Research Report

Tātou Tātou/Success for All: Improving Māori student success

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Background

Understanding the distinctive worldviews of Māori students is critical to the knowledge base that drives teaching and learning practices in tertiary health programmes. While some evidence has been gathered about lecture-based learning in universities, little is known about non-lecture teaching activities that complement traditional en masse teaching, with few studies focussed on representing indigenous student voices.

Research purpose

This evidence-based project targets Māori student success in degree-level tertiary health education. Research questions include:

- What teaching practices in non-lecture contexts help or hinder Māori success in degree-level study in nursing, pharmacy, medicine and health sciences?
- What changes does research in this area suggest are needed to teaching and higher education practices in order to best support Māori success in degree-level study designed to prepare students for work in the health professions?

Research method

This qualitative study utilises Kaupapa Māori research methodology using the Critical Incident Technique. Interviews were conducted with 41 Māori students currently enrolled in, or recently graduated from the Bachelor of Medicine (17), Bachelor of Nursing (7), Bachelor of Pharmacy (3), Bachelor of Health Sciences (14) at The University of Auckland.

Results

A total of 1346 incidents that both helped and hindered student success were identified. Sixty seven percent (898) of all incidents helped and 33 percent (448) hindered Māori student success. The majority of student stories (789, 59%) were related to the provision of *Māori Student Support Services* (69% helpful, 31% hindering). The second context (375, 28%) related to the *Undergraduate Programme* with a mixed picture of helpful versus hindering incidents (53% versus 47%). The third context (182, 14%) represents stories associated with *Māori Student Whanaungatanga* (family bonding) with most stories being helpful rather than hindering (87% versus 13%).

Thirteen sub-categories describe incidents as being associated with: MAPAS/tuākana tutorials, resources, academic transitioning, MAPAS staff and Māori academic Staff, Māori mentoring and role models, racism / stigma towards Māori, teaching staff characteristics, programme organisation, linking theory to practice, programme incorporation of Māori cultural values, first year health study competition, supporting whakawhanaungatanga and group learning.

Summary

Our findings support the need for tertiary institutions to provide additional Māori student support services, with a particular focus on fostering cultural bonding between students and their peers. The undergraduate programme was at times unsafe and hindering to Māori student success. Our findings highlight the important role of the educator as this role can be both helpful, and hindering within non-lecture contexts. Key success factors included the ability of educators to develop relational trust, demonstrate cultural safety and utilise high quality teaching and learning methods whilst having an excellent grasp of the content required. Overall, our findings support the need to explore notions of a *hidden curriculum* that may be operating within clinical and non-clinical health professional training programmes.

Institutional changes need to occur within the context of the broader tertiary environment, at the level of the educator and the student. Based on our findings, quality tertiary teaching for Māori students within health programmes should:

- Use effective teaching and learning practices
- Provide academic support that is culturally appropriate
- Provide pastoral support that is culturally appropriate
- Provide a culturally safe learning environment, and
- Encourage cohort cohesiveness.

Background

Introduction

Māori represent 15 percent of the New Zealand population, yet are under-represented across almost all health professions (Ministry of Health, 2000). In frontline clinical roles Māori represent only 2.6 percent of doctors, less than 1.5 percent of pharmacists, 2.1 percent of dentists and 7 percent of nurses (Ministry of Health, 2007; Pharmacy Council of New Zealand, 2009).

Under-representation within health professions impacts on processes and outcomes of healthcare (Smedley, Stith, & Nelson, 2002), limits the diversity of healthcare delivery (Health Workforce Advisory Committee, 2003) and fails to provide for future health needs of societies at both a general population and ethnic community level (Health Workforce Advisory Committee, 2006). Māori under-representation in the health workforce is of particular concern given that Māori have disproportionately high health need (Hodges & MacDonald, 2000; Reid & Robson, 2007), and have expressed preferences for Māori practitioners (Durie, 2001). International evidence indicates that ethnic concordance between healthcare professionals and their patients leads to improved health outcomes for patients (Cooper & Powe, 2004; LaVeist, Nuru-Jeter, & Jones, 2003; Stevens, Mistry, Zuckerman, & Halfon, 2005). The lack of cultural concordance between Māori patients and predominantly Pākehā health providers suggests that a key factor in improving outcomes for Māori is to strengthen the Māori health workforce (Jansen & Sorrensen, 2002). Further, there is evidence of widening health gaps (Ajwani, Blakely, Robson, Tobias, & Bonne, 2003), and treatment disparities (Sadler, McCowan, & Stone, 2002), and that disparities in health may in part be due to failure of health services to provide culturally appropriate treatments (Durie, 1998). Addressing the critical shortage of Māori health professionals is therefore integral to overcoming the well-documented disparities in health outcomes, life expectancy, morbidity and mortality between Māori and non-Māori (Ministry of Health, 2007; Robson & Harris, 2007).

Elimination of health inequities between Māori and non-Māori, including Māori health workforce development, requires serious commitment to the indigenous (and Treaty of Waitangi) rights of Māori as *tangata whenua* in Aotearoa New Zealand. Overcoming Māori health workforce inequities therefore reflects both the high health need and an indigenous rights imperative (Eketone, 2008; Reid & Robson, 2007; Yon M, 2002).

Explanations for the shortage of indigenous and ethnic minority health professionals refer to the complex mix of social, demographic, cultural, academic and financial barriers (Acosta & Olsen, 2006; Farrington, DiGregorio, & Page, 1999; Hollow, 2006; Omeri & Ahern, 1999; Thompson, Miller, Thomson, & Dresden, 1993; Usher, Miller, Turale, & Goold, 2005; Zuzelo, 2005). Of key concern are the educational disparities within both the secondary and tertiary sector for Māori students. In 2007, nearly two out of five Māori aged 15 years and over had no formal qualification, and participation in a Year 13[1] science subject was only 23 percent for Māori secondary school students compared to 41 percent for non-Māori (Ministry of Education, 2008).

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[1] Year 13 is the final year of secondary schooling in Aotearoa New Zealand.

In 2009, only 29 percent Māori versus 54 percent non-Māori students received university entrance at the completion of Year 13 (Education Counts, 2010a, 2010b). National participation rates for Māori aged 18–19 in degree-level study is less than half the rate for all students, with Māori students having lower completion rates within Bachelor-level study (Tertiary Education Commission, 2011). Despite increased Māori tertiary education enrolments overall, Māori rates of participation in health professional degree-level programmes remain low (Ministry of Education, 2003). Māori have the highest first-year attrition rates across all tertiary qualification levels, with 28.8 percent attrition in Bachelor-level programmes compared to 18.2 percent for Pākehā (Hefford, Crampton, & Foley, 2005). Additional data demonstrates Māori under-representation within medical, pharmacy, nursing and health sciences programmes (Ratima, et al., 2008). Targeted secondary and tertiary education sector initiatives that successfully recruit, retain and achieve Māori student success are vital to Māori health workforce development and therefore meeting Māori health needs (Ratima, et al., 2007).

Central to Māori student success in health programmes is the teaching and learning involved (Greenwood & Te Aika, 2008). Literature shows that teaching and learning factors can both help and hinder student success and that Māori and Pasifika student success can be facilitated through key teaching and learning factors particularly within the non-lecture context (Airini, et al., 2011; Madjar, McKinley, Jenssen, & Van Der Merwe, 2009).

Teaching and learning in degree-level studies happen in mass lectures and in complementary non-lecture settings (defined as involving fewer than 50 students) that more often involve a range of formats relating to inclusive and active learning strategies. A research focus on non-lecture contexts also allows exploration of the support programmes (outside of the formal curriculum) in place for students. The importance of providing culturally appropriate support systems within tertiary education environments to students has been emphasised broadly (Prebble, et al., 2004) and more recently within the *Success For All* research project within The University of Auckland (Airini, et al., 2011; Curtis, Townsend, & Airini, 2012).

Success For All explored helpful and hindering factors for Māori and Pasifika students in non-lecture teaching and learning contexts at four different sites within The University of Auckland (Education, Health Bridging/Foundation, Architecture/Engineering and Careers Services). Project findings emphasise the importance of non-lecture teaching and learning for Māori and Pasifika students and the authors outline nine promising practices: 1) Use effective adult teaching practices; 2) Demonstrate content knowledge; 3) Use culturally appropriate practices, content and staff; 4) Support the confidence, mana and empowerment of the learner; 5) Grow independent learners; 6) Nurture interdependence between peers; 7) Promote professional relationships; 8) Resource quality teaching; and 9) Create a place to belong and thrive (Airini, et al., 2011).

Tātou Tātou builds on and expands this research project by specifically exploring non-lecture teaching and learning within health professional degree-level study (not previously explored within a New Zealand setting). This approach allows a focus on various teaching and learning contexts associated with clinical and non-clinical contexts within medical, nursing, pharmacy and health sciences study.

Emphasis will be placed on helpful and hindering factors that specifically relate to the clinical, non-clinical and non-programme contexts of these programmes.

Aim

Tātou Tātou is an evidence-based project targeting Māori student success in degree-level tertiary education. The focus is on the ways in which non-lecture teaching and learning helps or hinders Māori student success within nursing, pharmacy, health sciences and medicine programmes offered within the Faculty of Medical and Health Sciences, The University of Auckland.

Objectives

The objectives of this project were to:

a) Identify international "best practice" in non-lecture teaching and learning in tertiary settings.
b) Deliver high quality research on the nature of non-lecture teaching and learning practices that help or hinder Māori students studying in degree-level programmes within the Faculty of Medical and Health Sciences (FMHS).
c) Identify factors in non-lecture teaching and learning that help and hinder Māori student success within the FMHS.
d) Produce practical programmes for tertiary institutions on how to identify what helps and hinders Māori student success in completing degree-level studies, and how to develop effective programmes to harness their strengths and address barriers. Particular emphasis will be placed on the successful development of partnerships between educators, students and their communities.

Research questions

In order to achieve the research objectives the following research questions have guided the project:

- What teaching and learning practices in non-lecture contexts help or hinder Māori student success in degree-level study in nursing, pharmacy, medicine and health sciences?
- What changes does research in this area suggest are needed to teaching and higher education practices in order to best support Māori success in degree-level study designed to prepare students for work in the health professions?

Overview of Faculty and vision 20:20 programmes

All of the students recruited in this study were sourced from the broader Māori and Pacific Admission Scheme (MAPAS) and Vision 20:20 context operating within the Faculty of Medical and Health Sciences (FMHS). The Vision 20:20 programme is a commitment from the FMHS at The University of Auckland to achieve Māori and Pacific success within health. Vision 20:20 aims to increase the number of Māori and Pacific health professionals to 10 percent of the health workforce by the year 2020. Vision 20:20 and the FMHS has a commitment to supporting Māori and Pacific students in developing their health career pathways and succeeding in a supportive learning environment.

Te Kupenga Hauora Māori (TKHM) – the Department of Māori Health within the FMHS – co-ordinates the three components of Vision 20:20: (1) Whakapiki Ake – Māori recruitment, (2) Hikitia Te Ora – Certificate in Health Sciences, and (3) MAPAS – Māori and Pacific Admission Scheme.

Whakapiki Ake (WAP) – Māori recruitment
Whakapiki Ake is a recruitment programme that connects with Māori rangatahi in secondary schools and facilitates their recruitment into health careers. WAP promotes health careers and offers entry options for Māori into health professional tertiary programmes. Some WAP activities include school visits and presentations to Māori students, exposure to health career options, assistance with application processes, tertiary environment exposure and financial support.

Hikitia Te Ora – Certificate in Health Sciences (CertHSc)
Hikitia Te Ora is a one-year Certificate in Health Sciences bridging/foundation programme that prepares Māori and Pacific students for entry into undergraduate health programmes. Specifically, the Hikitia Te Ora curriculum focuses on relevant academic and science literacy (for example, chemistry, physics, biology and population health) that provides students with the prerequisites necessary for entry into health programmes such as nursing, medicine, pharmacy and health sciences.

Māori and Pacific Admission Scheme (MAPAS) – Admission, retention, academic and pastoral support
MAPAS is an affirmative action programme that supports Māori and Pacific student admission, retention and success in tertiary health programmes. MAPAS provides supportive learning environments for Māori and Pacific students through comprehensive academic and pastoral support services and activities.

The three components of Vision 20:20 provide a collaborative approach that supports Māori and Pacific student recruitment into, and retention and success within, tertiary health programmes. All three programmes work together to achieve Vision 20:20 (and Māori and Pasifika health workforce development) (The University of Auckland, 2011). In 2011, the FMHS enrolled 378 students who were "official" MAPAS students in undergraduate health study (that is, they were accepted into programmes via the MAPAS admissions process), with 64 in the foundation programme, 111 in health sciences (BHSc), 26 in nursing (BNurs), 11 in pharmacy (BPharm) and 166 in medicine (MBChB). A small number of "unofficial" Māori and Pasifika students from programmes outside of FMHS also access MAPAS support (approximately 20 students) (E. Curtis, personal communication, 19 October, 2011).

Methodology

Theoretical framework and research protocols

The research team is committed to ensuring that students and their learning outcomes are located at the centre of inquiry. This project's theoretical framework is about understanding the role the education system plays in expanding or limiting student success and using that understanding to inspire practical and effective changes to tertiary teaching practices and associated organisational systems to support greater levels of student success in undergraduate health professional education.

Specific Māori research protocols

Kaupapa Māori Research (KMR) practice is embedded in the research design, implementation, analysis, report writing and dissemination. The research was led by Māori researchers, and programme staff also played key roles as part of the research team. The Kaupapa Māori research framework provides a research methodology in which we take a non-victim blaming, non-deficit approach (L. Smith, 1999).

Overall, the research team committed to a KMR approach by:

a) utilising Māori input in the research and used consultative and participatory processes. An advisory group was established that includes Māori community and research expertise
b) proceeding in a manner appropriate to the cultural contexts concerned
c) ensuring that members of the research team acknowledge cultural limitations, and work in culturally safe ways, drawing on relevant research methodologies,
d) ensuring that all aspects of the research were monitored closely for relevance, and excellence in methodology.

Assumptions

The following assumptions have been made within *Tātou Tātou*:

- That `success' includes movement towards and achievement of pass grades or higher, a sense of accomplishment and fulfilling personally important goals, and participation in ways that provide opportunities for a student to explore and sustain their holistic growth. In practice 'success' may include incremental progress in career planning for a successful transition to work, and the achievement of a student's personal and/or collective academic goals. Success may also mean the ability to demonstrate understanding of subject-specific skills and knowledge. The concept of 'success' is a broad one that links with individual and community notions of potential, effort and achievement (Airini, et al., 2009).
- That teaching and learning in undergraduate-level studies happen in mass lectures of 50 or more students, and in complementary non-lecture settings that can be as small as one-to-one. As Clifford (1999) points out, adult education teaching can require new kinds of relationships between educator and student. New attitudes to teaching are required as the

concept of an educator who presents as a knowledge expert is replaced by an educator or academic support staff member who acts as a resource person and facilitator (Airini & Sauni, 2004; Monks, Conway, & Ni Dhuigneainm, 2006). *Tātou Tātou* will increase understanding of good practice in health professional education and enhance teaching and learning experiences provided by a range of educators particularly within non-lecture contexts.

- That clinical teaching usually involves patients and their problems directly and is an important distinguishing feature of health professional education generally (Spencer, 2003). In clinical teaching students are involved in a variety of learning situations including small groups, learning in clinical skills centres (developing and practising clinical skills on mannequins, actors and each other), bedside teaching, ambulatory care settings (in the community, people's homes and primary care settings) (Dent & Harden, 2005).

- That 'non-lecture'-based teaching and learning contexts used by the FMHS include:
  - academic or pastoral support interventions provided by the Māori and Pacific Admission Scheme (MAPAS) (for example, additional tutorial programmes, study weekends, wānanga/cohort meetings, provision of MAPAS-specific study space)
  - general programme tutorials/seminars/workshops/laboratories
    - small group clinical teaching (for example, ward rounds, bedside)
    - case studies/Problem-Based Learning (PBL)
    - work-based placement or internships.

- That changes to teaching and learning practices can be progressively adopted to ensure deep levels of understanding and quality practices.

- That learning arising from research is both formative and summative.

- That KMR is now a widely utilised research methodology (Institute of Indigenous Research & Te Rōpū Rangahau Hauora a Eru Pōmare, 2000; L. Smith, 1999). KMR in this study has of necessity an understanding of the social, economic and political influences on Māori outcomes, and is able to use a wide variety of research methods as tools. It is about understanding those power dynamics that create and maintain the unequal position of Māori in New Zealand society including the role that the education system plays in expanding or limiting Māori student success. The analysis of incidents will reflect this understanding by identifying when such influences are expressed in the experiences of Māori students.

- That the research project will build capability and capacity by including Māori researchers as research team members; implement a research model that aims for high quality through integrating Māori and Western research methods; promote collaboration through creating a new network of researchers nationally and internationally (via an advisory group); and include other non-Māori emerging researchers in the research team.

Methods

Tātou Tātou is a two-year qualitative study investigating what helps or hinders Māori student success within non-lecture teaching and learning contexts of undergraduate health study. The study design and methods used within *Tātou Tātou* build upon and expand on previous research undertaken at The University of Auckland within the *Success For All* project (Airini, et al., 2011).

Tātou Tātou consists of two phases:

a) the production of critical incidents narratives from student interviews
b) the development of a Quality Tertiary Teaching (QTTe) profile from the analysis and interpretation of the narratives.

Three key methods were used within the two phases:

a) Critical Incident Technique (CIT)
b) Validity and Reliability Testing (VRT)
c) QTTe profile development.

Ethical approval was obtained via The University of Auckland Human Participants Ethics Committee (Reference number 2009/358).

Critical incident technique

In alignment with the research methods used in the previous *Success For All* project (Airini, et al., 2011), *Tātou Tātou* employs the Critical Incident Technique (CIT) research method (Flanagan, 1954). The CIT is a qualitative research method that has been widely used as an effective exploratory research tool for more than 50 years (Butterfield, Borgen, Amundson, & Maglio, 2012). The CIT is an established form of narrative inquiry that has been used to reveal and chronicle the lived experience of students undertaking tertiary studies (Victoroff & Hogan, 2006). By asking students to describe specific important events during their time as an undergraduate student and their outcomes, a critical incident is able to capture well-defined key experiences that inform the research objective. The CIT allows analysis and categorisation of qualitative information that provides deep insights into the situational experience and has been successfully implemented in a number of healthcare studies (Pavlish, Brown-Saltzman, Hersh, Shirk, & Nudelman, 2011). Airini and colleagues demonstrated that the CIT can be used to successfully explore and capture Māori and Pasifika tertiary student experiences in a New Zealand context (Airini, et al., 2011).

As indicated by Smith (2006), meta-analysis of narrative research methods suggests that after eight participants, some repetition of story types can be anticipated. Researchers in indigenous and general education using the CIT with under-represented groups have tended, however, to interview and report on between 10–32 participants (Airini & Brooker, 1999; McCormick, 1994) to ensure the highest possible levels of validity and reliability. Final sample group sizes for *Tātou Tātou* were determined by overall student participant numbers in that particular teaching and learning context, alongside current practice in narrative inquiry (see Results section for actual outcomes).

Recruitment

Māori students who are currently studying or had recently graduated from undergraduate health programmes at The University of Auckland were eligible to participate in the interviews. Eligible students were identified via The University of Auckland programme databases (using Student Services Online ethnicity and demographic details), and all students were contacted via general advertisement, email or telephone and invited to participate in an interview.

Overall, 95 currently studying Māori students (13 nursing, five pharmacy, 21 health sciences, 56 medicine) were identified as eligible to participate across the recruitment period of this study. A total of 57 students either declined to be interviewed or did not respond to the interview invitation (seven nursing, four pharmacy, seven health sciences, 39 medicine). Thirty-eight currently studying students accepted the invitation to participate in an interview. An additional three students who had recently graduated the nursing (1) and pharmacy (2) programmes were also recruited for interview given the low number of Māori students enrolled within these programmes.

Recruitment was conducted via a study-specific research assistant outside of MAPAS or the FMHS academic programmes. All student information was anonymised, via a unique identifier tag, and only the study-specific research assistant had access to identifiable information. Students were assured that participation in the study would have no effect on academic outcomes or the provision of MAPAS support due to this anonymised process. The research assistant confirmed participant ethnicity as including Māori at the time of telephone follow-up by using the New Zealand Census 2006 ethnicity question (Statistics New Zealand, 2009).

Students were recruited from the medicine, pharmacy, nursing and health sciences programmes to provide a wide view of health programmes and to allow comparison of findings across and between programmes. Māori students were also recruited across the different study years to gain insight into issues faced at different stages of the undergraduate programmes, particularly comparing non-clinical with clinical years of study.

Student interviews

Māori students and recent graduates participated in one-on-one, 40–60 minute interviews that were held at a time and place convenient for the student within the tertiary setting. Participant information sheets were explained and informed consent was obtained to audio-record and transcribe the interviews.

External interviewers underwent training led by Māori research team members in the use of the CI. In accordance with the CIT, interviewers repeatedly asked students the key question:

> "Can you describe a time when the teaching and learning approach used in your undergraduate programme has helped or hindered your success as a student?"

Three broad domains were used as prompts for questioning and were associated with the following learning contexts:

a) clinical
b) non-clinical and

c) non-programme.

A complete incident story comprises three parts: *trigger* (the source of the incident), associated *action* and *outcome*. Identification of each component part facilitates the grouping of the incidents into 'categories' of similar incidents. In line with the CIT, the resultant student 'stories' were grouped into categories and sub-categories that were used to guide the co-construction of organisation initiatives and professional development to enhance teaching and learning practices and student outcomes.

Analysis

All interviews were recorded using a digital voice recorder. Each recording was then transcribed verbatim by independent transcribers. Transcripts were checked by the research assistant to remove any identifying information and then forwarded to MAPAS and programme staff for analysis. The CIT was used to capture the Māori student voice. Once MAPAS and programme staff identified the critical incidents within each interview, they then allocated them into a category and sub-category. Each critical incident was also identified by programme and domain, and whether it was either helpful or hindering to student success.

When interpreting the student narratives, all project members were able to debate and discuss their interpretations together. If consensus on the interpretation of the narrative could not be reached, a *'give way'* rule was applied. The give way rule was first developed and used within the *Success For All* project (Airini, et al., 2009; Curtis, et al., 2012). The rule acknowledges everyone's contribution; however, the final decision on issues involving cultural interpretation of incidents would pass to a Māori project team member. Similarly, the final interpretation on issues of programme/curriculum content would pass to a programme team member where appropriate. In general, the research team rarely required the formal use of the give way rule with most decision making being reached by agreement and consensus. However, the articulation of the give way rule fostered a clear understanding between team members as to the intention of the KMR approach being utilised within this study.

A Māori researcher then assisted with later analysis on behalf of the project team, with Principal Investigator and team input via group meetings. This later analysis involved reviewing all data and collapsing the numerous categories and sub-categories into similar groupings to make them more meaningful. Analysis was carried out using filter systems within Microsoft Excel spreadsheets.

A synopsis was developed to describe the types of incidents included in each context category and context subcategory, and it was used as a reference for all project staff when categorising incidents appropriately (see Appendix A).

Validity and reliability testing

Validity and Reliability Testing was used to test the soundness and trustworthiness of the categorisation system. The following questions guided the VRT: (1) Could the researchers working independently of each other use the categories and sub-categories in a consistent way? (2) Were the

categories and sub-categories comprehensive? (3) To what extent and in what ways were categories and sub-categories consistent with expert commentary on good practice in undergraduate teaching?

Three phases of VRT were conducted and were used to inform the data analysis process and final results (see Appendix B for details).

Quality Tertiary Teaching Profile development

A Quality Tertiary Teaching (QTTe) Profile was developed using team meeting reviews of the context categories and context sub-categories identified via incident analysis. The QTTe Profile describes the characteristics of teaching and learning practices that support Māori student success in undergraduate contexts. The QTTe Profile presents co-constructed organisational and professional development interventions for non-lecture settings. The QTTe Profile aims to be instructive in nature, in order to provide institutions with specific direction for development to improve or introduce support for Māori student success in undergraduate health professional settings.

Advisory Group

An advisory group can complement the effectiveness of the research team as it works to carry out a specific, complex initiative. The advisory group for *Tātou Tātou* is a collection of New Zealand-based (Dr Airini, Associate Professor Papaarangi Reid, Associate Professor Mark Barrow) and international indigenous expertise (Dr Shaun Ewen), who provided unique knowledge and skills to complement those of the research team in order to more effectively devise, interpret and disseminate the research. The advisory group does not have formal authority to govern the research project. Rather, the advisory group serves to make recommendations and/or provide key information and advice to the research team.

Results

Broad overview

Overall, a total of 41 interviews with Māori undergraduate health students were completed. The 41 students were either currently enrolled in or had recently graduated from the medicine (n=17), health sciences (n= 4), nursing (n=7) and pharmacy (n=3) programmes (Table 1).

Table 1: Participant Demographics

Programme	Total No.	No. Pre- or Non-clinical	No. Clinical	Recent Graduates	Male	Female
Medicine	17	9	8	0	7	10
Health Sciences	14	14	0	0	4	9
Nursing	7	3	3	1	0	7
Pharmacy	3	0	1	2	2	1
TOTAL	41	26	12	3	13	27

A total of 1,346 critical incidents were identified within the clinical, non-clinical or non-programme aspects of the undergraduate programmes. Each incident was assigned a sub-category to label the types of issues being discussed by the student within any given narrative and whether they were considered to be examples of helpful or hindering practice. Sixty-seven percent (898) of all identified incidents helped and 33 percent (448) of all incidents hindered Māori student success. The sub-categories were then grouped into three contexts representing groupings of incidents into areas of focus for potential institutional development: (1) *Māori Student Support Services*; (2) *Undergraduate Programme*; and (3) *Māori Student Whanaungatanga* (Table 2).

The majority of student stories (789, 59 percent) related to the provision of *Māori Student Support Services,* with most of these incidents being helpful (69 percent) rather than hindering (31 percent). The second context of student stories (375, 28 percent) related to the *Undergraduate Programme,* which had a mixed picture of helpful versus hindering incidents (53 percent versus 47 percent respectively). Although the third context represents a smaller proportion of stories associated with *Māori Student Whanaungatanga* (182, 14 percent), the narratives were predominantly helpful rather than hindering (87 percent versus 13 percent) (Table 3).

A broader category was also assigned to each incident to guide the development of a Quality Tertiary Teaching (QTTe) Profile. The QTTe profile represents the data within five broad levels of instruction to guide institutions wishing to better support Māori students studying towards health

degrees in tertiary environments including: (1) *Use effective teaching and learning practices;* (2) *Provide academic support that is culturally appropriate;* (3) *Provide pastoral support that is culturally appropriate;* (4) *Provide a culturally safe learning environment; and* (5) *Encourage cohort cohesiveness.*

The categorisation process identified by the research team were validated by two independent academic staff (using five incident examples per programme requiring more than 95 percent congruence).

Māori student support services

The *Māori Student Support Services* context represents student stories about the provision of additional equity-funded Māori (and Pacific) specific academic and pastoral support. Components of Māori student support services include the provision of tutorials, resources, support for transitioning issues, senior Māori academic role models, Māori mentors and Māori support staff.

Students in every programme talked to the importance of additional tutorials that were provided via equity-funded programmes such as MAPAS and Tuākana. Students found the tutorials helpful and noted the importance of this environment as a safe space.

Help

Trigger: MAPAS tutorials. **Action**: being with other MAPAS students, because you formed quite good relationships with each other over the years and it was a safe environment for us because you have to ask really stupid questions. Because I think in mainstream tutorials that were with the rest of the class there's this [avoidance to ask questions]. Particularly MAPAS students, get quite shy about asking questions because they always think that they're the dumb questions. And I'm like that, I don't ask it, so I don't know. **Outcome**: So when we went into these tutorials that are just MAPAS students organised by MAPAS, it's a safe environment to be able to ask those questions and get the answers with them as well.

Despite the mostly positive stories, students identified unhelpful aspects of teaching and learning within the MAPAS and Tuākana tutorials including the use of tutors who lacked content knowledge or did not have basic teaching skills. Overall, the students found value in the provision of additional non-lecture-based teaching and learning, but only if the tutors and tutorials were of high quality.

Hinder

Trigger: the MAPAS tutorials. **Action**: I...wanted to be able to give some sort of feedback ...on the people [tutors] that were chosen because they were A+ students...they were the year above us [the tutors] and they were students that had gotten real top of their year...they were getting paid to tutor us. **Outcome**: but some of them weren't actually very good at tutoring. They were really smart and they could do the work but they couldn't teach it very well and, like, I thought maybe the interview process could have been better or that we could have done feedback.

Table 2: Contexts, context sub-categories and QTTe profile categories (1,346 narratives)

Contexts	Context Sub-Categories	QTTe Profile Categories
The contexts represent groupings of incidents into areas of focus for potential institutional development. (Total of 1,346 incidents)	The context sub-categories provide detail on the types of issues being discussed by the student within any given incident.	The QTTe profile represents the data within five broad levels of instruction to guide institutions wishing to better support Māori students studying towards health degrees in tertiary environments.
Māori Student Support Services (789)	1. MAPAS/Tuākana Tutorials (245) 2. Resources (189) 3. Academic Transitioning (159) 4. MAPAS Staff and Māori Academic Staff (137) 5. Māori Mentoring and Role Models (59)	1. Use effective teaching and learning practices (373) 2. Provide academic support that is culturally appropriate (367) 3. Provide pastoral support that is culturally appropriate (265) 4. Provide a culturally safe learning environment (176) 5. Encourage cohort cohesiveness (165)
Undergraduate Programme (375)	1. Racism/Stigma Towards Māori (84) 2. Teaching Staff Characteristics (76) 3. Programme Organisation (75) 4. Linking Theory to Practice (66) 5. Programme Incorporation of Māori Cultural Values (50) 6. First Year Health Study (OLY1 competition) (24)	
Māori Student Whanaungatanga (182)	1. Supporting Whakawhanaungatanga (151) 2. Group Learning (31)	

Table 3: Critical incident analysis via context and QTTe Profile (no. of helpful and hindering)

| | | Context Sub-categories (13) | | | | | | | | | | | | | Intra-QTTe category analysis | | | | Inter-QTTe category analysis | | Totals (per QTTe category) | |
| | | Māori Student Support Services | | | | | Undergraduate Programme | | | | | | Māori Student Whanaungatanga | | | | | | | | | |
		MAPAS/Tuākana tutorials	Resources	Academic Transitioning	MAPAS Staff and Māori Academic Staff	Māori Mentors and Role Models	Racism/Stigma towards Māori	Programme Organisation	Teaching Staff Characteristics	Linking Theory to Practice		First Year Health Study (OLY1 competition)	Supporting Whakawhanaungatanga	Group Learning	Help		Hinder		Help	Hinder	Totals (per category)	Percentage (of total)
QTTe Categories (5)	Use effective teaching and learning practices	96	12	15	4		21	73	62	65	22			3	256	69%	117	31%	29%	26%	**373**	28%
	Provide academic support that is culturally appropriate	135	64	83	34	15	1		3				32		242	66%	125	34%	27%	28%	**367**	27%
	Provide pastoral support that is culturally appropriate	4	39	51	97	44		2	6		15	1	6		191	72%	74	28%	21%	17%	**265**	20%
	Provide a culturally safe learning environment		67	4	2		59		5	1	13	23	2		71	40%	105	60%	8%	23%	**176**	13%
	Encourage cohort cohesiveness	10	7	6			3						111	28	138	84%	27	16%	15%	6%	**165**	12%
	Totals (per Context sub-category)	**245**	**189**	**159**	**137**	**59**	**84**	**75**	**76**	**66**	**50**	**24**	**151**	**31**	**898**	**67%**	**448**	**33%**	**100%**	**100%**	**1346**	**100%**
		789 59%					375 28%						182 14%									
	Help (Intra-context subcategory analysis)	179	126	84	102	50	23	30	46	61	28	10	132	27								
		73%	67%	53%	74%	85%	27%	40%	61%	92%	56%	42%	87%	87%								
		541 69%					198 53%						159 87%									
	Hinder (Intra-context subcategory analysis)	66	63	75	35	9	61	45	30	5	22	14	19	4								
		27%	33%	47%	26%	15%	73%	60%	39%	8%	44%	58%	13%	13%								
		248 31%					177 47%						23 13%									

Student stories highlighted the importance of accessing resources via Māori student support services such as computers, the Internet, provision of food and allocated study space as key factors in student success.

> ### Help
>
> **Trigger:** MAPAS has their own house [study space]. **Action:** there are some resources there and computers and that's really helpful just to have your own space to go and work and your own computers where you know can go and get a computer and just really relax. **Outcome:** I feel like I can relax there more than any other place in the med school so that's really helpful to me. I feel like I belong more at the MAPAS house more than anywhere else, I can just be myself, yeah.

Māori student support services have a role to play in supporting students to transition into tertiary study. For example, students talked to the difficulties associated with transitioning into and within tertiary study including a lack of basic study skills, unfamiliarity with workload demands and different expectations for teaching support associated with high school versus university study.

> ### Hinder
>
> **Trigger:** I came from like a total immersion kura kaupapa straight through from wharekura to university. **Action:** just a totally different environment and so much more bigger and you don't have that relationship with like a teacher and student relationship, it's not the same as school kind of thing. **Outcome:** you wouldn't go up to your lecturer and discuss anything like 'cause you know that there's so many other students that you wouldn't really want to take up their time.'

The role of MAPAS Coordinators, who work directly with the students and senior Māori academics, who represent MAPAS students within the Faculty, act as role models and provide teaching, were highlighted as important components of Māori student support.

> ### Help
>
> **Trigger:** successful Māori and Pacific academics. **Action:** they know that it's different being Māori, like it's a different experience being at University for Māori than it is for non-Māori. **Outcome:** they kind of understand, they understand the issues you might have when you're studying a bit better than someone who is not Māori.

There were few stories of MAPAS staff or Māori academic staff hindering success. However, students noted the downside of having staff vacancies within MAPAS and the need for effective MAPAS Coordinator cross cover to ensure continuity of student engagement with MAPAS support. Changes to MAPAS Coordinator roles in recent years, including a shift from having 'friendly' to more academic and structured types of relationships with students has seen improvements in student success rates. However, students who had become accustomed to these 'friendly' support systems in their early years of study found this shift difficult to adjust to. Ensuring that MAPAS staff operate professionally within their roles (as opposed to being student's 'buddies') is necessary to support student success.

Hinder

> **Trigger:** Understandably, our coordinators have to leave us. **Action:** but sometimes it is difficult when we end up going through three in one year... **Outcome:** it can be difficult to build informal, personal relationships with [them]. They take months and then all of a sudden, they're not your coordinator, they've switched over to Certificate or something and it's like "damn, I just made friends with that person", but gosh, that took ages.

Student support services can provide space, activities and impetus to foster senior and junior student interactions that help to develop informal peer mentorship and the provision of voluntary academic support. Senior Māori mentors and role models were seen as having similar backgrounds and an understanding of both the academic and socio-cultural pressures on Māori students, which was inspiring for students to succeed themselves. Utilising senior students in tutor roles, particularly those with clinical experience, helped students gain confidence and self-belief that they too could progress through their health professional training.

Help

> **Trigger:** One of the years above us – he came back down to help us do OSCEs [practical exams], and that was just a really informal thing that he did. He just offered himself. **Action:** I think he got in touch with one of the co-ordinators and they set it up, but just having that link to somebody in an older year that's done it before – they've experienced it all themselves. **Outcome:** he was able to give us really good advice, and calm our nerves a bit about how hard or how easy it might be. Yeah, I thought making a connection between the years is really good, because they've been through it and if they give you – if they say we can do it, then it kind of gives you a bit more hope and confidence. So, that was one thing that MAPAS did.

Undergraduate programme

The *Undergraduate Programme* context represents incidents associated with student experiences of racism, the organisational factors of the programme, how staff characteristics impact learning, the importance of linking theory to practice, providing a learning context that endorses Māori cultural values and the effects of a highly competitive first year of health study.

Student stories provided rich accounts of negative experiences associated with having to defend various Māori issues from stereotypical and prejudiced discourse when engaging with their non-Māori peers and educators within multiple teaching and learning settings. Key experiences included the need to defend the presence of the affirmative action programme, MAPAS, to peers and clinical educators, accusations of unfair privilege being awarded to them as Māori students (because of the receipt of academic assistance including preferential entry) and expectations on Māori students to defend the presence of Māori health within the curriculum. Students described these experiences as harmful, stressful, isolating and hindering to their own learning.

Hinder

> **Trigger:** But Māori in general have been treated badly, like talked about badly because they are stereotyped in class by the professors. **Action:** It has actually happened in other settings like tutorials. I went to a rheumatology tutorial and the case was an ex-Māori All Black with

gout, because he went drinking and he ate seafood and he doesn't wear shoes, and they just put all these stupid little kind of details in the case. Like everyone laughs at it but that adds to the stereotypes. Why does it have to be a Māori? **Outcome:** So I think the decisions that some clinicians make, when they lecture us, to use Māori patients, can be harmful. So I think that affects the way the other students see us and affects their practice in the future.

A number of students discussed negative and unsafe experiences associated with experiencing Māori Health Week[2] (MHW) as a Māori student. These experiences included exposure to non-Māori student backlash about having to attend Māori Health Week that was aimed at Māori students. Despite this, students acknowledged the importance of Māori Health Week in the curriculum, with benefits including exposure to Māori health content, learning to pronounce Māori names correctly, and forcing students to 'think' about Māori health issues, which was noted to be beneficial to all students.

Hinder

Trigger: [Mainstream student's resistance to Māori Health Week]. **Action**: a lot of mainstream students just resent that week. Like, they are just anti it. They don't want to go; they just don't even want to participate and that kind of stuff. **Outcome**: This is what the mainstream students complain about to us. I didn't feel safe and we always felt like, well, not "not safe" in that "oh someone was gonna hurt us" but just like, we always, we felt like we were gonna have to defend ourselves for the whole week.

Teaching staff characteristics had an impact on Māori student learning. Clinical learning environments were not always positive for students, particularly if they felt that the consultant was not focussed on their learning or providing active learning situations. Perhaps more concerning, students noted how teaching staff within clinical tutorials were not always approachable or would make students feel embarrassed, which hindered learning and reduced attendance.

Hinder

Trigger: clinical tutorials in the hospital. **Action:** Sometimes I'd avoid those tutorials because if I knew that it was a certain person, or certain lecturer, consultant that was taking it that just liked to grill students just for the sake of grilling them, everyone would just avoid them. I know I did, I didn't go to some of the clinical tutorials... And, yeah, I don't know, it's kind of like you just get over yourself and go, but then I wouldn't have learnt anything anyway because I would have been too worried about getting picked out, then making a fool of myself and then not actually taking anything from that experience. **Outcome:** [So I would] miss out on that learning opportunity.

Positive staff characteristics that were helpful included clinical educators who were focussed on student learning needs, had a friendly demeanour and were enthusiastic about student learning.

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[2] A four-day, multidisciplinary, teaching and learning experience involving both lecture and non-lecture activities, focused on the broader socio-economic determinants of Māori health for Year 2 medical, nursing and pharmacy students.

Trigger: he [Registrar] taught about 12 of us just in a small group in our own room. **Action:** He had a little slide presentation. He had a really good demeanour and he was really easy to get along with, and it was obvious that he really wanted to help us learn. So, it didn't just feel like any other tutorial. It was, I don't know, I felt like he was really doing us a favour by being as enthusiastic as he was, and **Outcome:** like it just really helped our interest. ...If I know the answer to a question, I don't necessarily say it. I just think about it to myself, but he was such a good Registrar that I just felt really comfortable...

The way in which teaching and learning within the programme is organised both helped and hindered students. Unhelpful factors included the effects of class location, non-clinical timetables, tensions between attendance at clinical tutorials and clinical team bonding, and clinical teaching undertaken by busy consultants.

Hinder

Trigger: [What] didn't help was. **Action:** Same with the labs. It was like a 3 hour lab and before that you had a couple of classes so you'd like run up the hill to Grafton, from City, after chasing the bus from Tāmaki. **Outcome:** because you are in between different campuses, it's hard sometimes. For some labs we had to bring like lab coats and glasses, safety glasses, different stuff and you forget it so you had to pay to borrow those items.

Programme provision of teaching and learning opportunities that facilitated the linking of theory to practice were positive for Māori students.

Help

Trigger: The labs were helpful. **Action:** So like when we did the labs we would do the practical part and we would put the solutions together, say, and come up with our answer and then we would have to go through and answer a whole lot of questions about what we had just done and it was a real like, sort of a link, the practical stuff we have just done with the stuff we had learnt in lectures. **Outcome:** And it just really clarified everything. Like, it brought everything together.

Students referred to a lack of safety to openly demonstrate Māori cultural values within the tertiary medical and clinical environment because of fears of being judged and not understood by non-Māori assessors. This was evident for one student who noted that their clinical assessors are required to assess them on the Hauora Māori Domain; however, they felt that the educators lacked the skills necessary to make this assessment. The student was left feeling that the Hauora Māori Domain was not a priority area of learning.

Hinder

Trigger: the doctor has been quite patronising in that way of palming off all her Māori patients to me. **Action:** There is an assessment of your Hauora [Māori] understanding and an assessment of your clinical understanding, they don't worry too much about the [Hauora] Māori part, they just tick it or sign it off. Even if they haven't really tested your knowledge on that. **Outcome:** But I just think there is a lack of understanding and the clinical teachers that they choose for us for the Māori domain – they just put it in the "too hard basket" and you know they don't take it seriously.

Student narratives talked to the importance of Māori cultural values and lack of incorporation of these values by their programmes. For example, Māori cultural values include the notions of tapu and noa (sacred and un-sacred), with the deceased and particularly the head, representing one of the highest levels of tapu. Medical students engaging in the dissection of cadavers have to navigate their way through the requirements of their medical training and the requirements of Māori cultural practice. One student notes how they specifically avoided cadaver dissection, highlighting the need for programmes to acknowledge and address these concerns for Māori students. For example, the introduced practice of *whakanoa*, the use of Māori cultural prayers prior to students first entering the dissection room, helped the student to feel comfortable and engage in dissection despite their cultural concerns.

> ### Help
> **Trigger**: Work with the human tissue in cadavers – we had a whakanoa. **Action**: Whereas before that we had real trouble with it and how to make it normal with the beliefs that Māori had with the bodies, so it was a real unusual position to be in, but you just have to make it fit so you can learn. **Outcome**: [the whakanoa] was really good for the Māori students I think, because it considered the spirituality of Māori and felt like you could actually get on and do it.

The structure of undergraduate health programmes includes a first year of study known as Overlapping Year One (OLY1), where students 'compete' for places within the medical programme. The University's use of a competitive first year of study for ongoing medical study was noted by students as being unhelpful and stressful; however, MAPAS was able to act as a buffer to this negative context.

> ### Help
> **Trigger:** it's a competition. **Action:** like I don't know, you just, I thought it was, and because you could tell it was a competition, like things like asking people to borrow their notes, if they weren't MAPAS they would never say yes, they are, like, "no you missed the lecture, that's too bad" but things like just that kind of stuff is people are all out for themselves, they weren't in to help each other, they were out to make themselves get into med and no one else. **Outcome:** that's why MAPAS was so helpful because everyone wanted to get each other in and they were really helpful.

Māori student whanaungatanga

The *Māori Student Whanaungatanga* context represents incidents associated with activities that support students getting to know each other within cultural and group learning contexts in order to foster the development of supportive social and academic networks.

There are many stories from students talking to the importance of relationship building between Māori student peers, both within and across years and programmes. Factors that helped to foster these relationships included MAPAS events and activities and the three-day wānanga or Freshers' camps held at beginning of the academic year. Attendance helped students to build social networks and fostered supportive learning environments for students entering their programme of study.

Help

Trigger: our [cohort] meetings kind of to catch up. **Action:** because there's a lot of times where you're just like "oh, my gosh I think I'm going to fail this subject", "this is just so hard, I'm studying every night and I still don't feel like I know anything" and then you come to a meeting with like all your friends from MAPAS and then they're like "oh, well, yeah I hate it too, it's really hard too, I want to quit too" [laughs] but you know you won't because we're all here together doing it. That was really good having, kind of, those meetings and yeah, I was lucky to have it as a MAPAS [student]. **Outcome:** It's a whole group of other people, so that kind of like helped me learning by keeping me motivated.

Similarly, student attendance at hui/conferences organised by the Māori professional organisations (e.g. Te Ohu Rata o Aotearoa) helped students feel supported, facilitated the provision of peer advice and reduced feelings of isolation by providing a greater sense of belonging.

Help

Trigger: Yeah, and this year I went to the Te Reo wānanga weekends [organised by Te ORA]. **Action:** and that's like Otago Māori medical students as well and you have a weekend away at a marae and you learn a bit more te reo [Māori language] and do some waiata [Māori songs]. **Outcome:** and that's just, it was really cool to network with them and to meet students from the other years and, you know, get some good advice from them.

The following student refers to the pressure of medical study and the importance of having a Māori specific academic and pastoral support programme such as MAPAS to counter the demanding nature of the programme and provide motivation to continue.

Help

Trigger: support from MAPAS. **Action**: You know, it was to help people and all that kind of stuff. I think med school has a really good way of really just beating it out of you because you're just so worried about trying to get through, you know, your assessments and your exams and having MAPAS there and having, just in the respect you could meet together as a group and actually just talk about, you know, experiences, and why it is and that reminds you about why you actually want to be at med school. **Outcome**: [MAPAS] really kind of grounds you and brings you back to, like, the real reasons why you went into med school.

Programmes that helped to facilitate students getting to know other students via group work helped expose students to different learning styles, which helped their own learning.

Help

Trigger: In our fourth year the pharmacy school kind of split us all up. **Action**: We were assigned to groups that we would do tutorials and workshops and labs together...so because they split us up, we just didn't stick with our same teams so that way it was good because we, like, I found that a lot of other students come through that, you know, everybody learns different and stuff, so being split up like that you're exposed to other students and see how they learn and so you can kind of think "Oh", you know like "That's the way they're learning, I could benefit from learning something that particular way as well". **Outcome**: So being exposed to other students and their ways of learning helps to, like, make my learning a bit easier as well.

Quality Tertiary Teaching Profile

Introduction

The QTTe Profile describes the characteristics of teaching and learning practices that support Māori student success in undergraduate study settings. The QTTe Profile forms the basis of co-constructed organisational and professional development interventions to improve success for Māori students in undergraduate health education.

Project team members developed the QTTe Profile directly from the categorised incidents. Each incident was reviewed and further identified within five broad levels of instruction to guide institutions wishing to better support Māori students studying towards health degrees in tertiary environments.

This was an iterative process that required the project team members to actively review and discuss each incident in order to assign the incident to the most appropriate QTTe context. It is acknowledged that a single incident could potentially be assigned within multiple QTTe contexts; however, the project team developed basic systems to assist them in this process. For example, if the incident directly discussed a specific teaching and learning method, then the context for categorisation was prioritised to *"Use effective teaching and learning practices".* If an incident talked in general to an academic support issue (e.g. MAPAS tutorials being helpful) and did not discuss a specific teaching and learning method, then the incident was categorised as *"Provide academic support that is culturally appropriate"*. Incidents directly discussing issues referring to notions of cultural appropriateness or cultural values, experiences of racism or factors impacting on student's ability to operate within a culturally appropriate context were prioritised to "*Provide a culturally safe learning environment"*. Incidents that spoke specifically to student cohort bonding and associated activities were prioritised to *"Encourage cohort cohesiveness"*. And finally, general reference to pastoral support issues were categorised to *"Provide pastoral support that is culturally appropriate"*.

The following QTTe Profile draws from the incident findings to provide general conclusions and advice for institutions using the *Tātou Tātou* data as a basis for any conclusions or recommendations. A brief exploration of the *Tātou Tātou* findings and QTTe Profile with respect to the broader literature base is provided in the discussion section of this report. The project team intends to expand on these issues further within future submissions of the *Tātou Tātou* findings to peer-reviewed journals.

Use effective teaching and learning practices

In order to guarantee Māori student success, it is important for educational institutions to provide non-lecture-based teaching and learning contexts for Māori students. Learning environments for Māori students should be Māori-centred, have small class sizes, and be delivered within culturally safe learning environments. Educational institutions need to ensure that teaching methods are interactive and creative, provide opportunities to link theory to practice and are rich in content. Educators should eliminate the use of ridicule and shame as teaching techniques and focus on actively engaging Māori students in the learning process. Educational institutions need to ensure that programmes include appropriate Māori health curriculum, and that this curriculum is delivered in a way that is conducive to positive student learning experiences. Programmes have a role to play in addressing transitioning issues for students and, where possible, should provide academic transitioning skills to Māori students within the broader teaching and learning environment.

Use effective teaching and learning practices

- *Provide non-lecture teaching and learning that is:*
    - Māori-centred
    - Small in class size
    - Culturally safe
    - Content-rich
    - Interactive and creative
    - Able to link theory to practice

- *Address educator teaching skills to:*
    - Be student-focussed
    - Eliminate ridicule/shame

- *Develop programme structure to:*
    - Incorporate positive Māori curriculum content
    - Incorporate Māori cultural values
    - Incorporate academic transitioning skills within programme

Provide academic support that is culturally appropriate

Educational institutions should provide Māori students with additional high-quality academic support (e.g. tutorials) that is culturally appropriate and delivered within both clinical and non-clinical years of study in order to support Māori student success. Academic support that is culturally appropriate and has a positive impact on Māori student learning means providing Māori appropriate tutors who are Māori, act as positive role models, are connected with Māori students and Māori-specific issues, who know the course content, and who create culturally safe learning environments. Educational institutions should provide Māori students with resources such as separate, safe learning spaces that are culturally appropriate. Success for Māori relies on institutions ensuring that Māori students have access to other resources such as computers, textbooks, food and allocated study time within culturally specific and safe learning environments. The provision of Māori-specific academic support staff is essential to Māori student learning and success. Institutions should also ensure that Māori students have access to senior Māori academics and role models within the tertiary environment. Educational institutions need to acknowledge that Māori student peer support networks facilitate Māori student success and, therefore, they should provide opportunities for Māori students to develop and maintain such support networks wherever possible.

Provide academic support that is culturally appropriate

- *Provide additional academic support that is of high quality:*
    - Māori-appropriate tutorials and tutors (safe, role models, connected to Māori students and Māori issues, know content)
    - Clinical and non-clinical settings

- *Provide Māori-specific resources:*
    - Separate, safe cultural teaching and learning space
    - Study space, computers, printers
- *Provide Māori academic staff support:*
    - Positive Māori support staff
    - Māori academics

- *Actively develop student – student interactions:*
    - Support Māori peer support activities (e.g. study groups, study tutorials)
    - Incorporate Māori cultural values
    - Address transitioning issues

Provide pastoral support that is culturally appropriate

The provision of pastoral support that is of a high quality and is culturally appropriate is essential to Māori student success within undergraduate programmes. Pastoral support that is culturally appropriate should include Māori support staff who can operate within both Māori and tertiary education paradigms. Support staff must be aware of and understand Māori student issues including Māori cultural issues; foster Māori student independence; support student navigation of university processes; and support students with pastoral transitioning issues. Pastoral support staff should be professional in their support practices and avoid making students 'friends' or 'buddies'. Professional pastoral support should, therefore, support students to successfully achieve independence in preparation for health professional practice. Pastoral support should also be a conduit to the provision of appropriate resources (e.g. food, counsellors, academic support, role models or mentors).

Provide pastoral support that is culturally appropriate

- *Provide additional pastoral support that is of a high quality*
    - o Staff can operate within both Māori and tertiary education paradigms
    - o Staff are aware of and understand Māori student issues, including cultural issues
    - o Staff act professionally at all times

- *Foster student independence and navigation of university processes*
    - o Support transitioning
    - o Avoid student reliance on pastoral support staff
- *Act as a conduit to resources*
    - o Study aids (food, study space, computers, printers)
    - o Counsellors
    - o Role models/mentors

Provide a culturally safe learning environment

Educational institutions should ensure that learning environments are culturally safe for Māori students. As already noted, separate, safe student learning spaces must be created that are Māori-specific and appropriate. These learning spaces should include appropriate study space, and other resources such as food to facilitate whanaungatanga (e.g. verbal discussions amongst Māori students over the sharing of kai/food). Educational institutions should address racism within programmes and learning environments including prejudiced attitudes of non-Māori students towards Māori students and towards the Māori health curriculum. Action that eradicates stigma and stereotyping associated with Māori admissions schemes (MAPAS) and ensures non-Māori understanding and support for affirmative action is imperative. Educational institutions need to ensure that Māori curriculum content such as Māori Health Week, Māori Health Domain and Māori Health Assessment are valued as an important part of the undergraduate programme. Tertiary educational programmes must facilitate positive non-Māori attitudes towards Māori; create culturally safe learning environments; allow Māori students to be Māori within programmes; and incorporate Māori cultural values within learning environments.

Provide a culturally safe learning environment

- *Create safe Māori student learning spaces that*
    - o Are Māori (and Pacific)-specific and appropriate
    - o Facilitate whanaungatanga, verbal discussions, sharing of food
    - o Provide resources (computers, printers)

- *Address racism*
    - o Eliminate stereotyping, prejudice, stigma
    - o Address privilege
    - o Aim to be non-victim blaming

- *Develop positive attitude within institution towards Māori curriculum content*
    - o Incorporate positive Māori cultural values into curriculum (e.g. whakanoa)
    - o Address hidden curriculum

Encourage cohort cohesiveness

Institutions must actively foster student whanaungatanga, that is, supportive and collaborative whānau relationships and networks within the Māori student cohort in and across years and programmes. To support Māori students to develop these networks, institutions should provide a range of opportunities including wānanga, cohort meetings, cultural space, tutorials and group learning. These activities should be peer-oriented and provide opportunities for Māori students to associate with Māori peers and role models. They should using Kaupapa Māori frameworks where activities are Māori-focussed, Māori-led and Māori-appropriate. Institutional financial support is required to support these activities for Māori student success.

Encourage cohort cohesiveness

- *Foster supportive, collaborative whānau relationships and networking within Māori student cohort*
    - In and across years and programmes
    - Peer-to-peer-orientated +/- role models/mentors
    - Wānanga, cohort meetings, space, tutorials, group learning.
- *Conduct cohort activities within a Kaupapa Māori framework*
    - Māori-focussed
    - Māori-led
    - Māori-appropriate

- *Provide tertiary institutional support*
    - Actively develop student-to-student interactions
    - General support staff
    - Māori academics
    - Central equity funding and faculty funding

Discussion

This study aimed to identify the teaching and learning practices in non-lecture contexts that helped or hindered Māori student success in degree-level study in nursing, pharmacy, medicine and health sciences, and what changes are needed to teaching and higher education practices in order to best support Māori success.

A total of 1,346 critical incidents were identified within the clinical, non-clinical or non-programme aspects of the medicine, nursing, pharmacy and health sciences. Sixty-seven percent (898) of all identified incidents helped and 33 percent (448) of all incidents hindered Māori student success. The majority of student stories related to the provision of *Māori Student Support Services* (789, 59 percent), with most of these incidents being helpful (69 percent) rather than hindering (31 percent). The second context of student stories related to the *Undergraduate Programme* (375, 28 percent), which had a mixed picture of helpful versus hindering incidents (53 percent versus 47 percent respectively). Although the third context represents a smaller proportion of stories associated with *Māori Student Whanaungatanga* (182, 14 percent), the narratives were predominantly helpful rather than hindering (87 percent versus 13 percent).

A QTTe profile was developed to represent the data within five broad levels of instruction to guide institutions wishing to better support Māori students studying towards health degrees in tertiary environments. Based on our findings, quality tertiary teaching for Māori students within health programmes should: (1) *Use effective teaching and learning practices;* (2) *Provide academic support that is culturally appropriate;* (3) *Provide pastoral support that is culturally appropriate;* (4) *Provide a culturally safe learning environment; and* (5) *Encourage cohort cohesiveness.*

Tātou Tātou findings support the need for tertiary institutions to provide additional Māori student support services, with a particular focus on the fostering of whakawhanaungatanga between students and their peers. Student narratives highlighted the importance of Māori student support staff, activities and resources as being helpful factors leading to their success. This is consistent with findings from the tertiary environment in general. For example, Prebble et al (2004) reviewed the effect of institutional support practices on student outcomes in New Zealand and showed that "institutions can influence the integration, retention and course completion rates of their students by providing comprehensive and well-designed support services" (p. 11) (Rivers, 2005). Similarly, the Ministry of Education (2009: 9) notes that Māori students appreciate a tertiary environment that recognises their "physical, spiritual and emotional needs" and recommends a learning environment that is based on "trust, a sense of belonging and safety". Fostering whakawhanaungatanga within a tertiary environment facilitates the use of positive cultural practices (e.g. karakia, tikanga and manaaki), and assists the creation of sense of belonging for Māori students (Ministry of Education, 2009).

In contrast to the positive influence of Māori student support, our findings describe the undergraduate programme and tertiary environment as unsafe and hindering Māori student success. In other words, the 'non-Māori' tertiary environment hindered, and the provision of Māori specific support helped, Māori students within our study. This finding is not new and has been observed elsewhere. Morunga (2009: 4) notes that "the experience of Māori students in the tertiary environment has often been one of alienation and isolation. They are encountering Western paradigms and dynamics that oppose their Māori culture".

Whilst our findings fully support the need to provide additional support to Māori students, tertiary institutions must also ensure that institutional change occurs to make the broader environment safer for Māori students. It is not enough to create safe havens for Māori students within the faculty; the faculty itself must become safe for Māori students. Such an approach requires a commitment to enhance student resilience and achieve institutional change. As noted by Zepke and Leach (2007), both integration (that is, where learners adapt to institutional pedagogical norms) and adaptation (that is, where institutions adapt to the diverse nature of students) approaches to tertiary education are required in order to improve student outcomes.

Given this context, our findings support the need for tertiary institutions to address the under-representation of Māori staff (particularly within academic leadership positions), facilitate Māori input and control of curriculum content and design, and provide ongoing support for affirmative action in order to increase the number of Māori students within the institution.

Tātou Tātou findings highlight the importance of the educator to student success as this role can be both helpful, and hindering, within non-lecture contexts. Key success factors included the ability of educators to develop trust, demonstrate cultural safety and utilise high-quality teaching and learning methods whilst having an excellent grasp of the content required. Zepke, Leach and Prebble (2005: 3) support the need to foster relationships between students and their teachers because the relationships "are a key factor in determining retention or early withdrawal". Madjar, McKinley, Daynzer and van der Merwe et al. (2010: 54) discuss the large size of first-year degree lectures as contributing to student's feelings of isolation and note that "tutors, on the other hand, were more likely to be down to earth, friendly and helpful. Overall students liked and were more easily engaged by teaching staff who were passionate about their subject, articulate, physically expressive, used interesting illustration, and had a sense of humour".

Unfortunately, students were able to cite incidents where their clinical and non-clinical educators fell well short of these expectations. For example, the inability of some educators to effectively assess the Hauora Māori Domain represents poor content knowledge and a devaluing of Māori curriculum content. This issue is currently being investigated as part of another study funded by Ako Aotearoa that aims to identify how educators can be supported better to assess Hauora Māori within the Faculty of Medical and Health Sciences (Jones, et al., 2010).

Overall, our findings support the need to explore notions of a *hidden curriculum* that may be operating within clinical and non-clinical health professional training programmes. Hafferty (1998: 404) notes that not all of what is taught in medical training, for example, is captured in course guides or curriculum plans. Rather, a great deal of what is taught occurs outside of the classroom "in the elevator, the corridor, the lounge, the cafeteria or the on-call room". Hafferty and Franks (1994) argue that "most of the critical determinants of physician identity operate not within the formal curriculum but in a more subtle, less officially recognised 'hidden curriculum'". The role modelling provided by physicians who devalue Māori health assessment may represent one example of a hidden curriculum operating within our findings.

Tātou Tātou findings also highlighted the influence of student interactions on Māori student success. Supportive, culturally re-affirming interactions that created a family and community environment helped Māori students. Tertiary institutions should ensure that Māori students have opportunities to bond with each other as well as amongst their broader peer base. Prebble et al. (2004) note that

student outcomes are likely to be enhanced when tertiary institutions provide opportunities for students to establish social networks outside of formal academic contact.

Not surprisingly, prejudiced, stereotyped or overtly racist interactions with student peers hindered Māori student success. Similar findings were found for Aboriginal medical students in Australia, who reported "being affected by discrimination directed both at an individual student and at indigenous people as a group" (Garvey, Rolfe, Pearson, & Treloar, 2009). Tertiary institutions, therefore, have a role to play in overcoming these issues by incorporating a curriculum that provides anti-racism education, explores white privilege (Borell, Gregory, McCreanor, & Jensen, 2009; McIntosh, 1988) and reduces the potential for studenttostudent racism occurring.

In summary, *Tātou Tātou* findings support the need for institutional changes to occur within the context of the broader tertiary environment, at the level of the educator and the student. The QTTe Profile identifies specific instructions for institutions wishing to better support Māori student success within health professional study.

Strengths

Overall, this project has a number of strengths related to the research methodology/methods. For example, the use of the Critical Incident Technique (Flanagan, 1954) provides a unique way in which this research is able to capture and express the Māori student voice including thoughts, feelings and experiences. The qualitative interview technique used also enables the student to express their views in their own words and for the researchers to further explore issues and factors that help and/or hinder student success to a depth not usually available from quantitative surveys (Victoroff & Hogan, 2006). Kaupapa Māori research methodology is consistent with a rights-based approach to research, within which the rights of Māori as tangata whenua and Treaty of Waitangi partners are acknowledged (L. Smith, 1999) and Māori rights to equitable health are addressed (Reid & Robson, 2007). Kaupapa Māori research specifically rejects and avoids victim-blaming and cultural deficit (Bishop, 2003) theoretical approaches, and therefore enables the researchers to interpret research findings from a Māori perspective that foregrounds Māori world views. This research is strengthened by the inclusion of Māori students who have both clinical and non-clinical teaching and learning experiences. Particularly, this allows exploration of factors which help or hinder Māori student success in clinical learning environments, an area that was largely unexplored. Including both MAPAS staff and programme teaching staff from each of the four disciplines within the research team, and particularly during the data analysis phase, strengthened the collaborative relationship between undergraduate programme and Māori student support services. This also facilitates dissemination of project findings with the university via programme staff acting as advocates for Māori student teaching and learning success factors within their respective programmes.

Limitations

This project aimed to explore the helpful (and hindering) success factors for Māori students within three teaching and learning domains: clinical, non-clinical, non-programme. Student information specific to clinical teaching and learning settings was content rich and provided new insight into these learning contexts. Although our findings speak to helpful and hindering factors across the

Māori support services, undergraduate programme and Māori student whanaungatanga contexts, further explanation and reporting may be helpful to fully understand and explore each of the clinical, non-clinical and non-programme learning contexts individually. In addition, separate reporting of the experiences of Māori students within each individual programme (medicine, health sciences, nursing and pharmacy) could be carried out to enable understanding of programme-specific issues and to inform individual programme development.

Implementation of the QTTe Profile should be accompanied by data collection, tracking, analysis and reporting that links QTTe activities with measurable student outcomes. Outcomes should be used for ongoing refinement of the QTTe Profile, which is relevant to the local contexts in which it is being applied.

Dissemination

Preliminary *Tātou Tātou* findings have been disseminated via presentations at conferences, research seminars and colloquiums during the project period to date including:

- Ako Aotearoa Research in Progress Colloquium I, Auckland, 9 September 2009
- Ako Aotearoa Research in Progress Colloquium II, Wellington, 16 July 2010
- Ako Aotearoa Research in Progress Colloquium III, Wellington, 4 May 2011
- CMHSE (Centre for Medical and Health Sciences Education) Seminar, Faculty of Medical and Health Sciences, The University of Auckland, 16 May 2011
- BioLive Conference, Auckland Grammar School, 17 July 2011
- Tōmaiora Research Seminar, School of Population Health, The University of Auckland, 11 October 2011
- LIME (Leaders in Medical Education) Connection Conference IV, Auckland, 29 November 2011.

Ongoing dissemination plans include publication in peer-reviewed journals (a key priority), presentations at seminars (both internal and external) and national or international conferences.

Conclusion

The *Tātou Tātou* research project investigated Māori student success in degree-level tertiary education. The findings identified non-lecture teaching and learning factors that helped or hindered Māori student success within the nursing, pharmacy, health sciences and medicine programmes offered within the Faculty of Medical and Health Sciences, The University of Auckland.

Tātou Tātou findings support the need for institutional changes to occur within the context of the broader tertiary environment, at the level of the educator and the student. A QTTe Profile has been developed that provides specific instructions for institutions wishing to better support Māori student success within health professional study.

The challenge remains for tertiary institutions to utilise these findings in order to achieve equity in educational outcomes for Māori students training to become health professionals.

Appendix A: Context synopsis

Sub-category	Help / Hinder
Undergraduate Programme	

Racism/Stigma towards Māori	**Hinder**
	• Exposure to non-Māori students' racism towards Māori
	   o Stigma of Māori/MAPAS students and admission schemes
	   o Negative Pākehā discourse/backlash and resistance to Māori health teaching
	   o Views that Māori curriculum is not important
	• Exposure to unsafe student cohort experiences as Māori/MAPAS
	   o Having to defend Māori health curriculum to non-Māori students
	   o Feeling unsafe within the learning environment associated with non-Māori student backlash to Māori Health Week
	   o Having to 'prove' themselves to non-Māori peers to avoid racist experiences
	   o Distancing self from MAPAS support to avoid being "bashed by Pākehā"
	   o Isolation from broad student cohort
	• Teaching that stereotypes and uses victim–blaming approaches towards Māori patients and its impact on non-Māori student attitudes to Māori
	• Teaching staff who are racist and stereotypes towards Māori students (clinical and non-clinical)
	   o Negative connotations associated with stigma of MAPAS and 'stealing medical places'
	• Medical school not being portrayed as Māori
	
	Help
	
	Māori curriculum content (e.g. Māori Health Week)
	Protection during Māori Health Week (Māori student grouping)
	Positive peer discussions facilitated by Māori Health Week
	Exposure of non-Māori students to Māori Health Week and Māori health issues
	MAPAS support to have a Māori approach to competitive Pākehā university environment
	Motivation to succeed as a Māori student despite stigma from non-Māori students

Teaching staff characteristics	**Hinder**
	• Clinical teaching staff who:
	   o Are not focused on student learning
	   o Do not provide active learning situations
	   o Ridicule and constantly challenge students
	   o Make students feel embarrassed, 'dumb' and 'stupid'
	   o Do not understand the Hauora Māori Domain assessment
	   o Expect Māori students to be experts on Hauora Māori Domain
	• Non-clinical teaching staff talking 'down' to students
	• Teaching staff not being approachable
	
	Help
	• Clinical educators who are friendly, enthusiastic about and

		focussed on student learning
Programme organisation	Hinder • Lack of congruency between timetables and class locations • Frightening first clinical attachment experiences • Clash between clinical study and tutorial timetabling • Rushed clinical teaching • High knowledge expectations from consultants • Being made to feel 'dumb' whilst learning • Lack of feedback from clinical assessment Help • Providing 1:1 clinical learning opportunities • Laboratory learning environments	
Linking theory to practice	Hinder • Learning opportunities that linked theory to practice • Clinical experiences where theory was consolidated clinically Help • Non-Māori clinical educators' lack of understanding of Māori students concerns for Māori patient cultural values	

Programme incorporation of Māori cultural values	Hinder
	• Programme
	   o Teaching contexts that do not acknowledge different cultural learning styles
	   o Māori student respect for older educators (e.g. not dominating learning conversations) being misinterpreted as lack of confidence and knowledge
	   o Lack of flexibility to include cultural values within the programme
	• Lack of safety to openly demonstrate Māori cultural values within tertiary medical and clinical learning environments
	• Fear of being judged and not understood about Māori health by non-Māori assessors
	• Tension/clashes between mainstream learning context and maintaining Māori cultural values
	   o In clinical and non-clinical learning contexts
	   o Clinical staff who do not understand these tensions
	   o Students having to navigate tensions themselves (e.g. tangi)
	   o Lack of support for students to navigate tensions
	   o Pressure to ignore and/or suppress Māori cultural values and priorities
	• Clinical educators
	   o Lack skills necessary to assess Māori Health Domain
	   o Do not take Māori Health Domain assessment seriously
	• Lack of acknowledgement of Māori cultural beliefs or proper processes when required to dissect cadavers
	Help
	• MAPAS
	   o Support for pastoral issues (e.g. tangi)
	   o Understanding of Māori cultural values
	   o Support to navigate competing academic and cultural	

	expectations and priorities
	• Programme
	  o Acknowledgement of Māori cultural beliefs associated with deceased people
	  o Use of proper Māori cultural processes (e.g. Māori prayers, Whakanoa) when engaging in dissection
	• Student respect and acknowledgement of the spiritual realm (wairua) when dissecting cadavers
	• Clinical attachments
	  o Located close to student's tribal area
	  o High Māori patient numbers (e.g. rural Māori settings)

First year of health study (OLY1 competition)	Hinder
	• Competition with other students for places in medical programme (OLY1)
	Help
	• MAPAS
	  o Support for student collaboration/cohesion
	  o Valuing family (whānau) approach (e.g. working together)

Māori Student Support Services	

MAPAS and Tuākana tutorials	Hinder
	• Unstructured tutorials
	• Tutors who were unprepared, not Māori, lack good quality teaching skills, don't know course content
	• Lack of MAPAS/Tuākana tutorials in clinical years
	Help
	• Māori-specific (MAPAS) tutorials in both pre-clinical and clinical years
	• Tutors
	  o Familiar with course content (e.g. directed study)
	  o Clinical doctors/registrars as tutors
	  o Use creative teaching methods
	• Learning environment
	  o Supportive
	  o One-on-one/small group learning for Māori
	  o Being able to ask questions directly to tutor
	  o Safe learning environment for asking questions
	  o Not being made to feel 'dumb' or 'stupid'
	  o Environment of the room (layout)
	• Content
	  o Different student study techniques
	  o Exam preparation content
	  o Student group discussions/group learning
	• Motivation to contribute to group study

Resources	Hinder • Limited access to/competition for resources (computers, text books) • No computer/Internet access at home • Managing financial responsibilities and living costs whilst studying • Working to support families and meet basic living costs whilst studying

41	• Absence of Māori-specific learning space on campus
	• Learning environments with noise restrictions (e.g. library)
	Help
	• General resources (e.g. past exam papers, libraries on campus, CECIL - Online course resources, group study rooms)
	• Financial
	   ○ Clinical attachments in locations with reduced living costs
	   ○ External (MPA) funding of textbooks for Māori students
	• MAPAS
	   ○ Support to access scholarships
	   ○ MAPAS study space (e.g. study space, food, study weekends)
	   ○ Māori student collaboration (sharing meals, sharing study notes across cohort years)
	   ○ Māori-specific learning space (safe, comfortable environment where students can relax and 'belong', do not feel ashamed)
	      ▪ On campus, meets student capacity, textbooks and computers within space
	      ▪ Other Māori studying within space

Academic transitioning	Hinder • Unfamiliarity with demands of academic/workload responsibilities • Lack of basic study skills (e.g. how to study, how to read text books) • Being unprepared for taking responsibility for their own learning • Differing levels of teaching support at university compared to secondary school • Adjusting to changing living arrangements and city life • Balancing personal responsibilities (whānau and child care) with academic responsibilities (study and class time) • Teaching staff not being approachable • Feeling like they were taking up other students' time with lecturers Help • Māori-specific secondary school recruitment programmes • Support to gain academic study skills (e.g. essay writing) • Incorporation of study-skill learning into course assessment (e.g. reading logs) • Opportunities for self-directed learning in clinical settings • Access to past exam papers • Pastoral support provided through MAPAS • Acknowledgement of Māori student success along their learning pathway

MAPAS staff and Māori academic staff	Hinder
	• Lack of senior Māori academic representation at Board of Examiners
	• MAPAS staff changes
	   ○ Adjusting, repeating rapport building processes and explanations of ongoing needs
	   ○ Staff vacancies/understaffing
	• Adapting from 'friendly' MAPAS support to more structured and

	academic support

	Help
	 • Senior Māori academic staff
	     o Support to act on Māori student concerns
	 • Māori teaching staff/role models (pre-clinical and clinical)
	 MAPAS coordinators
	     o Support for navigation of tertiary environment (e.g. process for compassionate consideration)
	     o Coordination of MAPAS tutorials, study space, study weeks, study groups
	     o Pastoral support

Māori mentoring and role models	**Help** • Senior Māori student role models/mentors • Successful Māori peers • Mentors with clinical experience **Hinder** • Non-Māori mentors who don't understand both academic and socio-cultural pressures for Māori
Māori Student Whanaungatanga	
Supporting whakawhanaungatanga	**Help** • Opportunities for relationship building with Māori students both within and between study years (e.g. hui, conferences, Te Ora, wānanga/camp) • Māori (MAPAS) pastoral and academic support • Māori students within programme • Belonging to MAPAS/Māori student whānau unit/support network • Peer social activities • Group learning opportunities **Hinder** • Student competition associated with OLY1 • 'Lonely' tertiary environment for Māori
Group learning	**Help** • Peer group learning • Student information sharing in supportive environments • Online discussion boards • MAPAS student study groups

Appendix B: Validity and reliability testing

Validity and Reliability Testing (VRT) was used to test the soundness and trustworthiness of the categorisation system. The following questions guided the VRT: (1) Could the researchers working independently of each other use the categories and sub-categories in a consistent way? (2) Were the categories and sub-categories comprehensive? (3) To what extent and in what ways were categories and sub-categories consistent with expert commentary on good practice in undergraduate teaching?

First round:

Independent Reviewers representing each programme (e.g. academic teaching staff) were given 20 incidents to match with combined pairs of categories and sub-categories. The synopsis of categories and sub-categories was not provided. Outcomes included:

Pharmacy – 90% (M. Jensen) Nursing – 35% (D. Rowe)

BHSc – 60% (M. Jonas) Medicine – 65% (P. Poole)

Feedback was that the reviewers were a bit rushed during this process (due to the quick turnaround times requested of them). Some reviewers did not follow instructions and used pairs of categories and sub-categories for more than one incident. Sometimes the correct sub-category but incorrect category were matched (or vice versa). On review by the team, the incidents provided to the reviewers were not the best incident examples, and it was understandable how the reviewers came to their conclusions, particularly without the broader context and knowledge of the synopsis detail for categories and sub-categories. At this time, the sub-category titles were relatively long in nature and it was felt that they could be improved upon.

Second round:

In response to the mixed findings from the VRT round one, the research team decided to use additional independent reviewers who had a generic understanding of MAPAS and the undergraduate programmes. The number of incidents was reduced to 10 to 12 (one example per sub-category to reduce potential confusion) and reviewers were advised to match via the sub-category (as opposed to the category). They were also provided with a copy of the synopsis for categories and sub-categories.

Outcomes included:

Pharmacy – 70%, 7/10 (M. Wojnowski) Nursing – 100%, 10/10 (S. Townsend)

BHSc – 45%, 5/11 (M. Wojnowski) Medicine – 67%, 8/12 (S. Townsend)

Third round:

Given the mixed findings from the previous two rounds of VRT and feedback from the reviewers, the research team concluded that the sub-category names were confusing for independent reviewers and required review. In addition, the total data set was reviewed to ensure that the incidents provided were an accurate reflection of the total data set. Changes were made to the incident examples provided, the sub-category names were re-developed (to reduce length and increase clarity) and a revised synopsis sheet that had a greater emphasis on sub-category content rather than a qualitative description was developed and provided to the reviewers. Two reviewers were

asked to do all four programmes with a reduced number of incidents per programme to match (five per programme). Outcomes included:

Pharmacy – 100%, 5/5 (M. Wojnowski)   Nursing – 100%, 5/5 (S. Townsend)

BHSc – 100%, 5/5 (S. Townsend)   Medicine – 100%, 5/5 (M. Wojnowski)

References

Acosta, D. & Olsen, P. (2006). Meeting the needs of regional minority groups: The University of Washington's programs to increase the American Indian and Alaskan native physician workforce. *Academic Medicine, 81*(10), 863-870.

Airini, & Brooker, B. (1999). *Quality Teacher Education: What helps or hinders learning in teacher education*. Paper presented at the meeting of the Pacific Circle Consortium Annual Conference, Hawai'i, USA.

Airini, Brown, D., Curtis, E., Johnson, O., Luatua, F., O'Shea, M. et al. (2009). Success for all: Improving Māori and Pasifika student success in degree-level studies. Milestone report 8. Final Report. December 2009. Auckland: Uniservices Ltd.

Airini, Curtis, E., Townsend, S., Rakena, T., Brown, D., Sauni, P. et al. (2011). Teaching for student success: Promising Practices in University Teaching. *Pacific-Asian Education 23*(1), 71-90.

Airini, & Sauni, P. (2004). *Bring only the most beautiful: How human rights practices in adult education can help student success*. Paper presented at the meeting of the Keynote and paper presented at Learning and Teaching Together Conference UNESCO (New Zealand) and the New Zealand Human Rights Commission, Auckland, New Zealand.

Ajwani, S., Blakely, T., Robson, B., Tobias, M. & Bonne, M. (2003). *Decades of disparity: Ethnic mortality trends in New Zealand 1980-1999*. Wellington: Ministry of Health.

Bishop, R. (2003). Changing Power relations in Education: Kaupapa Māori Messages for 'Mainstream' Education in Aotearoa/New Zealand. *Comparative Education, 39*(2), 221-238.

Borell, B., Gregory, A., McCreanor, T. & Jensen, V. (2009). "It's hard at the top but it's a whole lot easier than being at the bottom": The role of privilege in understanding disparities in Aotearoa/New Zealand. *Race/Ethnicity: Multidisciplinary Global Perspectives, 3*(1), 29-50.

Butterfield, L., Borgen, W., Amundson, N. & Maglio, A.-S. (2012). Fifty years of the critical incident technique: 1954-2004 and beyond. *Qualitative Research, 5*(4), 475-497.

Clifford, V. (1999). The development of autonomous learners in a university setting. *Higher Education Research and Development, 18*(1), 115-128.

Cooper, L., & Powe, N. R. (2004). Disparities in patient experiences, health care processes, and outcomes: The role of patient-provider racial, ethnic, and language concordance. New York: The Commonwealth Fund.

Curtis, E., Townsend, S. & Airini. (2012). Improving indigenous and ethnic minority student success in foundation health study. *Teaching in Higher Education*, 1-14. Retrieved 18 February 2012 from http://dx.doi.org/10.1080/13562517.2012.658559

Dent, J. A. & Harden, R. M. (2005). *A practical guide for medical teachers* (2nd ed.). Edinburgh: Elsevier Churchill Livingston.

Durie, M. (1998). *Whaiora: Māori health development* (Second ed.). Auckland: Oxford University Press.

Durie, M. (2001). *Mauri ora: The dynamics of Māori health*. Auckland: Oxford University Press.

Education Counts. (2010a). *Participation and Attainment of Māori students in National Certificate of Education Achievement*. Retrieved 30 March 2011, from http://www.educationcounts.govt.nz/statistics/pasifika_education/schooling/participation-and-attainment-of-maori-students-in-national-certificate-of-educational-achievement

Education Counts. (2010b). *Participation and Attainment of Pasifika students in National Certificate of Educational Achievement*. Retrieved 30 March, 2011, from http://www.educationcounts.govt.nz/statistics/pasifika_education/schooling/participation-and-attainment-of-pasifika-students-in-national-certificate-of-educational-achievement

Eketone, A. (2008). Theoretical underpinnings of Kaupapa Māori directed practice. *MAI Review* (1), 1-11.

Farrington, S., Page, S. & DiGregorio, K. D. (2001). The Things that Matter: Understanding the Factors that Affect the Participation and Retention of Indigenous Students in the Cadigal Program at the Faculty of Health Sciences, University of Sydney. *Journal of Australia and New Zealand Student Services Association*(18).

Flanagan, J. (1954). The critical incident technique. *Psychological Bulletin, 51*, 327-358.

Garvey, G., Rolfe, I. E., Pearson, S.-A. & Treloar, C. (2009). Indigenous Australian medical students' perceptions of their medical school training. *Medical Education, 43*(11), 1047-1055.

Greenwood, J. & Te Aika, L.-H. (2008). Hei tauira: Teaching and learning for success for Māori in tertiary settings. Wellington: Ako Aotearoa.

Hafferty, F. (1998). Beyond curriculum reform: Confronting medicine's hidden currriculum. *Academic Medicine, 73*(4), 403-407.

Hafferty, F. & Franks, R. (1994). The hidden curriculum, ethics teaching, and the structure of medical education. *Academic Medicine, 69*(11), 861-871.

Health Workforce Advisory Committee. (2003). The New Zealand Health Workforce: Future Directions – Recommendations to the Minister of Health 2003. Wellington: Ministry of Health.

Health Workforce Advisory Committee. (2006). Report of the Health Workforce Advisory Committee on Encouraging Māori to Work in the Health Professions. Wellington: Ministry of Health.

Hefford, M., Crampton, P. & Foley, J. (2005). Reducing health disparities through primary care reform: The New Zealand experiment. *Health Policy, 72*(1), 9-23.

Hodges, T. & MacDonald, K. (2000). *Scoping report for a way foward in Māori post-entry clinical training 2000/01*. Auckland: A report commisioned by Te Ohu Rata o Aotearoa (Māori Medical Practitioners' Association) for the Clinical Training Agengy.

Hollow, W. B., Davis, G.,Patterson, D. G., Olsen, P. M. & Baldwin, L-M. (2006). American Indians and Alaska natives: How do they find their path to Medical School? *Academic Medicine, 81*(10), 65-69.

Institute of Indigenous Research, & Te Rōpū Rangahau Hauora a Eru Pōmare. (2000). *Māori Research Development. Kaupapa Māori Principles and Practices: A literature review.* Auckland, New Zealand: Te Puni Kōkiri.

Jansen, P. & Sorrensen, D. (2002). Culturally competent health care. *NZFP, 29*(5), 306-311.

Jones, R., Pitama, S., Huria, T., Poole, P., McKimm, J., Pinnock, R., et al. (2010). Medical education to improve Māori health. *The New Zealand Medical Journal, 123*(1316).

LaVeist, T. A., Nuru-Jeter, A. & Jones, K. E. (2003). The association of doctor-patient race concordance with health serivce utilisation. *Journal of Public Health Policy, 24*(3/4), 312-323.

Madjar, I., McKinley, E., Deynzer, M. & van der Merwe, A. (2010). *Stumbling blocks or stepping stones? Students' experience of transition from low-mid decile schools to university*. Auckland: Starpath Project, The University of Auckland.

Madjar, I., McKinley, E., Jenssen, S. & van der Merwe, A. (2009). *Towards University: Navigating NCEA Course Choices in Low-Mid Decile Schools*. Auckland: The University of Auckland.

McCormick, R. (1994). *The Facilitation of Healing for the First Nations People of British Columbia*. Unpublished doctoral dissertation. University of British Columbia. Vancouver.

McIntosh, P. (1988). White privilege and Male privilege: A personal account of coming to see correspondences through work in women's studies. Working paper 189 Wellesley: Wellesley College Center for Research on Women.

Ministry of Education. (2003). New Zealand's tertiary education sector report - profile & trends 2002. Wellington: Ministry of Education.

Ministry of Education. (2008, 11 May). *Participation analysis: All science subjects, Year 11 to 13 candidates.* Retrieved from http://www.maorihealth.govt.nz/moh.nsf/indexma/science-nationalparticipation

Ministry of Education. (2009). Hangaia te mātāpuna o te mōhio: Learning foundations for Māori adults. Wellington: Ministry of Education.

Ministry of Health. (2000). *Maori participation in the New Zealand health workforce*. Wellington: Unpublished report for the Ministry of Health.

Ministry of Health. (2007). *He Pa Harakeke: Māori Health Workforce Profile: Selected regulated health occupations 2007*. Wellington: Ministry of Health. Retrieved from http://health.govt.nz/publication/he-pa-harakeke-maori-health-workforce-profile

Monks, K., Conway, E. & Ni Dhuigneainm, M. (2006). Intergrating personal development and career planning: The outcomes for first year undergraduate learning. *Active Learning In Higher Education, 7*(73), 73-86.

Morunga, E. (2009). Māori Student Participation in Psychology [Intern Research Report 7]. *MAI Review, 1*.

Omeri, A. & Ahern, M. (1999). Utilising Culturally Congruent Strategies to Enhance Recruitment and Retention of Australian Indigenous Nursing Students. *J Transcult Nurs, 10*(2), 150-155. doi:10.1177/104365969901000209

Pavlish, C., Brown-Saltzman, K., Hersh, M., Shirk, M. & Nudelman, O. (2011). Early Indicators and Risk Factors for Ethical Issues in Clinical Practice. *Journal of Nursing Scholarship, 43*(1), 13-21. doi:10.1111/j.1547-5069.2010.01380.x

Pharmacy Council of New Zealand. (2009). *Pharmacy Council of New Zealand Workforce Demographics as at 30 June 2009*. Wellington: Pharmacy Council of New Zealand.

Prebble, T., Hargraves, H., Leach, L., Naidoo, K., Suddaby, G. & Zepke, N. (2004). Impact of Student Support Services and Academic Development Programme on Student Outcomes in Undergraduate Tertiary Study: A synthesis of the research. Report to the Ministry of Education. Wellington: Ministry of Education.

Ratima, M., Brown, R., Garrett, N., Wikaire, E., Ngawati, R., Aspin, C. et al. (2007). An Indigenous Medical Workforce. Stengthening Māori Participation in the New Zealand Health and Disability Workforce. *Medical Journal of Australia, 186*(10), 541-543.

Ratima, M., Brown, R., Garrett, N., Wikaire, E., Ngawati, R., Aspin, C. et al. (2008). *Rauringa Raupa: Recruitment and retention of Māori in the health and disability workforce*. Auckland: Taupua Waiora: Division of Public Health and Psychosocial Studies. Faculty of Health and Environmental Sciences: AUT University.

Reid, P. & Robson, B. (2007). Understanding Health Inequities. In B. Robson & R. Harris (Eds.), *Hauora: Māori Standards of Health IV. A study of the years 2000-2005* (pp. 3-10). Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Rivers, J. (2005). Supporting students in tertiary study: A summary of a synthesis of research on the impact of student support services on student outcomes in undergraduate tertiary study. Summary report to the Ministry of Education. Wellington: Ministry of Education.

Robson, B. & Harris, R. (Eds.). (2007). *Hauora Māori. Māori Standards in Health IV. A study of the years 2000-2005.* Wellington: Te Rōpū Rangahau Hauora a Eru Pōmare.

Sadler, L., McCowan, L. & Stone, P. (2002). Associations between ethnicity and obstetric intervention in New Zealand. *New Zealand Medical Journal, 1115*(1147), 36-39.

Smedley, B., Stith, A. & Nelson, A. (Eds.). (2002). *Unequal Treatment. Confronting Racial and Ethnic Disparities in Healthcare*. Washington: Institute of Medicine of the National Academies Press.

Smith, L. (1999). Decolonising Methodologies. Research and Indigenous Peoples. Dunedin: University of Otago Press.

Smith, W. (2006). *Metaphors and Mental Models of Risk: Expert Thinking About Ecosystems.* Unpublished doctoral dissertation. University of British Columbia. Vancouver.

Spencer, J. (2003). ABC of learning and teaching in medicine: Learning and teaching in the clinical environment. *British Medical Journal, 326*, 591-594.

Statistics New Zealand. (2009). Final report of a review of the official ethnicity statistical standard 2009. Wellington: Statistics New Zealand.

Stevens, G. D., Mistry, R., Zuckerman, B. & Halfon, N. (2005). The parent-provider relationship: Does race/ethnicity concordance or discordance influence parent reports of the receipt of high quality basic pediatric preventative services? *Journal of Urban Health, 82*(4).

Tertiary Education Commission. (2011, 29 May 2011). *Ministry of Education. Part Two - Priorities*. Retrieved from http://www.minedu.govt.nz/NZEducation/EducationPolicies/TertiaryEducation/PolicyAndStrategy/TertiaryEducationStrategy/PartTwoPriorities.aspx

The University of Auckland. (2011). *Māori and Pacific success: Vision 20:20 - Health career pathways*. Auckland: Facutly of Medical and Health Sciences, The University of Auckland.

Thompson, B., Miller, L., Thomson, W. & Dresden, J. (1993). *Evaluating Magnet Schools for the Health Professions: Career Aspirations of Hispanic and Non-Minority Students.* Paper presented at the meeting of the American Education Research Association Annual Meeting, Atlanta.

Usher, K., Miller, M., Turale, S. & Goold, S. (2005). Meeting the challenges of recruitment and retention of Indigenous people into nursing: outcomes of the Indigenous Nurse Education Working Group. *Collegian: Journal of the Royal College of Nursing, Australia, 12*(3), 27-31.

Victoroff, K. Z. & Hogan, S. (2006). Students' Perceptions of Effective Learning Experiences in Dental School: A Qualitative Study Using a Critical Incident Technique. *Journal of Dental Education, 70*(2), 124-132.

Yon M., Burnap, C. & Kohut, G. (2002). Evidence of Effective Teaching. *College Teaching, 50*(3), 104-110.

Zepke, N. & Leach, L. (2007). Improving student outcomes in higher education: New Zealand teachers' views on teaching students from diverse backgrounds. *Teaching in Higher Education, 12*(5), 655-668.

Zepke, N., Leach, L. & Prebble, T. (2005). *Improving tertiary student outcomes in their first year of study. Summary report*. Wellington: Teaching and Learning Research Initiative.

Zuzelo, P. R. (2005). Affirming the disadvantaged student. *Nurse Educator, 30*(1), 27-31.