Māori Health Research, AUT University, is leading a research project which aims to identify what attracts and discourages Māori from entering into and continuing to work within the professional health workforce. The project is being carried out in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates.

Currently Māori are under-represented across all health professions and in particular within front line clinical roles. This project will contribute towards providing an evidence-base for planning and action to increase Māori participation in the professional health workforce, and thereby support improved health outcomes for Māori.

The project will involve focus groups (small group interview sessions) of six to eight year 13 Māori secondary school students that are over 16 years of age. Focus groups will be held at schools during school hours. We will be seeking student views on topics such as; career path choices, future employment opportunities and levels of awareness regarding career opportunities in the health sector. We are hoping that your school will support the project. We will also be seeking parental consent to approach eligible students who may agree to participate in the study. With your schools support alongside parental consent, we will explain the project to eligible students and seek their consent to take part in the study. I have enclosed copies of the information sheet and consent form that would be used to explain the study to students.

We hope that you will see the value of the study, and agree to be part of the project and help identify potential student participants.

If you have any queries please do not hesitate to contact me on (09) 921-9999 extn 7234 or via email mihi.ratima@aut.ac.nz.

Nāku noa, nā

Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
AUT UNIVERSITY

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 6 Tertiary student survey

Information letter
Information sheet
Consent form
Survey questionnaire

Tēnā koe

Tēnā ra koe me ō karangatanga katoa. Tēnei te mihi ake ki a koe i noho hei puna kōrero mō tēnei kaupapa. Ko te tūmanako ka whai hua tēnei kaupapa hei oranga mō te iwi.

Re: Survey of Māori health science students

Taupua Waiora, Centre for Māori Health Research, AUT University is carrying out research looking at what supports Māori students to enrol, be successful in and complete tertiary health science courses. The research is funded by the Ministry of Health and the Health Research Council of New Zealand, and is intended to inform activities and programmes to increase support to Māori students who are pursuing careers in health. We are approaching you to invite you to take part in a survey of 300 Māori students, as we consider that you have valuable knowledge and experiences in this area that we hope you will be willing to share with us. You will find enclosed an information sheet explaining the background to the Project, a consent form, and a paper copy of the questionnaire that will take no longer than **15 minutes** to complete. Alternatively you can complete the questionnaire online by going to:

http://www.surveymonkey.com/s.asp?u=889491467596

If you agree to take part by filling in the paper copy of the questionnaire, **please complete the consent form and questionnaire and return them to us in the pre-paid reply envelope within two weeks of receiving the survey**. Online questionnaires should be completed by the same date. All those who complete questionnaires (both paper and web-based) by the end of the fieldwork period are eligible to go into a draw for the chance to win an **Apple iPod** (two to be won) and **$50 music vouchers** (six to be won).

I hope you see the potential value of this project, and encourage you to take part in the survey as your support is critical to the success of this kaupapa. We appreciate your time and effort, and look forward to receiving your response to the questionnaire.

Noho ora mai i roto i ngā mihi

Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research macron
AUT UNIVERSITY

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant Information Sheet
National tertiary student postal survey

Participation and retention issues within the Māori health and disability workforce.

Invitation
You are invited to participate in a survey which explores factors that support Māori student enrolment, success and completion in tertiary health science programmes.

What is the purpose of this research?
The survey is part of a wider research programme which aims to identify what attracts and discourages Māori from entering into the health science professions and to explore retention issues facing the Māori health and disability workforce. The purpose of the survey is to understand what additional measures are required to support Māori health science student success and completion.

Who are the researchers involved?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland and Rātateitei Associates. The research is funded by the Ministry of Health and the Health Research Council of New Zealand.

Researchers contact details:
Rachel Brown
Researcher
Taupua Waiora, Centre for Māori Health Research
AUT University
Tel. (09) 921 – 9999 ext 7237
rachel.brown@aut.ac.nz

Project supervisor:
Associate Professor Mihi Ratima
Director
Taupua Waiora, Centre for Māori Health Research
AUT University
Tel. (09) 921 – 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in this study?
A postal and web-based national survey of 300 Māori tertiary students studying within the health science fields will be carried out. You can contact us if you have any questions about the survey. You can then choose to complete the questionnaire on paper or fill it in online at:

http://www.surveymonkey.com/s.asp?u=889491467596

How are people chosen to be asked to be part of this research?
You are being asked to participate as we consider you to be an important source of information regarding the experiences of Māori health science students.

What will I be asked to do?
We will be asking some questions about you, your course of study, information you are aware of about careers in health, and things that influence your decision to study in a health-related field. We ask you to complete the questionnaire and send it back in the pre-paid envelope provided or fill in the questionnaire online. With your agreement, if your completed questionnaire is returned to us before the end of the fieldwork period, you will be entered into a draw for a chance to win an apple ipod and $50 music vouchers.

How long will it take?
The questionnaire will take no more then 15 minutes to complete.

What are the benefits?
This research project will provide information that will enable the Ministry of Health and others to improve the range of support available to Māori health science students.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

If you take part in this study, you:

- can refuse to answer any questions or stop at any time;
- can ask any questions you want about the study;
- can request a copy of your questionnaire;
- will receive a summary of findings at the end of the project; and,
- will not be identified and your responses will remain confidential.

What do I do if I have concerns about this research?
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Mihi Ratima, mihi.ratima@aut.ac.nz, (09) 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz, (09) 921 9999 ext 8044.

There is no obligation for you to take part in this study and you have the right to decline.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005, AUTEC Reference number 05/07

Consent Form
National tertiary student postal survey

AUT UNIVERSITY

Title of Project: Participation and retention issues within the Māori health and disability workforce

Project Supervisor: Associate Professor Mihi Ratima

Researcher: Rachel Brown

- I have read and understood the information provided about this research project
- I know who to ask if I have any questions
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw at anytime
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way
- I understand that the survey is also available online at

http://www.surveymonkey.com/s.asp?u=889491467596

- If I withdraw, I understand that all relevant information will be destroyed
- I agree to take part in this research tick one: ☐ Yes ☐ No
- I wish to receive a copy of the report from the research: tick one: ☐ Yes ☐ No
- I wish to go into the draw for a chance to win an iPod and $50 music vouchers tick one: ☐ Yes ☐ No

Participant signature: .....

Participant name: .....

Postal address: .....

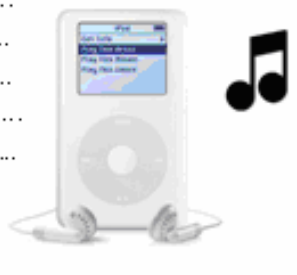
.....

Phone number: .....

Cell phone: .....

Email: .....

Date: .....



Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

National Tertiary Student Postal Survey

Exploring the Māori Health and Disability Workforce
Participation and retention issues within the Māori health workforce

This survey is being undertaken to help improve Māori participation and success in tertiary study in the health fields. Health science students who identify as Māori are invited to participate. Your contribution is important to us and we appreciate the time you take to complete the survey.

Part A: Personal details — **Office use only**

1. Do you identify as New Zealand Māori?

☐ Yes ☐ No

If No, Please do not complete the questionnaire

2. Gender

☐ Male ☐ Female

3. Age group

☐ 15-19 ☐ 40-49
☐ 20-24 ☐ 50-59
☐ 25-29 ☐ 60+
☐ 30-39

4. Have you ever been employed in the health and disability sector?

☐ Yes ☐ No **If No, Go to question 7.**

5. Are you currently employed in the health and disability sector?

☐ Yes ☐ No **If No, Go to question 7.**

6. If Yes, Please tick the category that best fits your role

☐ Clinical ☐ Policy
☐ Community work ☐ Administrative/clerical
☐ Management ☐ Other, please specify _____

Office use only

7. Which of the following best describes your personal circumstances?

☐ 1 .Single
☐ 2 .Single with dependent(s)
☐ 3 .Other, please specify_____
☐ 4 .Defacto/Married with dependent(s)
☐ 5 .Defacto/Married

☐

8. Which of the following best describes your living situation?

☐ 1 Living with parent(s)
☐ 2 Living with spouse or partner
☐ 3 Living/boarding with whānau/relatives
☐ 4 Boarding with others (not family)
☐ 5 Living with friends/flatmates (not family)
☐ 6 Hostel or hall of residence
☐ 7 Living alone
☐ 8 Other, please specify_____

☐

Part B. Tertiary study and career information

9. Which of the following best describes your current situation?

☐ 1 Straight from secondary school to tertiary study
☐ 2 Undertaking tertiary study for the first time, but not straight from school
☐ 3 Returning to tertiary education
☐ 4 Other, please specify _____

☐

10. In 2005 what was your enrolment status?

☐ 1 Full time
☐ 2 Part time

☐

11. Did you study?

☐ 1 Internally?
☐ 2 Externally (long distance)?

☐

Office use only

12. Please identify your tertiary institution location

- ☐ 1 Northland
- ☐ 2 Auckland
- ☐ 3 Waikato
- ☐ 4 Bay of Plenty
- ☐ 5 Taranaki
- ☐ 6 Hawkes Bay
- ☐ 7 Manawatū-Wanganui
- ☐ 8 Wellington
- ☐ 9 Nelson-Marlborough
- ☐ 10 West Coast
- ☐ 11 Canterbury
- ☐ 12 Otago
- ☐ 13 Southland

☐

13. What category best describes your tertiary institution

- ☐ 1 Polytechnic/Institute of Technology
- ☐ 2 Wānanga
- ☐ 3 University
- ☐ 4 Private Training Institution
- ☐ 5 Other, please specify _____

☐

14. On completion of your study what qualification will you obtain?

- ☐ 1 Undergraduate certificate/diploma
- ☐ 2 Undergraduate degree
- ☐ 3 Graduate certificate/diploma
- ☐ 4 Postgraduate certificate/diploma
- ☐ 5 Masters
- ☐ 6 Doctorate/PhD
- ☐ 7 Other, please specify_____

☐

15. Which of the following best describes your course of study?

- ☐ 1 Counselling
- ☐ 2 Dental
- ☐ 3 Health management
- ☐ 4 Māori health
- ☐ 5 Medicine
- ☐ 6 Midwifery
- ☐ 7 Other, please specify _____
- ☐ 8 Nursing
- ☐ 9 Occupational therapy
- ☐ 10 Pharmacy
- ☐ 11 Physiotherapy
- ☐ 12 Psychology
- ☐ 13 Public health
- ☐ 14 Social work

☐

__/__/ __/__/__

16. Please identify the extent to which the following information sources have encouraged you to take up study or a career in the health and disability sector.

		None	A little	Somewhat	Quite a lot	A lot	Office use only
A	Māori print media (e.g. Mana Magazine, Tu Mai, Māori newspapers)	0	1	2	3	4	☐
B	Other print media (e.g. newspapers, magazines)	0	1	2	3	4	☐
C	Māori television channel	0	1	2	3	4	☐
D	Other television channels	0	1	2	3	4	☐
E	Māori radio stations	0	1	2	3	4	☐
F	Other radio stations	0	1	2	3	4	☐
G	Word of mouth from Māori networks (e.g. whānau, friends)	0	1	2	3	4	☐
H	Pamphlets	0	1	2	3	4	☐
I	University/institute open days	0	1	2	3	4	☐
J	Internet sites	0	1	2	3	4	☐
K	Career expos	0	1	2	3	4	☐
L	Government departments (e.g. WINZ, Labour Department)	0	1	2	3	4	☐
M	Iwi and other Māori community organisations	0	1	2	3	4	☐
N	Other, please specify _____	0	1	2	3	4	☐
O	Other_____	0	1	2	3	4	☐
P	Other_____	0	1	2	3	4	☐

Office use only

17. What are the sorts of information that you have accessed about careers in the health and disability sector?

☐ 1 Range and types of jobs

☐ 2 Salary ranges

☐ 3 Potential employers

☐ 4 Funding and scholarships

☐ 5 Other, please specify _____

☐ 6 Career planning, advancement and pathways

☐ 7 Career opportunities in the Māori health field.

☐ 8 Opportunities for Māori people in the sector.

☐ 9 Education and training options

☐☐

☐☐

☐☐

☐☐

☐

18. Please indicate the extent to which the following factors influenced your decision to take up study in the health sciences.

		Very unimportant	Unimportant	Neither	Important	Very important	N/A	Office use only
A	Number of Māori enrolled in course	0	1	2	3	4	N/A	☐
B	Your career aspirations	0	1	2	3	4	N/A	☐
C	Earning potential	0	1	2	3	4	N/A	☐
D	Ability to study part time	0	1	2	3	4	N/A	☐
E	Requirement/expectations of employer	0	1	2	3	4	N/A	☐
F	Family / whānau	0	1	2	3	4	N/A	☐
G	Relatively short length of course	0	1	2	3	4	N/A	☐
H	Scholarships/grants	0	1	2	3	4	N/A	☐
I	Location of institution	0	1	2	3	4	N/A	☐
J	Māori health sector role models	0	1	2	3	4	N/A	☐
K	Practical experience in health sector	0	1	2	3	4	N/A	☐
L	School career guidance	0	1	2	3	4	N/A	☐
M	Personal career advice	0	1	2	3	4	N/A	☐
N	Knowing someone working in the area	0	1	2	3	4	N/A	☐
O	Employer support	0	1	2	3	4	N/A	☐
P	Māori educational institution support services	0	1	2	3	4	N/A	☐
Q	Mainstream educational support services	0	1	2	3	4	N/A	☐
R	Māori course content	0	1	2	3	4	N/A	☐
S	Other, please specify_____	0	1	2	3	4	N/A	☐
T	Other_____	0	1	2	3	4	N/A	☐
U	Other_____	0	1	2	3	4	N/A	☐

19. To what extent do you consider the following factors to be barriers for Māori taking up tertiary study within the health sciences?

		No barrier	Small but not critical	Small but critical	Medium barrier	Large barrier	Office use only
A	Long course length	0	1	2	3	4	☐
B	Distant location of institution	0	1	2	3	4	☐
C	Financial costs	0	1	2	3	4	☐
D	Inadequate career guidance	0	1	2	3	4	☐
E	Lack of Māori role models	0	1	2	3	4	☐
F	Insufficient Māori specific support programmes	0	1	2	3	4	☐
G	Limited employment opportunities	0	1	2	3	4	☐
H	Lack of information regarding course options	0	1	2	3	4	☐
I	Lack of Māori-specific study pathways	0	1	2	3	4	☐
J	No or few other Māori students	0	1	2	3	4	☐
K	Programme not 'Māori friendly'	0	1	2	3	4	☐
L	Institution not 'Māori friendly'	0	1	2	3	4	☐
M	Not knowing someone working in the professions	0	1	2	3	4	☐
N	Inadequate employer support	0	1	2	3	4	☐
O	Inadequate educational institution support services	0	1	2	3	4	☐
P	Inadequate educational liason services	0	1	2	3	4	☐
Q	Limited Māori specific course content	0	1	2	3	4	☐
R	No or few Māori lecturers/teachers	0	1	2	3	4	☐
S	Other, please specify_____	0	1	2	3	4	☐
T	Other_____	0	1	2	3	4	☐
U	Other_____	0	1	2	3	4	☐

21. Are you aware of any successful programmes to recruit and support Māori health students?

Office use only

☐ 1 Yes ☐ 2 No ☐

If Yes, Please list the programme and institution

_____

_____

22. Are you aware of the Ministry of Health Māori Health Scholarship Programme?

☐ 1 Yes ☐ 2 No ☐

(to access information go to http://www.moh.govt.nz/moh.nsf)

23. If Yes, Did you apply for a Ministry of Health Māori Health Scholarship?

☐ 1 Yes ☐ 2 No ☐

If No, Please state reasons why not?

_____

_____

Thank you for taking the time to fill in this questionnaire.

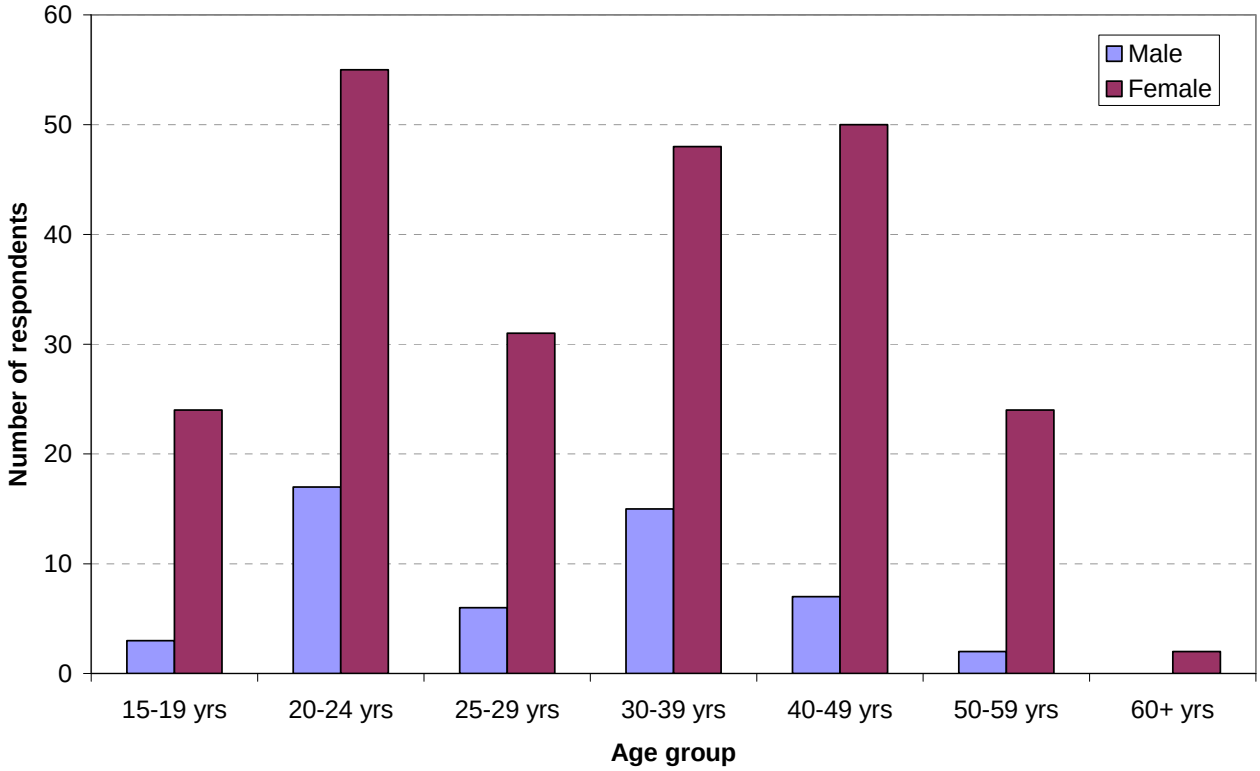
Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 7 Characteristics of respondents

Age and gender

Figure 3 shows respondent age by gender. Eighty two percent (n=234) of respondents identified as female. Two population sub-groups are evident in both genders as demonstrated by the two peaks in the data, a younger group, peaking at 20-24 years, and an older group, peaking at 30-39 years for males, and then 40-49 years for females. The females appear to be more evenly spread across age groups than males, however, there is no statistically significant difference between genders (KW $\chi^2(6) = 7.60$, $p=0.27$).

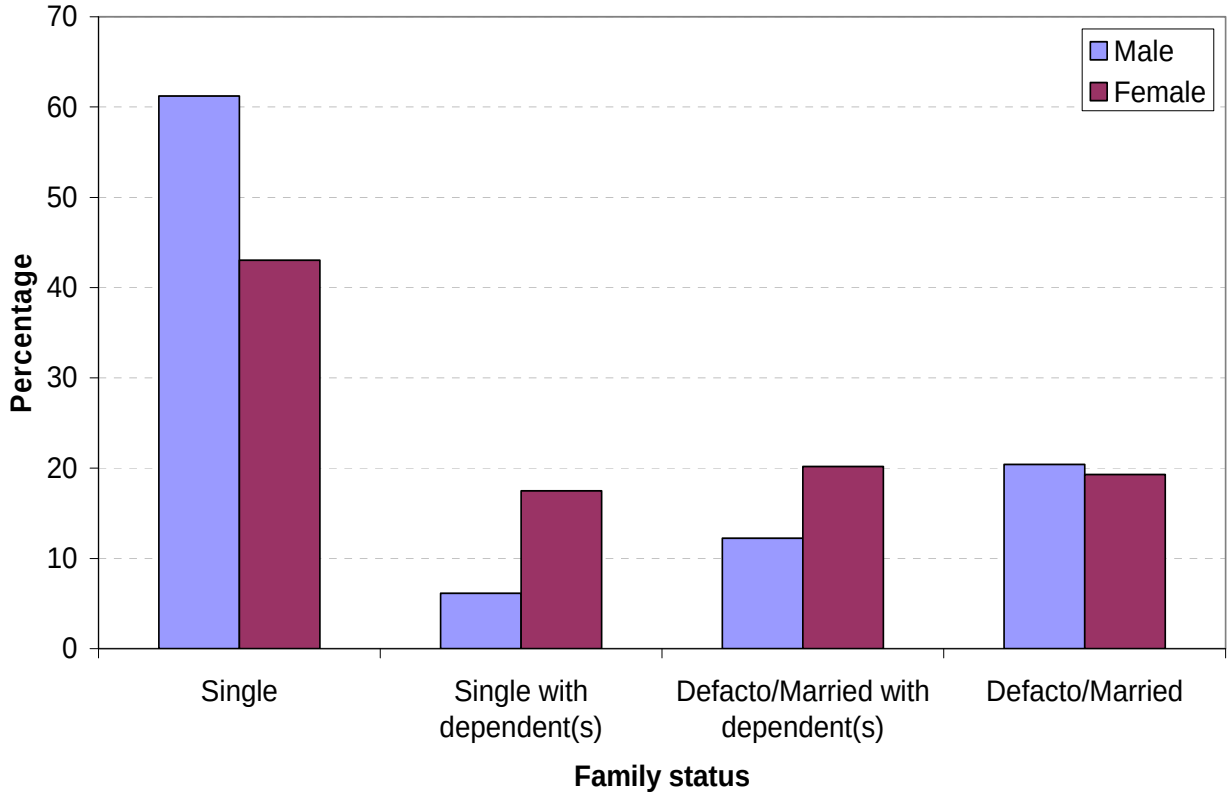
Figure 3. Age distribution of respondents by gender



Family status

Figure 4 shows the family status of respondents at the time of the survey. The largest proportion of respondents indicated they were single without dependents (46%). Sixty one percent of male respondents were single without dependents compared to 43% of female respondents. A significant difference of (KW $\chi 2(1) = 6.65$, $p=0.01$) was found between genders with regard to having dependents, with approximately a third of female respondents (38%) reported to have dependents, compared to one fifth of male respondents (18%). Of the females with dependents, 51% were single parents, and 49% were in de facto or married relationships.

Figure 4. Family status of respondents



Living situation

Table 61 presents respondents' living situations while studying. The majority (69%) of respondents identified as living with others including family/whānau or relatives, spouse or partner. Few respondents identified as living alone (6% who were all female), boarding or living with others who were not family (23%), or living in a hostel or hall of residence (1%).

Single male respondents without dependents were more likely to be living in a flatting situation (57%), versus at home with parents (23%), or living/boarding with whānau (13%). In comparison, single females were less likely to be in a flatting situation

(33%), and more likely to be at home with parents (28%) or living/boarding with family/whānau (18%). Those females who stated they were single with dependents were more likely to live/board with family/whānau (62%), while de facto/married couples with children were more likely to be living with their partner/spouse (90%).

Table 61. Respondents' family status by gender and marital status

Family status		Living with parent(s)	Living with spouse or partner	Living/ boarding with whānau or relatives	Living with friends/ flatmates (not family)	Boarding with others (not family)	Hostel or hall of residence	Living alone	Total
Male	Single	7	1	4	17	-	1	-	30
	Single with dependent(s)	1	-	2	-	-	-	-	3
	De facto/ Married with dependent(s)	-	6	-	-	-	-	-	6
	De facto/ Married	1	7	1	1	-	-	-	10
	Total	**9**	**14**	**7**	**18**		**1**		**49**
Female	Single	27	3	17	32	9	2	6	96
	Single with dependent(s)	1	-	24	3	-	-	11	39
	De facto/ Married with dependent(s)	3	40	2	-	-	-	-	45
	De facto/ Married	-	36	6	1	-	-	-	43
	Total	**31**	**79**	**49**	**36**	**9**	**2**	**17**	**223**

Enrolment status

Respondents reported their enrolment status for the 2005 academic year. One third of respondents (33%) were enrolled part-time and two thirds (67%) were enrolled full-time. Seventy nine percent of respondents were enrolled internally, and 21% studied extramurally.

Location of institution

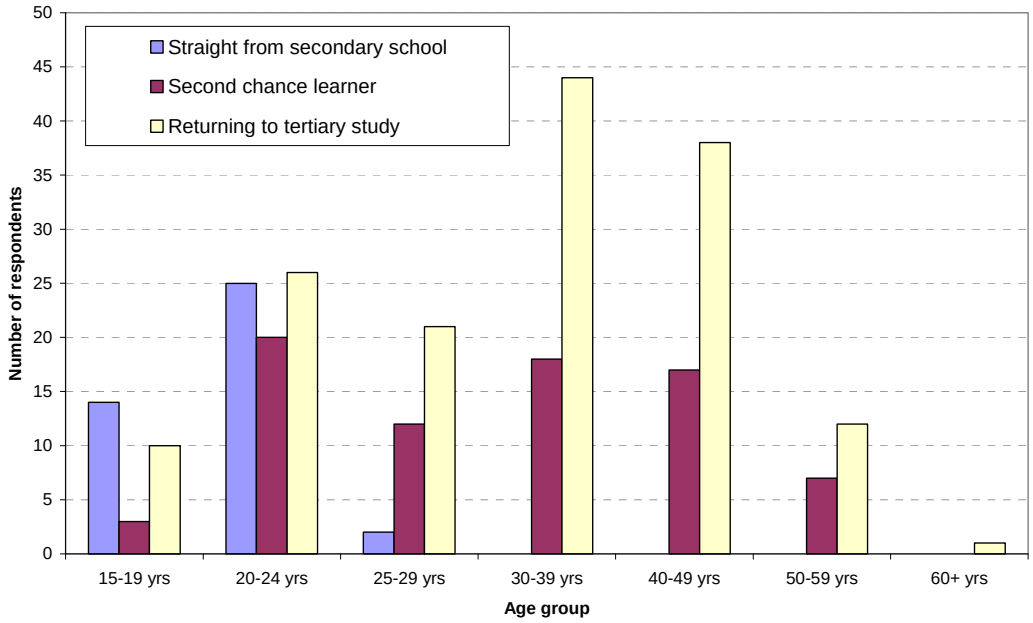
Respondents were studying at tertiary institutions throughout the country, with the largest group located in the upper North Island (64%), and followed by the South Island (17%), lower North Island (13%), and central North Island (6%). The majority of respondents were enrolled at a university (70%) or a polytechnic or institute of technology (26%). Only a small number of respondents were enrolled at wānanga (4%) or private training institutions (1%).

Entry experience

Figure 5 shows that 15% of respondents had entered tertiary study directly from secondary school, 28% were undertaking tertiary study for the first time but not

straight from school, and over half of the respondents were returning to tertiary study (56%). Sixty one percent of the respondents who had started tertiary studies straight from secondary school were aged 20-24 years old; this is in part due to the length of many health courses entered directly from school. For example, 11 of the 25 participants who indicated that they had entered tertiary study straight from secondary school were enrolled in medical courses.

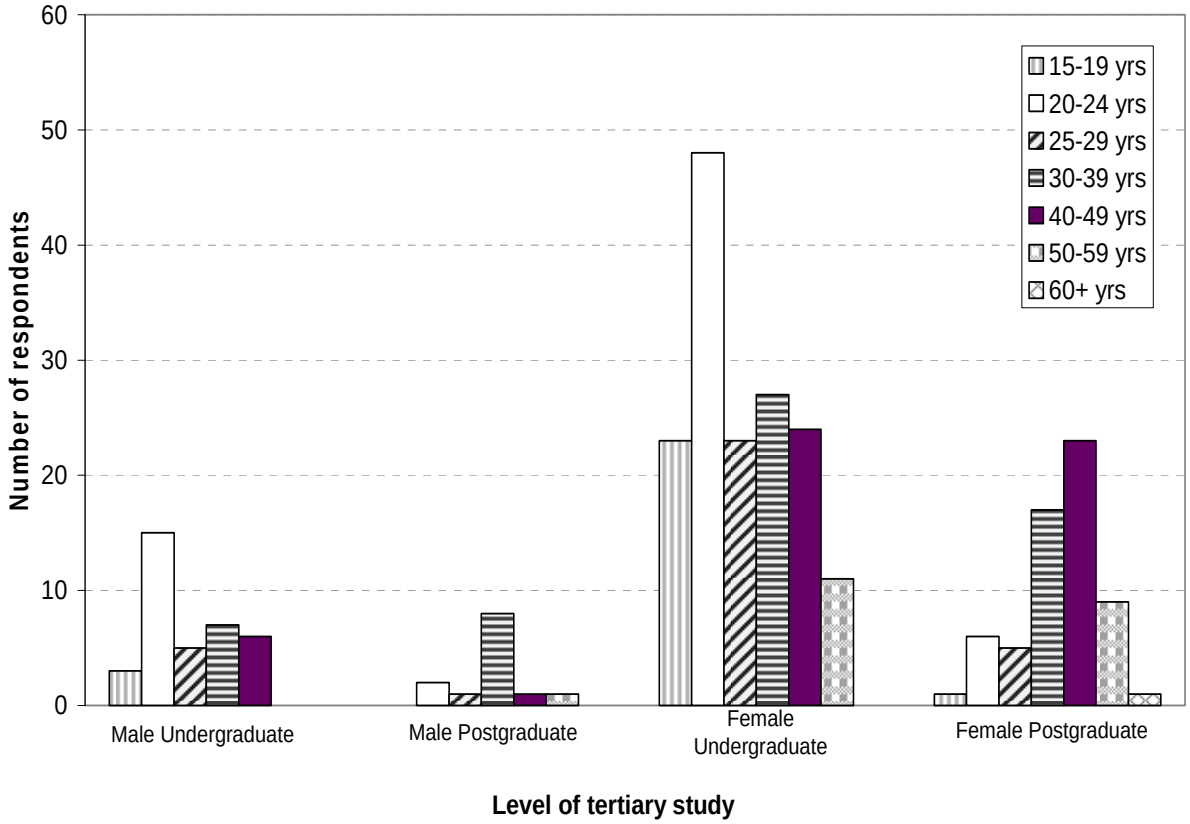
Figure 5. Respondent entry experience (prior to enrolment) by age



Level of study

Figure 6 presents respondents' level of study (undergraduate versus postgraduate) by age group. The graph highlights the number of respondents taking up undergraduate study across the different age groups. The respondents at undergraduate level were strongly represented in the 20-24 age groups. The female respondents appear to be increasingly enrolled in postgraduate studies up to the 40-49 years age group, whereas male postgraduate students were predominantly in the 30-39 years age group.

Figure 6. Respondent level of study by age group



Over half (59%) of respondents were working towards an undergraduate degree. The remaining participants were aiming to complete an undergraduate certificate or diploma (11%), a graduate certificate or diploma (6%), a postgraduate certificate or diploma (11%), a masters degree (8%), a doctorate/PhD (2%), or another type of qualification (3%).

Course of study

Respondents indicated that they were enrolled in a wide variety of courses (Table 62). The largest group of respondents were studying nursing (20%), followed by physiotherapy (10%), and medicine (10%). The next largest proportions identified Māori health (8%), sport and recreation (8%), and psychology (8%) as their courses of study. Courses of study categorised as 'Other' in Table 61 include a number of areas with small representation (including chiropractic and paramedicine), as well as several courses that were not strictly health professions but were assumed to have an underlying health focus.

Table 62. Respondent course of study

Course of study	Number.	Percentage*
Nursing	54	20%
Medicine	26	10%
Physiotherapy	28	10%
Sport and recreation	23	8%
Māori health	21	8%
Psychology	22	8%
Social work	17	6%
Health management	12	4%
Occupational therapy	10	4%
Counselling	8	3%
Dental	7	3%
Midwifery	8	3%
Public health	7	3%
Podiatry	5	2%
Education/teaching	2	1%
Health promotion	2	1%
Mental health	4	1%
Pharmacy	2	1%
Psychotherapy	2	1%
Other	19	7%
Total	**273**	

* Some respondents fit into several categories therefore total equates to more then 100%

Health and disability sector employment

More than half of all respondents (57%) identified as having been employed in the health and disability sector at some time. At the time of the survey, 76% (n=122) of that group were employed in the sector. Table 63 presents the roles of those respondents currently employed in the sector.

Table 63. Respondent roles within the health sector

Roles	Number	Percentages*
Clinical	60	49%
Community work	35	29%
Management	8	7%
Research	6	5%
Administrative/clerical	5	4%
Policy	2	2%
Other	13	11%
Total	**129**	

* Some respondents identified more than one role, therefore percentages do not equate to 100%

The two predominant roles identified were ‘Clinical’ (49%) and ‘Community work’ (29%). Roles classified as ‘Other’ include ‘Auditing’, ‘Care-giving’, and ‘Advocacy’ roles.

Appendix 8 Māori health and disability workforce survey

Letter of introduction
Information sheet
Consent form
Survey questionnaire

Tēnā koe

Tēnā ra koe me ō karangatanga katoa. Tēnei te mihi ake ki a koe i noho hei puna kōrero mō tēnei kaupapa. Ko te tūmanako ka whai hua tēnei kaupapa hei oranga mō te iwi.

Re: Survey of the Māori health workforce

Taupua Waiora, Centre for Māori Health Research, AUT University is carrying out research looking at recruitment and retention issues within the Māori health and disability workforce. The research is funded by the Ministry of Health and the Health Research Council of New Zealand, and is intended to gain a better understanding of these issues in order to inform more effective strategies to attract and retain Māori within the health sector.

We are approaching you to invite you to take part in a survey of 400 Māori currently employed within the health and disability sector, as we consider that you have valuable knowledge and experiences in this area that we hope you will be willing to share with us. You will find enclosed an information sheet explaining the background to the Project, a consent form, and a paper copy of the questionnaire that will take no longer than **15 minutes** to complete. Alternatively you can complete the questionnaire online by going to

http://www.surveymonkey.com/s.asp?u=565391935385

If you agree to take part by filling in the paper copy of the questionnaire, **please complete the consent form and questionnaire and return them to us in the pre-paid reply envelope**. All those who complete questionnaires (both paper and web-based) by the end of the fieldwork period are eligible to go into a draw for the chance to win an **Air New Zealand Mystery Weekend for two**.

I hope you see the potential value of this project, and encourage you to take part in the survey as your support is critical to the success of this kaupapa. We appreciate your time and effort, and look forward to receiving your response to the questionnaire.

Noho ora mai i roto i ngā mihi

Associate Professor Mihi Ratima
Taupua Waiora, Centre for Māori Health Research
AUT UNIVERSITY

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant Information Sheet
Workforce survey

Project title
Participation and retention issues within the Māori health and disability workforce.

Invitation
You are invited to take part in this research project which explores Māori health and disability workforce recruitment and retention issues.

What is the purpose of the study?
The purpose of the research is to gain a better understanding of Māori health and disability workforce recruitment and retention issues in order to inform more effective strategies to attract and retain Māori within the workforce.

Who are the researchers?
Taupua Waiora, Centre for Māori Health Research, AUT University in collaboration with Ngā Pae o te Māramatanga, University of Auckland, and Rātateitei Associates.

Researcher contact details:
Rachel Brown
Research Officer
Taupua Waiora, Centre for Māori Health Research
AUT University
Tel. (09) 921- 9999 ext 7237
rachel.brown@aut.ac.nz

Project Supervisor:
Associate Professor Mihi Ratima
Director
Taupua Waiora, Centre for Māori Health Research
AUT University
Tel. (09) 921- 9999 ext 7234
mihi.ratima@aut.ac.nz

What happens in the study?
You will be asked to complete a survey questionnaire by telephone, face-to-face interview, or self completion (on paper or online). You can complete the survey online at:

http://www.surveymonkey.com/s.asp?u=62841934449

How are people chosen to be part of the study?
You are being asked to participate as we consider you to be an important source of information in regards to this research and we would value your contribution. You have been recommended by a member of our research team, advisory group, or a health sector organisation.

What will I be asked to do?
We will be asking about yourself, and your experiences as a Māori health worker/professional.

How long will it take?
We anticipate that completion of the questionnaire will take up to and no more than 15 minutes. With your agreement, if your questionnaire is completed and received by us before the end of the fieldwork period, you will be entered into a draw for an Air New Zealand **Great Mystery Holiday Package for two people.**

What are the benefits?
This research project will inform planning and action to develop a Māori health and disability workforce of optimum size and configuration, which will in turn contribute to improved Māori health outcomes.

How will my privacy be protected?
Only the researchers will have access to identifying data. Identifying data will not be included in reports and you will not be named.

If you take part in the study, you:

- can refuse to answer any questions or stop at any time;
- can ask any questions you want about the study;
- can request a copy of your questionnaire;
- will receive a summary of findings at the end of the project; and,
- will not be identified and your responses will remain confidential.

Participant concerns
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor Mihi Ratima, mihiratima@aut.ac.nz 921 9999 ext 7234.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Participant consent form
Workforce Survey

Title of Project: Participation and retention issues within the Māori health and disability workforce

Project Supervisor: Associate Professor Mihi Ratima

Researcher: Rachel Brown

- I have read and understood the information provided about this research project.
- I have had an opportunity to ask questions and have them answered.
- I understand that my participation is confidential and that no material that could identify me will be used in any reports regarding this research.
- I understand that taking part in this research is voluntary (my choice) and that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection without being disadvantaged in any way.
- If I withdraw, I understand that all relevant information or parts thereof, will be destroyed.
- I know who to contact if I have any questions about the research.
- I agree to take part in this research.
- I agree for my name to be put forward in the draw for an Air New Zealand Mystery Weekend for two. Tick one: Yes O No O
- I wish to receive a copy of the report from the research Tick one: Yes O No O
- Verbal consent Tick one: Yes O No O

Participant name: .....

Signature : .....

Postal address: .....

.....

.....

Date: .....

Interviewer name .....

Interviewer signature .....

Participant code ____/____/____

Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Māori Health Workforce Survey

Taupua Waiora, Centre for Māori Health Research

Participation and retention issues within the Māori health workforce

This survey explores Māori health and disability workforce recruitment and retention issues. The purpose of the research is to gain a better understanding of these issues in order to inform more effective strategies to attract and retain Māori within the health sector workforce.

Part A: Personal details

Office use only

1. Do you identify as New Zealand Māori?

☐ Yes ☐ No

If No, Please do not complete the questionnaire.

2. Gender

☐ Male ☐ Female

3. Age group

☐ 15-19 years old ☐ 35-39 years old ☐ 55-59 years old
☐ 20-24 years old ☐ 40-44 years old ☐ 60-64 years old
☐ 25-29 years old ☐ 45-49 years old ☐ 65 + years old
☐ 30-34 years old ☐ 50-54 years old

4. What region do you currently live in?

☐ Northland ☐ Manawatū
☐ Auckland ☐ Wellington
☐ Waikato ☐ Nelson
☐ Bay of Plenty ☐ West Coast
☐ Hawkes Bay ☐ Marlborough
☐ Gisborne ☐ Canterbury
☐ Taranaki ☐ Otago
☐ Wanganui ☐ Southland

Office use only

5. Do you have a tertiary qualification?

☐ 1 Yes ☐ 2 No (Go to question 7) ☐

6. If Yes, which of the following is your highest qualification? ☐

☐ 1 Undergraduate certificate (e.g. Certificate in Māori Health)
☐ 2 Undergraduate diploma (e.g. Diploma in Sports Science)
☐ 3 Undergraduate degree (e.g. Bachelor of Health Science)
☐ 4 Postgraduate level (e.g. Postgraduate certificate/diploma, masters)
☐ 5 Other, please specify _____

7. Are you currently studying toward a qualification? ☐

☐ 1 Yes ☐ 2 No (Go to question 10)

8. If Yes, what qualification are you studying toward? ☐

☐ 1 Undergraduate certificate (e.g. Certificate in Māori Health)
☐ 2 Undergraduate diploma (e.g. Diploma in Sports Science)
☐ 3 Undergraduate degree (e.g. Bachelor of Health Science)
☐ 4 Postgraduate level (e.g. postgraduate certificate/diploma, masters)
☐ 5 Other, Please specify _____

9. How is this qualification being funded? ☐

☐ 1 Self
☐ 2 Employer
☐ 3 Other, Please specify _____

Part B: Employment

10. How much experience have you had working in the health sector? ☐

☐ 1 Less than one year
☐ 2 1-5 years
☐ 3 6-10 years
☐ 4 More than 10 years

Office use only

11. Which of the following best describes your main role in the health sector?

- ☐ 1 Clinical
- ☐ 2 Community health work
- ☐ 3 Management
- ☐ 4 Policy
- ☐ 5 Administrative
- ☐ 6 Other, Please specify_____
- ☐ 7 Academic
- ☐ 8 Public health
- ☐ 9 Support work

12. Do you work primarily in the health or disability area?

- ☐ 1 Health
- ☐ 2 Disability

13. Which of the following best describes your professional background?

- ☐ 1 Management
- ☐ 2 Nursing
- ☐ 3 Physiotherapy
- ☐ 4 Psychology
- ☐ 5 Caregiver
- ☐ 6 Medicine
- ☐ 7 Community health work
- ☐ 8 Support work
- ☐ 9 Oral health
- ☐ 10 Occupational therapy
- ☐ 11 Administration
- ☐ 12 Counselling
- ☐ 13 Social work
- ☐ 14 Midwifery
- ☐ 15 Pharmacy
- ☐ 16 Dentistry
- ☐ 17 Other, please specify_____

14. Which of the following best describes your main employment setting?

- ☐ 1 Māori provider/organisation
- ☐ 2 Māori unit within a mainstream organisation
- ☐ 3 Mainstream provider/organisation

15. Which of the following also best describes your main employment setting?

- ☐ 1 Ministry of Health
- ☐ 2 District Health Board
- ☐ 3 Public hospital
- ☐ 4 Public health unit
- ☐ 5 Primary Health Organisation
- ☐ 6 Private hospital
- ☐ 7 Private practice
- ☐ 8 Tertiary education institution
- ☐ 9 NGO/ Non-governmental organisation (e.g. Cancer Society of New Zealand)
- ☐ 10 Rest home
- ☐ 11 Hospice
- ☐ 12 Other, Please specify_____

__/___/__/

16. To what extent did the following factors <u>encourage</u> you to initially choose a career in health?

		Not at all	A little	Quite a lot of encouragement	Major encouragement	N/A	Office use only
A	Māori role models in health	0	1	2	3	N/A	☐
B	Career development opportunities	0	1	2	3	N/A	☐
C	Earning potential	0	1	2	3	N/A	☐
D	Availability of scholarships/grants	0	1	2	3	N/A	☐
E	Someone in whānau working in health	0	1	2	3	N/A	☐
F	Knowing someone working in health	0	1	2	3	N/A	☐
G	Opportunities to work with Māori people	0	1	2	3	N/A	☐
H	Career guidance (e.g. school, tertiary institution)	0	1	2	3	N/A	☐
I	Availability of bridging programmes	0	1	2	3	N/A	☐
J	To make a difference for Māori health	0	1	2	3	N/A	☐
K	Negative whānau/personal experience with health services	0	1	2	3	N/A	☐
L	Encouragement from Māori health professionals	0	1	2	3	N/A	☐
M	Encouragement from whānau	0	1	2	3	N/A	☐
N	Potential to work with own hapū/iwi	0	1	2	3	N/A	☐
O	Strengthening Māori presence in the health sector	0	1	2	3	N/A	☐
P	Mana/prestige of chosen health profession	0	1	2	3	N/A	☐
Q	Increasing numbers of Māori working in my profession	0	1	2	3	N/A	☐
R	Recruitment programme/s to encourage Māori into health careers (e.g. Te Rau Puawai) Please specify recruitment programme/s_____	0	1	2	3	N/A	☐
S	Other, Please specify_____	0	1	2	3	N/A	☐
T	Other, Please specify_____	0	1	2	3	N/A	☐

17. To what extent were any of the following a barrier for you when you chose a career in health?

		No barrier	Small barrier	Medium barrier	Large barrier	N/A	Office use only
A	Financial costs of tertiary study in health	0	1	2	3	N/A	☐
B	Limited whānau experience in tertiary education	0	1	2	3	N/A	☐
C	Health career not promoted in a way that attracted you	0	1	2	3	N/A	☐
D	Limited Māori content in health course	0	1	2	3	N/A	☐
E	Personal racism (face-to-face) in health organisation and/or tertiary institution	0	1	2	3	N/A	☐
F	Few numbers of Māori in the health workforce	0	1	2	3	N/A	☐
G	Inadequate information on a career in health	0	1	2	3	N/A	☐
H	Lack of a clear career pathway	0	1	2	3	N/A	☐
I	Whānau commitments	0	1	2	3	N/A	☐
J	Other, Please specify _____	0	1	2	3	N/A	☐
K	Other, Please specify _____	0	1	2	3	N/A	☐

18. Please identify what, if any, additional support would encourage you to further up-skill through tertiary study or other mechanisms? Tick as many as apply.

	Office use only
☐ 1 Māori scholarships/grants	☐
☐ 2 Increased professional development leave	
☐ 3 Up-skilling leads to increased pay	
☐ 4 Up-skilling leads to career progression	
☐ 5 Accessible information on professional development options	
☐ 6 Accessible career guidance	
☐ 7 Cultural competency development opportunities	
☐ 8 Māori-relevant course content	
☐ 9 Comprehensive Māori student support programmes	
☐ 10 Support from my employer	
☐ 11 Other, Please specify _____	

19. To what extent are the following factors an issue for you as a health professional?

		Not an issue	A little	Quite a lot	Major importance	N/A	Office use only
A	Lack of or low levels of Māori cultural competence of colleagues	0	1	2	3	N/A	☐
B	Māori cultural competencies are not valued	0	1	2	3	N/A	☐
C	Limited or no access to Māori cultural competency training	0	1	2	3	N/A	☐
D	Limited or no access to Māori cultural support/supervision	0	1	2	3	N/A	☐
E	Racism and/or discrimination in the workplace	0	1	2	3	N/A	☐
F	Isolation from other Māori colleagues	0	1	2	3	N/A	☐
G	Difficult to be Māori in the workplace	0	1	2	3	N/A	☐
H	In mainstream roles, expected to be expert in and deal with Māori matters	0	1	2	3	N/A	☐
I	Dual responsibilities to employer and Māori communities	0	1	2	3	N/A	☐
J	Other, Please specify _____	0	1	2	3	N/A	☐
K	Other, Please specify _____	0	1	2	3	N/A	☐

20. To what extent do the following factors <u>encourage</u> you to keep working in health?

		No encouragement	A little encouragement	Quite a lot of encouragement	A major encouragement	N/A	Office use only
A	Paid professional development opportunities	0	1	2	3	N/A	☐
B	Paid Māori cultural competency development opportunities	0	1	2	3	N/A	☐
C	Scholarships and grants	0	1	2	3	N/A	☐
D	Having Māori colleagues	0	1	2	3	N/A	☐
E	Having Māori role models	0	1	2	3	N/A	☐
F	Pay rates	0	1	2	3	N/A	☐
G	Ability to network with other Māori in the profession	0	1	2	3	N/A	☐
H	Being able to work with Māori people	0	1	2	3	N/A	☐
I	Opportunities to work in Māori settings	0	1	2	3	N/A	☐
J	Māori practice models and approaches valued	0	1	2	3	N/A	☐
K	Opportunities to work in Māori contexts using Māori practice models	0	1	2	3	N/A	☐
L	Making a difference for my iwi/hapū	0	1	2	3	N/A	☐
M	Making a difference for Māori health	0	1	2	3	N/A	☐
N	Supportive and culturally safe manager/supervisor	0	1	2	3	N/A	☐
O	Access to Māori cultural supervision	0	1	2	3	N/A	☐
P	Culturally safe work environment	0	1	2	3	N/A	☐
N	Mana/prestige of my profession	0	1	2	3	N/A	☐
Q	Clear career pathways	0	1	2	3	N/A	☐
R	Recognition and valuing of Māori cultural competencies	0	1	2	3	N/A	☐
S	Provision for whānau/ Māori community commitments	0	1	2	3	N/A	☐
T	Access to cultural resources (e.g. Māori mentors)	0	1	2	3	N/A	☐
U	Being a role model for Māori	0	1	2	3	N/A	☐
V	Strengthening Māori presence in the health sector	0	1	2	3	N/A	☐
W	Other, please specify	0	1	2	3	N/A	☐
X	Other, please specify _____	0	1	2	3	N/A	☐

Office use only

21. Are you aware of the Ministry of Health Māori Health Scholarship Programme?

☐ 1 Yes ☐ 2 No ☐

(to access information go to http://www.moh.govt.nz/moh.nsf)

22. If Yes, have you ever applied for a Ministry of Health Māori Health Scholarship?

☐ 1 Yes ☐ 2 No ☐

If No, Please state reasons why not.

_____

_____

Part C: General comments

Do you have any other comments you would like to add?

_____

_____

_____

_____

_____

Thank you for taking the time to fill in this questionnaire.

Tēnā ra koe mō tō tautoko i tēnei kaupapa.

Please return questionnaire to researchers in attached pre-paid envelope

Rachel Brown
Research Officer
Taupua Waiora
Division of Public Health & Psychosocial Studies
Auckland University of Technology
Private Bag 92006
Auckland
Phone 0800 AUT UNI

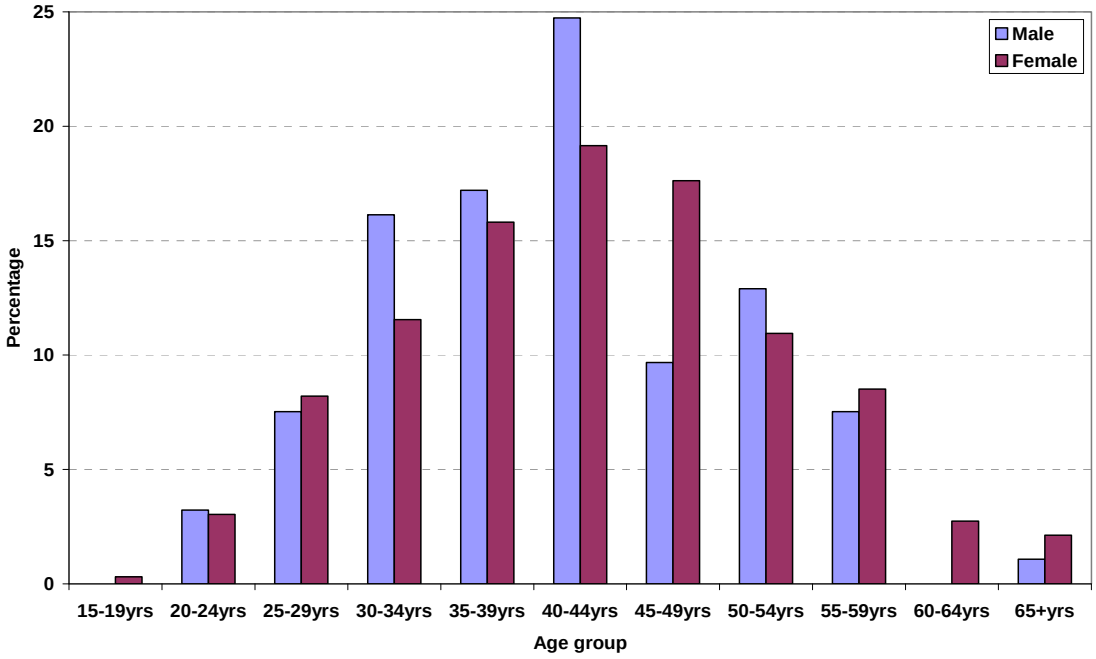
Approved by the Auckland University of Technology Ethics Committee on 08th August 2005
AUTEC reference number 05/07

Appendix 9 Characteristics of respondents

Demographics

Figure 7 presents the age and gender of respondents. Twenty seven respondents did not identify their gender. Of those respondents that reported their gender, 78% were female and 22% were male. The age distribution of respondents approximates a normal distribution peaking around the 40-44 year age group (20%), with decreasing numbers of respondents in older and younger age groups.

Figure 7. Age and gender of respondents



Regional spread

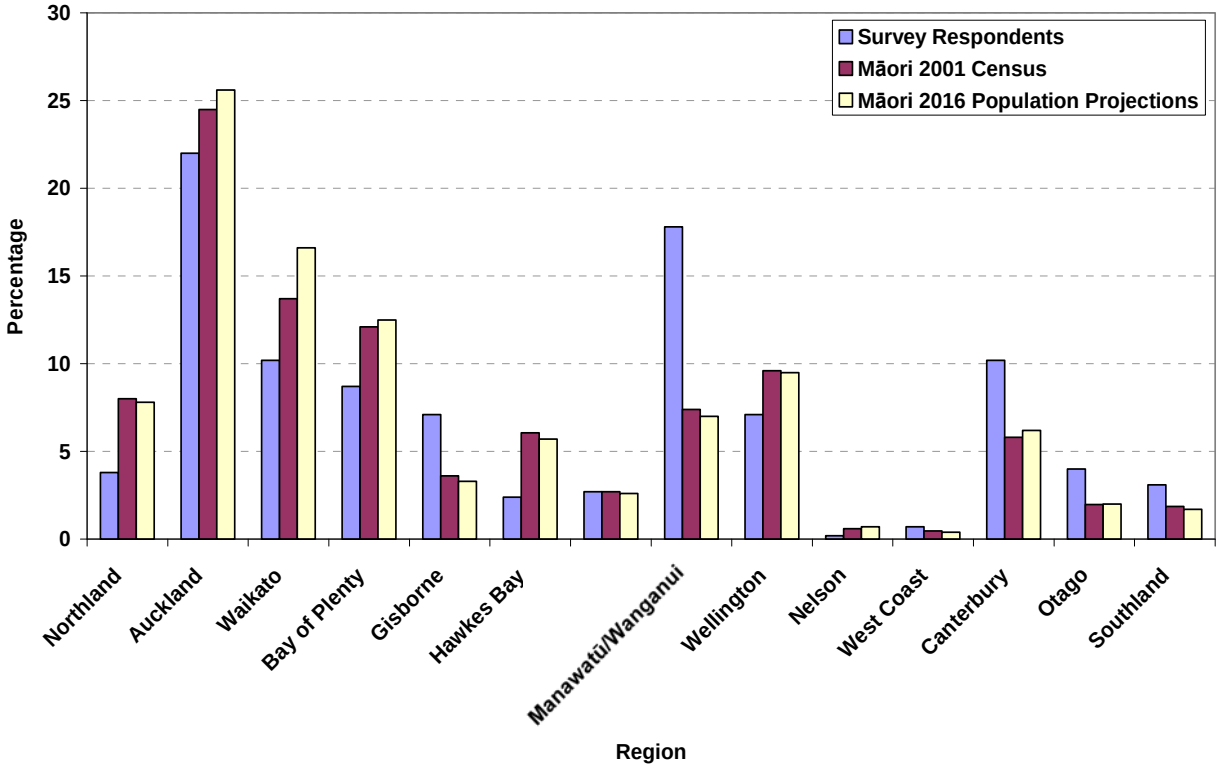
Respondents were asked to identify the region in which they lived at the time of the survey. Figure 8 presents the geographical spread of respondents, alongside 2001 Census data on Māori regional populations and Statistics New Zealand projections of Māori regional populations to 2016.

High proportions of respondents were living in the Auckland (22%), Wanganui (12%), Waikato (10%) and Canterbury (10%) regions at the time of the survey. Nearly one fifth of all respondents identified as residing in the South Island (18%), mainly in the Canterbury (10%), Otago (4%), and Southland (3%) regions. With the exception of the Manawatū/Wanganui, Gisborne, and Canterbury regions, the geographical distribution of survey respondents corresponds fairly closely to the 2001 Census Māori population spread and the Statistics New Zealand 2016 Māori population projections (Statistics New Zealand, 2002).

High levels of recruitment in the Manawatū/Wanganui region are the result of proactive promotion by Te Rūnanga o Ngāti Hauiti in that area (the Rūnanga had endorsed the research from its inception). Due to initial low levels of recruitment in the Gisborne and Canterbury regions, the research team had carried out a second wave

of promotion in those regions. Resulting participation from those two regions was relatively high.

Figure 8: Regional spread of survey respondents, the 2001 Census Māori population, and the projected Māori population to 2016



Professional background

Respondents were asked to select, from a pre-determined list, the category which best describes their professional background. Table 64 presents respondents' professional background by gender. The largest proportion of respondents reported having a professional background in 'Nursing' (27%) followed by 'Management' (14%), 'Community health work' (12%), and 'Administration' (11%). In the 'Other' category professional backgrounds specified by respondents included 'Dietetics' (n=2), 'Optometry' (n=1), and 'Podiatry' (n=1).

According to the 2001 Census females account for 83% of the workers in the health and community services industry, the distribution of genders within this workforce are comparable with 79% of survey respondents being female.

Females were highly represented in 'Administration' (93%), 'Nursing' (89%), 'Psychology' (83%), 'Research' (83%), 'Support work' (78%), and 'Health promotion' (78%). Males were most strongly represented in 'Education' (43%), 'Physiotherapy' (33%), 'Management' (34%), 'Cultural roles' (33%), 'Occupational therapy' (33%), 'Community health work' (32%), 'Counselling' (31%), and 'Medicine' (31%). Some respondents selected the 'Other' category and specified a professional background not provided on the pre-determined list. Some of these

responses have been added to the list of professional backgrounds, these are – 'Cultural roles', 'Health promotion', 'Research', and 'Education'.

Table 64. Professional background by gender

Professional background*	Male		Female		Total
Administration	3	7%	43	93%	46
Caregiver	1	25%	3	75%	4
Community health work	17	32%	36	68%	53
Counselling	4	31%	9	69%	13
Cultural role	2	33%	4	67%	6
Education	3	43%	4	57%	7
Health promotion	2	22%	7	78%	9
Management	20	34%	39	66%	59
Medicine	4	31%	9	69%	13
Midwifery	-	-	5	100%	5
Nursing	12	11%	102	89%	114
Occupational therapy	1	33%	2	67%	3
Oral health	-	-	2	100%	2
Pharmacy	-	-	1	100%	1
Physiotherapy	4	33%	8	67%	12
Psychology	1	17%	5	83%	6
Research	1	17%	5	83%	6
Social work	7	26%	20	74%	27
Support work	4	22%	14	78%	18
Other	6	35%	11	65%	17
Total	**92**	**21%**	**329**	**79%**	**439**

*Some respondents chose more than one professional background, therefore, percentage will not equate to 100%

Employment settings

Table 65 presents respondents' main employment settings. Respondents were asked to select from a pre-determined list, the category that best described their employment setting (e.g. DHB). Some respondents selected the 'Other' category and specified an employment setting not provided on the list. Some 'Other' category responses have been added to the list of employment settings, they are – community, government and iwi.

Half (51%) of all respondents indicated working in a Māori context, either within a Māori provider/organisation (31%) or in a Māori unit within a mainstream organisation (20%). Respondents working within Māori providers/organisations were based mainly with primary health organisations (83%) or non-governmental organisations (75%). Of those respondents who indicated working in a Māori unit within a mainstream organisation, 36% reported working in Māori units within DHBs and 26% within a mainstream tertiary education institution. Forty nine percent of all respondents indicated that they are employed in mainstream providers/organisations, and are not based within a Māori unit.

Overall, DHBs (n=165), followed by non-governmental organisations (n=65) and primary health organisations (n=54), employed the largest numbers of respondents.

Table 65. Employment settings

Main employment setting	Māori provider/ organisation		Māori unit in mainstream organisation		Mainstream provider/ organisation		Total
Community	1	33%	-	-	2	67%	3
District health board	13	8%	60	36%	92	56%	165
Government	-	-	1	25%	3	75%	4
Iwi	10	100%	-	-	-	-	10
Ministry of Health	8	31%	4	15%	14	54%	26
Non-governmental organisation	49	75%	4	6%	12	19%	65
Primary health organisation	45	83%	1	2%	8	15%	54
Private hospital	-	-	-	-	2	100%	2
Private practice	3	16%	1	5%	15	79%	19
Public health unit	1	4%	5	18%	22	78%	28
Public hospital	1	3%	4	13%	26	84%	31
Rest home	-	-	-	-	1	100%	1
Hospice	1	33%	-	-	2	67%	3
Tertiary education institution	1	5%	5	26%	13	69%	19
Other	1	20%	1	20%	3	60%	5
Total	**134**	**31%**	**86**	**20%**	**215**	**49%**	**435**

Respondents identified their main professional roles within the health sector from a pre-determined list provided. Respondents also had the option to select the 'Other' category. The main roles identified were; 'Clinical' (23%), 'Community health' (19%), 'Public health' (16%), 'Management' (15%), 'Administration' (11%), 'Support' (5%), 'Academic' (4%), and 'Policy' (3%). Roles identified from the 'Other' category were - mental health, cultural, health promotion and consultancy.

Table 66 on the following page presents respondents' employment settings by current professional role. The majority of respondents working in a clinical role were employed by DHBs (41%), followed by public hospitals (16%) and primary health organisations (16%). Respondents working in community health work are primarily employed by DHBs (32%), primary health organisations (23%) or non-governmental organisations (16%). Respondents in public health roles are mainly employed by DHBs (38%) or public health units (38%). Respondents in health management roles are mainly employed by DHBs (43%) or non-governmental organisations (34%). One response from the 'Other' category, 'iwi', has been incorporated into the table as it was a consistent response within that category.

Health and disability sector experience

Respondents' years of experience in the health and disability sector and type of main employment setting are presented in Table 67.

Table 66. Employment setting by current professional role

Employment setting	Academic		Administrative		Clinical		Community Health		Management		Policy		Public Health		Support Work		Other		Total
District health board	2	11%	17	36%	42	41%	26	32%	29	43%	4	36%	26	38%	10	45%	9	56%	**165**
Iwi*	1	5%	1	2%	1	1%	4	5%	1	1%	-	-	1	1%	1	5%	-	-	**10**
Ministry of Health	-	-	7	15%	2	2%	7	9%	4	6%	3	27%	3	4%	-	-	1	6%	**27**
Non-government organisation	2	11%	5	11%	9	9%	13	16%	23	34%	4	36%	3	4%	5	23%	1	6%	**65**
Primary health organisation	-	-	12	26%	16	16%	19	23%	3	4%	-	-	3	4%	1	5%	1	6%	**55**
Private hospital	-	-	-	-	1	1%	-	-	1	1%	-	-	-	-	-	-	-	-	**2**
Private practice	-	-	-	-	11	11%	2	2%	3	4%	-	-	2	3%	-	-	1	6%	**19**
Public health unit	-	-	-	-	1	1%	1	1%	-	-	-	-	26	38%	-	-			**28**
Public hospital	1	5%	3	6%	16	16%	3	4%	1	1%	-	-	2	3%	3	14%	2	13%	**31**
Tertiary education institution	12	63%	-	-	1	1%	1	1%	2	3%	-	-	2	3%	-	-	-	-	**18**
Other	1	5%	2	4%	3	3%	6	7%	1	1%	-	-	1	1%	2	9%	-	-	**16**
Total	**19**		**47**		**103**		**82**		**68**		**11**		**69**		**22**		**15**		**436**

Thirty four percent of respondents have worked in the health and disability area for 0-5 years, and 45% for more than 10 years. Examination of the distribution across employment settings show that although there are similar proportions of respondents with more than 10 years experience across all settings, there are a greater proportion of less experienced respondents (0-5 years) in Māori providers/organisations (42%) in comparison to Māori units in mainstream settings (29%) or mainstream providers/organisations (32%). This may reflect a greater interest among new graduates in Māori health and disability sector employment.

Table 67. Respondents' years of experience in the health and disability sector

Years of experience	Māori provider/ organisation		Māori unit within a mainstream organisation		Mainstream provider/organisation		Total	
Less than one year	11	8%	4	5%	13	6%	28	6%
1-5 years	48	34%	20	24%	56	26%	124	28%
6-10 years	21	15%	20	24%	52	24%	93	21%
More than 10 years	60	43%	41	48%	96	44%	197	45%
Total	**140**		**85**		**217**		**442**	

Respondents were asked whether they primarily worked in the health or disability area, and responses are summarised in Table 68. Seven percent of respondents indicated that they work primarily in the disability area, compared to 97% who identified health as their primary area of work.

Table 68. Respondent roles by primary area of work.

Current role	Health		Disability		Total
Administration	46	96%	2	4%	48
Caregiver	5	100%	-		5
Community health work	52	96%	2	4%	54
Counselling	13	93%	1	7%	14
Management	57	95%	3	5%	60
Medicine	13	100%	-		13
Midwifery	5	100%	-		5
Nursing	112	93%	8	7%	120
Occupational therapy	2	67%	1	33%	3
Oral health	3	100%	-		3
Pharmacy	1	100%	-		1
Physiotherapy	10	83%	2	17%	12
Psychology	8	100%	-		8
Social work	24	86%	4	14%	28
Support work	14	74%	5	26%	19
Other	43	93%	3	7%	46
Total	**408**	**93%**	**31**	**7%**	**439**

The main professional backgrounds of those who identified as working primarily in the disability area were; 'Occupational therapy' (33%), 'Support work' (26%),

'Physiotherapy' (17%), 'Social work' (14%), 'Counselling' (7%), 'Nursing' (7%), 'Management' (5%), 'Community health work' (4%), and 'Administration' (4%).

Tertiary qualifications

Table 69 presents respondents' professional backgrounds by tertiary qualification status, that is, the number and percentage of respondents in each professional category that hold a tertiary qualification and/or are studying towards a tertiary qualification. The majority of respondents (79%) reported that they had completed a tertiary qualification.

Of those who had completed a tertiary qualification, one hundred and thirty four participants indicated that their highest tertiary qualification was at a postgraduate level (39%). Of the remainder, the highest qualification held was an undergraduate degree for 113 (33%) respondents, an undergraduate diploma for 50 (14%) participants, and an undergraduate certificate for a further 50 (14%) respondents.

Table 69. Professional background by tertiary qualification status

Professional background*	Hold qualification					Do not hold qualification				
	Currently studying		Not studying		Total	Currently studying		Not studying		Total
Administration	5	26%	14	74%	**19**	10	32%	21	68%	**31**
Caregiver	2	40%	3	60%	**5**	-	-	-	-	**-**
Community health	8	25%	24	75%	**32**	7	30%	16	70%	**23**
Counselling	6	46%	7	54%	**13**	-	-	1	100%	**1**
Cultural role	2	100%	0	0%	**2**	3	75%	1	25%	**4**
Education	3	43%	4	57%	**7**	-	-	-	-	**-**
Health promotion	5	56%	4	44%	**9**	-	-	-	-	**-**
Management	22	50%	22	50%	**44**	8	50%	8	50%	**16**
Medicine	8	62%	5	38%	**13**	-	-	-	-	**-**
Midwifery	3	60%	2	40%	**5**	-	-	-	-	**-**
Nursing	58	50%	59	50%	**117**	2	40%	3	60%	**5**
Occupational therapy	-	-	3	100%	**3**	-	-	-	-	**-**
Oral health	-	-	3	100%	**3**	-	-	-	-	**-**
Pharmacy	1	100%	0	0%	**1**	-	-	-	-	**-**
Physiotherapy	3	25%	9	75%	**12**	-	-	-	-	**-**
Psychology	5	63%	3	37%	**8**	-	-	-	-	**-**
Research	4	100%	0	0%	**4**	2	100%	-	-	**2**
Social work	12	48%	13	52%	**25**	1	33%	2	67%	**3**
Support work	4	31%	9	69%	**13**	3	50%	3	50%	**6**
Other	3	23%	10	77%	**13**	3	75%	1	25%	**4**
Total	**154**		**194**		**348**	**39**		**56**		**95**

*Respondents could choose more than one professional background

Overall, 21% of respondents do not hold a tertiary qualification. However, 41% (n=39) of these unqualified respondents are currently studying toward a tertiary qualification.

Six of the unqualified respondents are currently studying toward an undergraduate certificate, seven toward an undergraduate diploma, 15 toward an undergraduate degree, eight are studying toward a postgraduate qualification, and three did not specify a qualification.

Relatively large proportions of respondents in the following workforce groups did not hold a tertiary qualification at the time of the survey: administration (62%), community health work (42%) and management (27%). However, approximately one quarter to half of respondents in these groups who have no qualification are currently studying at the tertiary level (community health work – 30%, administration – 32%, and management – 50%).

There are differences between professional groups in the proportion of tertiary qualified respondents who are currently studying towards additional tertiary qualifications. The two largest professional groups of respondents with tertiary level qualifications, nursing and management, are evenly divided between those continuing tertiary study (50%) and those who are not (50%). Respondents with backgrounds in psychology (63%), medicine (62%), midwifery (60%) and health promotion (56%) have higher proportions of tertiary qualified respondents enrolled in further tertiary study. Respondents with professional backgrounds in physiotherapy (25%), community health work (25%), administration (26%), and support work (31%) had smaller proportions of respondents undertaking further tertiary study. This may reflect differences in the level of support, by profession, for ongoing professional development through tertiary education.

Overall, 43% of all respondents surveyed are currently studying towards a tertiary qualification. Of the 79% of respondents who hold a tertiary qualification, 44% of these respondents are undertaking further study. Table 70 presents respondents' highest tertiary qualification held by current level of tertiary study.

Of the respondents who indicated they were studying toward a tertiary level qualification, 61% were studying at postgraduate level with the remainder studying towards an undergraduate degree (16%), diploma or certificate (23%). Three respondents did not specify what qualification they were studying towards and one respondent identified studying towards another qualification for which the level was not specified (these respondents have not been included in Table 70). With 113 respondents studying at the postgraduate level there is evidence that the Māori health and disability workforce is strengthening its capability.

Table 70. Highest tertiary qualification by current level of study

Highest qualification	Current level of study							
	Undergraduate certificate/diploma		Undergraduate degree		Postgraduate level		Total	
No qualification	13	31%	15	50%	8	7%	36	19%
Undergraduate certificate/diploma	17	40%	9	30%	6	5%	32	17%
Undergraduate degree	4	10%	3	10%	43	38%	50	27%
Postgraduate level	8	19%	3	10%	56	50%	67	36%
Total	**42**		**30**		**113**		**185**	

Table 71 presents respondents' employment settings by the source of funding used to support tertiary study. Of the 44% of respondents currently undertaking tertiary study, nearly half (44%) were self-funding and just over one third (39%) had their study financially supported by their employer. Overall the largest proportion of respondents with study being paid for in any given employment setting were public hospital employees (62%) and the largest number (n=30) were DHB employees. In contrast, 71% of those employed in private practice and undertaking tertiary study indicated that they were personally funding their studies.

Table 71. Employment setting by tertiary study funding source

Employment setting	Self funded study		Employer funded study		Other	
District health board	31	41%	30	40%	14	19%
Ministry of Health	5	45%	3	27%	3	27%
Non-governmental organisation	17	53%	9	28%	6	19%
Primary health organisation	10	42%	9	38%	5	21%
Public health unit	5	45%	5	45%	1	9%
Public hospital	5	38%	8	62%	-	-
Private practice	5	71%	2	29%	-	-
Tertiary education institution	3	21%	7	50%	4	29%
Other	4	57%	2	29%	1	14%
Total	**85**	**44%**	**75**	**39%**	**34**	**17%**

Scholarships were the most common (n=15) reported source of 'Other' funding for study, followed by funding from government sources (n=13). Seven respondents indicated that no funding was required as courses were provided free of charge, and three indicated financial support from multiple sources.

Appendix 10 Estimation of workforce retention rates

Estimation of workforce retention rates

The only available information to directly evaluate the health and disability workforce retention is the workforce registration data. Where individual records were available and individuals were able to be identified from unique registration identifiers, their registrations were followed from year to year to estimate rates of retention in the different fields by calculating the percentage of individuals who had been previously licenced from year to year.

The following tables present two estimates of retention. In the first instance retention is estimated by the proportion of licences from the previous year that are retained in the current year. However, there appear to be gaps in the licence data where either an individual was not licenced for a year or more, either due to a gap in their employment, or because they did not complete the annual workforce survey, or they did not identify as Māori in the workforce survey. Therefore, the estimated retention is calculated where any gaps in licencing is assumed to be an "error" and has been filled in and the proportion of licences from the previous year that are retained in the current year has been recalculated. The estimated retention is reported in the main section of this report.

Table 72. Māori chiropractors 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	1	0.7 %	-		-	
2001	7	4.9 %	100 %	(1/1)	100 %	(1/1)
2002	5	2.7 %	71 %	(5/7)	86 %	(6/7)
2003	5	2.4 %	60 %	(3/5)	83 %	(5/6)
2004	9	4.3 %	100 %	(5/5)	100 %	(7/7)
2005	1	0.4 %	11 %	(1/9)	11 %	(1/9)

Table 73. Māori dieticians 2000-2005

Year	Number of Māori	% active workforce	Retained from previous year		Estimated retention	
2000	4	1.6 %	-		-	
2001	5	2.0 %	50 %	(2/4)	100 %	(4/4)
2002	10	3.2 %	80 %	(4/5)	86 %	(6/7)
2003	8	2.5 %	70 %	(7/10)	70 %	(7/10)
2004	5	1.6 %	63 %	(5/8)	63 %	(5/8)
2005	5	1.4 %	80 %	(4/5)	83 %	(5/6)

Table 74. Māori medical radiation technologists 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	6	0.7 %	-		-	
2001	10	1.2 %	33 %	(2/6)	83 %	(5/6)
2002	25	2.4 %	30 %	(3/10)	69 %	(9/13)
2003	24	2.3 %	24 %	(6/25)	20 %	(6/30)
2004	20	2.1 %	63 %	(15/24)	63 %	(15/24)
2005	12	1.0 %	30 %	(6/20)	42 %	(10/24)

Table 75. Māori medical laboratory technologists/scientists 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	1	0.2 %	-		-	
2001	7	1.1 %	100 %	(1/1)	100 %	(1/1)
2002	11	1.3 %	57 %	(4/7)	86 %	(6/7)
2003	13	1.6 %	64 %	(7/11)	69 %	(9/13)
2004	6	0.8 %	46 %	(6/13)	46 %	(6/13)
2005	9	0.6 %	17 %	(1/6)	29%	(2/7)

Table 76. Māori occupational therapists 2000-2004

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	19	2.4%	-		-	
2001	13	1.6 %	63 %	(12/19)	84 %	(16/19)
2002	26	2.4 %	54 %	(7/13)	71 %	(12/17)
2003	20	1.8 %	42 %	(11/26)	52 %	(14/27)
2004	26	2.2 %	65 %	(13/20)	68 %	(15/22)
2005	Not surveyed					

Table 77. Māori optometrists 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	0	-	-		-	
2001	3	0.8 %	-		-	
2002	3	0.8 %	33%	(1/3)	67%	(2/3)
2003	4	1.0 %	67%	(2/3)	75%	(3/4)
2004	3	0.7 %	25%	(1/4)	25%	(1/4)
2005	3	0.7%	67%	(2/3)	75 %	(3/4)

Table 78. Māori physiotherapists 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	31	2.1 %	-		-	
2001	33	2.3 %	48 %	(15/31)	65 %	(20/31)
2002	38	2.7 %	48 %	(16/33)	74 %	(28/38)
2003	40	2.7 %	55 %	(21/38)	71 %	(32/45)
2004	44	3.1 %	48 %	(19/40)	55 %	(26/47)
2005	30	2.0 %	25 %	(11/44)	30 %	(14/47)

Table 79. Māori dentists 2000-2004

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000 / 2001	24	1.6 %	-		-	
2001 / 2002	28	1.9 %	*		*	
2002 / 2003	30	2.1 %	*		*	
2003 / 2004	31	2.0 %	67 %	(20/30)	73 %	(22/30)
2004 / 2005	13	0.8 %	52 %	(16/31)	58%	(18/21)

* Registration IDs were only available for 2002/2003

Table 80. Māori psychologists 2000-2005

Year	Number of Māori	% Active workforce	Retained from previous year		Estimated retention	
2000	26	4.0%	-		-	
2001	30	4.5 %	50 %	(13/26)	73 %	(19/26)
2002	42	4.8 %	70 %	(21/30)	78 %	(28/36)
2003	42	4.8 %	64 %	(27/42)	74 %	(32/43)
2004	40	4.4 %	62 %	(26/42)	65 %	(30/46)
2005	38	3.9 %	45 %	(18/40)	51 %	(23/45)

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