He Kaupapa Oranga Tahi

Working in partnership to grow the health workforce through tauira-assisted health services

Wintec Ltd is a subsidiary of Te Pūkenga

Brownie, S., Smith, G., Broman, P., Tokolahi, E., Haggie, M., Pearce, A., Longhurst, G., Bell, R., Walker, A., Cook, C., Symington, K., Andersen, P. (2021). *He Kaupapa Oranga Tahi: Working in partnership to grow the health workforce through tauira-assisted health services. Wintec, Hamilton, New Zealand*.

ISBN 978-1-877510-21-2

Contents

Authors:

Professor Sharon Brownie, Adjunct Professor, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand, Principal and Nursing Discipline Lead, Castle Hills Campus, University of Canberra, ACT, Australia. Adjunct Professor, School of Medicine and Dentistry, Griffith University, Australia.

Mr Greg Smith, Director, Centre for Sport Science and Human Performance, Wintec, Hamilton, New Zealand

Dr Patrick Broman, Post-Doctoral Research Fellow, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Dr Ema Tokolahi, Post-Doctoral Research Fellow, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Dr Marrin Haggie, PhD Candidate/Senior Academic Staff Member, Sport Science, Centre for Sport Science and Human Performance, Wintec, Hamilton, New Zealand

Ms Amy Pearce, Academic Staff Member, Exercise Physiology, Centre for Sport Science and Human Performance, Wintec, Hamilton, New Zealand

Dr Glynis Longhurst, Biokinetic Clinic Manager/Principal Academic Staff Member, Centre for Sport Science and Human Performance, Wintec, Hamilton, New Zealand

Dr Ricky Bell, Head of Physiotherapy, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Mr Alroy Walker, Pūkenga Reo, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Ms Cassandra Cook, Academic Staff Member, Counselling, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Ms Kay Syminton, Doctoral Candidate, Senior Academic Staff Member - Nursing, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

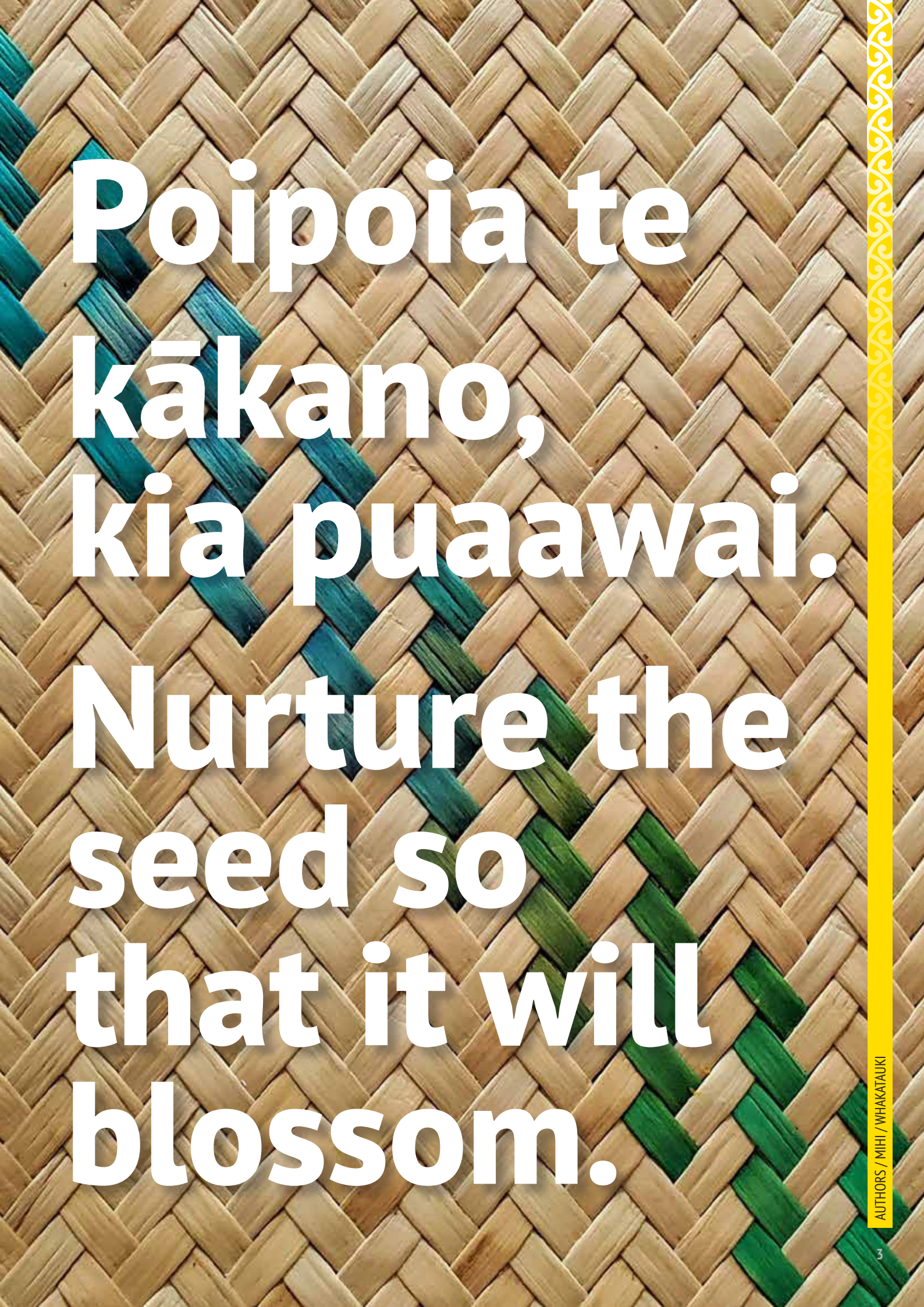
Professor Patrea Andersen, Academic and Research Lead, Centre for Health and Social Practice, Wintec, Hamilton, New Zealand

Mihi: Acknowledgements

The authors gratefully acknowledge the assistance of the following individuals and organisations:

- Papa Tame Pokaia, Kaumātua (Wintec)
- Hera White, former Pouārahi Māori (Wintec)
- Dr Oliver Wilson, Research Fellow (Wintec)
- The Research Office (Wintec)
- Karina Romero and the Microdata Access Team (Statistics New Zealand)
- Te Kōhao Health
- Rauawaawa Kaumātua Charitable Trust
- K'aute Pasifika Trust
- Te Hauora o Ngāti Hauā
- Nga Miro Health.

This work received support from Wintec Contestable Research Seed Funding.


Poipoia te
kākano,
kia puaawai.
Nurture the
seed so
that it will
blossom.

Foreword

Tēnā koutou, tēnā koutou, tēnā koutou katoa.

Optimal graduate outcomes are achieved when teams of health professionals work together in close partnership with health service users and their whānau and communities. It is against this backdrop that Wintec's Centre for Health and Social Practice (CHASP) and Centre for Sport Science and Human Performance (CSSHP) have collaborated to explore the feasibility of establishing culturally adept, tauira-assisted services that would increase opportunities for tauira to develop competencies in community engagement while enhancing service access and social wellbeing for communities within Hamilton Kirikiriroa and the north Waikato catchment areas of Huntly, Ngāruawāhia and the immediate surrounds.

Our project has progressed following Tainuitanga protocol and tikanga under the expert guidance and knowledge of Wintec's Kaumātua Tame Pokaia and Pouārahi Māori Hera White, to whom we offer our sincere thanks. Our shared aspirations are to prepare our tauira to operate in effective and culturally competent manner and to contribute to multi-disciplinary team efforts in health care in meaningful ways.

Tauira-assisted clinics are now well documented as having the dual benefit of meeting community needs while providing 'real world' work integrated learning. The partnership between CHASP and CSSHP has provided tangible opportunity for engagement in community-based, inter-professional collaborative practice which is a highly desired tenet of contemporary sports and health professional education.

The project is tightly aligned with the mission of Wintec which is to build stronger communities through education, research and the development of career pathways. Wintec aims to strengthen communities and help build the economy by engaging in activities to improve the economic and social wellbeing of our region. In support of this goal in mind, our research team has focused on work to ensure our tauira learn industry-relevant skills in innovative ways, in educational settings that reflect 'the real world' and the cultural fabric of the communities we serve.

Wintec is currently embarking on a new and unique journey in raising Māori and Pasifika[1] achievement. The move away from a localised, specialised Māori unit has created opportunity to realise a whole-of-organisation approach to our commitment to Māori and Pasifika success, ngā āhuatanga Māori - Māori cultural identity, mātauranga Māori - Māori world view and kaupapa Māori. The establishment of a Pasifika Lead role further supports the strengthened equity lens guiding our educational practice.

It is our great pleasure to report on this project detailing the very significant opportunity for our tauira and collaborating partners to work together for mutual benefit on this new journey.

Ngā mihi nui

Sharon Brownie
Adjunct Professor
Centre for Health & Social Practice
Wintec

Tame Pokaia
Kaumātua
Wintec, Trust Waikato, and Hamilton City Council
Ngāti Mahuta and Ngāti Hikairo

Greg Smith
Director
Centre for Sport Science & Human Performance
Wintec

[1] Refers to Pacific Islanders or Pacific Islands people living in New Zealand; Seiuli, B. M. S. (2016). We are not brown-palagi: Navigating cultural boundaries in Samoan research. *Journal of Indigenous Wellbeing: Te Mauri - Pimatisiwin, 1*(1), 53–67. Retrieved from https://journalindigenouswellbeing.com/journal_articles/we-are-not-brown-palagi-navigating-cultural-boundaries-in-samoan-research/

Glossary of Māori kupu (words)

While many of these words are in common use across Aotearoa, this glossary is provided for the convenience of any international readers for whom te reo Māori may be unfamiliar. Descriptions for each kupu have been taken from https://maoridictionary.co.nz/ unless otherwise indicated.

Māori	English
Aotearoa	The Māori name for New Zealand
Hapori	Section of a kinship group, family, society, community
He Kaupapa Oranga Tahi	Project name gifted by Papa Tame Pokaia, means 'Working in partnership to grow the health workforce (through tauira-assisted health services)'
Iwi/hapū/whānau	Extended kinship group, tribe/section of a large kinship/extended family
Kanohi ki te kanohi	Face to face, in person, in the flesh
Kaumātua	Elder, elderly man/woman - a person of status within the whānau
Kaupapa	Topic, policy, matter for discussion, plan, purpose
Kirikiriroa	Hamilton
Kōrero	Speech, narrative, story, news, account, discussion, conversation, discourse
Mana motuhake	Separate identity, autonomy, self-government, self-determination, independence, sovereignty, authority - mana through self-determination and control over one's own destiny
Mana whenua	Territorial rights, power from the land, authority over land or territory, jurisdiction over land or territory - power associated with possession and occupation of tribal land
Māori	Indigenous person of Aotearoa/New Zealand
Mātauranga Māori	Māori knowledge - the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices
Māuiui	To be weary, sick, fatigued, sickly
Moko/mokopuna	Grandchildren, grandchild
Ngā mihi nui	Acknowledgements
Pouārahi Māori	Executive Director for Māori
Puku	Stomach, abdomen
Tainuitanga	Tainui culture, Tainui practices and beliefs, Tainuiness, Tainui way of life
Tāne	Husband, male, man
Tāngata Whenua	Local people, hosts, indigenous people - people born of the whenua
Tauira	Student, pupil, apprentice
Te Ao Māori	Māori worldview

te reo Māori	Māori language
Te Tiriti o Waitangi	Māori version of The Treaty of Waitangi
Tēnā koutou, tēnā koutou, tēnā koutou katoa	Greetings to all
Te Pūkenga	New Zealand Institute of Skills and Technology
Tino rangatiratanga	Self-determination, sovereignty, autonomy, self-government
Tōia Mai framework	Framework for delivering tertiary education that reflects Wintec's commitment to achieve equity for all learners[i]
Whakamā	To be ashamed, shy, bashful, embarrassed
Whakawhiti kōrero	The exchange of ideas and discussion[ii]
Whānau Ora	An approach that places families/whānau at the centre of service delivery, requiring the integration of health, education and social services[iii]

Notes:

[i] Wintec implements change programme to lift outcomes for Māori and all learners

[ii] Elder, H., & Kersten, P. (2015). Whakawhiti Kōrero, a method for the development of a cultural assessment tool, Te Waka Kuaka, in Māori traumatic brain injury. Behavioural Neurology, 2015(137402). https://doi.org/10.1155/2015/137402

[iii] https://www.health.govt.nz/our-work/populations/maori-health/whanau-ora-programme

Executive summary

The vision for He Kaupapa Oranga Tahi is to explore how we best generate sustainable, high quality, interprofessional clinical learning opportunities for our health tauira[2], while also providing accessible, low/no cost, quality health services to communities with high needs. To achieve this, we will continue engagement with community providers in the development of the proposed tauira-assisted health services. Our study investigating the feasibility of employing this teaching and learning approach is outlined in this report. Wintec is a subsidiary of Te Pūkenga, the newly formed implementation agency for the New Zealand Government Reform of Vocational Education. Consistent with Wintec values and mission, this innovative strategy generates opportunities for collaboration within Te Pūkenga, brings life to Wintec's Tōia Mai framework, and builds on our existing success.

The kaupapa of this project advanced the following key objectives that sought to:

1. Determine the community need and explore community viewpoints and the feasibility of establishing culturally adept tauira-assisted health services to promote social wellbeing for communities in the Waikato Region.
2. Explore innovative 'real world' learning opportunities for Wintec tauira to learn industry-relevant skills in ways that are integrated into the cultural fabric of the communities we serve.
3. Identify opportunities and barriers to the development, implementation, and evaluation of a tauira-assisted health service involving Wintec tauira.
4. Enhance and extend opportunities for collaboration between two centres within Wintec: Centre for Sport Science and Human Performance and Centre for Health and Social Practice.

To address the key objectives of this enquiry, a mixed method study design was employed. First, we undertook a scoping review of the current literature on tauira-assisted health services in Aotearoa New Zealand. Secondly, we undertook analyses of key Ministry of Health/Manatū Hauora and Accident Compensation Corporation (ACC)/ Te Kaporeihana Āwhina Hunga Whara datasets to understand patterns of healthcare need in the community. Thirdly, we engaged in a three-fold consultation process with Wintec staff, other New Zealand education providers, and representatives from community-based organisations (Te Kōhao Health, K'aute Pasifika, and Rauawaawa Kaumātua Charitable Trust). Through collating and synthesising these data sources we have co-constructed a compelling case supporting the development of tauira-assisted health services.

The literature on tauira-assisted clinics in Aotearoa New Zealand demonstrated that such clinics offer students an opportunity to 'give back', to address healthcare gaps, and generate significant benefits across a range of learning and health domains. However, it was noted that establishing tauira-assisted clinics involves complex considerations, in particular curriculum design, ethical, financial and resource implications, and the most appropriate structure and educational model.

Ministry of Health and ACC data showed that the Huntly, Ngāruawāhia and Hamilton City communities have significant healthcare needs. Local rates of childhood immunisation could be improved, cancer represents a considerable healthcare burden, the number of claims made to ACC for accident or injuries may surprise, and mortality records reveal that many local deaths are from preventable causes. Especially notable is the prevalence of chronic conditions and significant health events, including the number of people living with diabetes, or with the potentially long-term effects of events such as stroke or heart attack. Clearly, addressing non-communicable diseases in our communities is critical.

Wintec staff expressed strongly that a tauira-assisted health service would need to be well resourced, and several mentioned logistics (such as finding an appropriate space and timetabling conflicts) as important considerations. Some staff noted the challenges of appropriate staffing, supervision, and workload. Authentic, ongoing consultation (with mana whenua, stakeholders, and the community) was mentioned by many staff as an essential prerequisite for success.

When comparing New Zealand tauira-assisted clinics which feature in the literature with those we identified via online searching, research networks, and snowball sampling we found more traditional and single-discipline clinics were less likely to have been written about. To widen our perspective, we reached out to kōrero with some of these clinics. Our discussions with providers confirmed an initial observation from the literature that clinics appeared to have limited levels of Māori consultation and involvement, including in the planning and operational phases. Representatives from clinics were universally positive about the opportunities and successes of clinics for tauira learning, but noted some important advice borne from their own experiences.

[2] In te reo Māori, 'tauira' is commonly used when referring to students: see Glossary of Māori kupu (words) at the beginning of this report for other descriptions.

Our whakawhiti kōrero with community organisations improved our knowledge of local needs, and the opportunities for partnership in a tauira-assisted healthcare initiative. Those we talked to clearly valued existing relationships with Wintec and their prior/current experiences with tauira on placement. Their kōrero emphasised the benefits of tauira experiencing their services' holistic, client-centred and culturally responsive models of care. They showed support for extending these relationships, which they saw as having potential benefits for their own organisations, Wintec and students. Despite these synergies and positive views, staff did note the challenges their organisations face relating to the structures and funding models they operate in, which do not necessarily align or reflect their models of care. Establishing and sustaining a tauira-assisted health initiative would require adequate resourcing, attention to client safety, align with organisation's own goals and objectives and uphold their mana motuhake.

In drawing together the information from all these sources, seven key, evidence-based recommendations have been formulated. The recommendations support moving forward with the establishment of interprofessional clinical learning opportunities for our health tauira within the context of a tauira-assisted health service, specifically to:

1. Enhance tauira learning outcomes, develop a tauira-assisted health service designed to offer tauira sustainable, high quality learning experiences.
2. Build a culturally competent graduate workforce by ensuring any planned tauira-assisted health service delivers healthcare using culturally informed models of care and provides opportunities for engaging in Kaupapa Māori practices.
3. Contribute in local responses to community needs by developing a tauira-assisted health service in the Waikato Region.
4. Facilitate interprofessional education by ensuring the planned tauira-assisted health service is interprofessional by design.
5. Authentically partner with Tāngata Whenua/Hapori with a formalized collaborative approach model that explicitly outlines the partnership approach to developing a tauira-assisted health service.
6. Develop a financially viable option to undertake a pilot, while seeking funding options for a larger clinic by semester one 2023.
7. Effectively pilot and evaluate a tauira-assisted health service, seek health provider status to enable capacity to conduct a pilot within the Waikato subsidiary of the Te Pūkenga network or in partnership with a local provider, capitalising on current resources and infrastructure.

Whakakitenga: Our vision

Clinical experience in health professional education

Clinical experience is considered the heart and essence of learning in health professional education, and frequently constitutes up to 50% of accredited programmes. 'Real-world' learning opportunities for health care tauira rely substantially on clinical placements where learners can work alongside registered health professionals in the direct provision of healthcare services. Responding to current calls to expand the health workforce requires an increase in both education offerings and tauira numbers. However, the scarcity of suitable placements poses significant challenges for education providers in responding to this call while ensuring a high level of competence of graduates. Additionally, placements may lack the cultural nuance needed to best prepare students for the communities they serve. The lack of available and/or suitable placements impacts enrolments, limiting spaces on programmes and adversely compromising tauira learning opportunities. Innovation is needed to increase the quantity and quality of clinical placement experiences.

One solution to address the shortage of placements has been the development of tauira-led, tauira-delivered, tauira-run, and/or tauira-assisted clinics and health services. Well-designed simulation activities have been internationally recognised as a means to provide safe, quality controlled, real-world learning experiences for tauira. Within these carefully designed contexts, tauira provide care in partnership with and/or under the direct supervision of appropriately credential health professional educators. The rationale for employing tauira-assisted clinics in health education are now well documented. This includes the dual benefit providing 'real world' work integrated learning for health professionals in training while increasing competencies in meeting community needs.[1,2]

This background underpins the motivating 'why' of our project. Through educational innovation, the supervised context of tauira-assisted clinics prepares graduates for the realities of professional practice and supports them to develop the competencies required to meet the needs of the communities they will serve. The authenticity of the context allows tauira to immerse themselves in a practice situation in which they work in a multi-disciplinary setting and explore the full scope of their practice, rehearse patient scenarios that call on critical thinking and decision-making, delegation, cultural competence, and teamwork skills which are essential for beginning practice.

Further insight to the 'why' informing the motivation for Wintec to investigate tauira-assisted clinics as alternate learning environments include:

1. **Alignment with Wintec's Mission and Purpose**

   Mā te mātauranga, te rangahau, me te whai mahi e ora ai te iwi

   The mission of Wintec is to build stronger communities through education, research and the development of career pathways.

Wintec is a higher education provider that helps build the economy and strengthen communities by engaging in educational activities to improve the economic and social wellbeing of our region.[3] With this goal in mind, we work to ensure our tauira learn industry-relevant skills in innovative ways, in educational settings that reflect clinical practice realities. Simply put, preparing graduates with the competence to positively impact our community is what we do.

2. **Innovation in educational delivery**

As leaders and faculty within the Centre for Health and Social Practice (CHASP) and Centre for Sport Science and Human Performance (CSSHP), we are charged with leading and proactively developing initiatives that are future focused, research-based and which offer best-practice models of tertiary education. Equally, we hold responsibility to ensure excellence of academic programme design and delivery. The CHASP/CSSHP partnership and vision of tauira-assisted clinics has created a highly supportive collaborative environment within which to discharge these responsibilities and enhance educational outcomes.[4] If we can facilitate future generations of health and sport professionals to develop insight and experience in innovative, collaborative models of care, the greater the potential for our graduates to positively impact community wellbeing.

3. Te Pūkenga collaboration in the Midland region

Wintec is a subsidiary of Te Pūkenga, the newly formed[5] implementation agency for the New Zealand Government Reform of Vocational Education (RoVE). The Ministerial expectations of Te Pūkenga and its subsidiary providers includes expectations of collaboration and an increased focus on Māori and Pasifika achievement. Among Te Pūkenga subsidiaries, Wintec is central to the Midlands region which overlaps New Zealand's 'Golden Triangle', home to 50% of Aotearoa's Māori and Pasifika population.[6] A tauira-assisted clinic could generate opportunities for Māori and Pasifika tauira to gain learning experiences in a purposely designed setting with strong connections to the community and observant of Te Tiriti o Waitangi responsibilities. Wintec has a unique opportunity to trial and showcase tauira-assisted clinics as an innovative model of excellence within the Te Pūkenga network and to further expand New Zealand's small but growing evidence base for educational innovation in this area.[7] A letter issued 8 June for the attention of the Board of Directors and Management of each Te Pūkenga subsidiary emphasized priority on He Tukunga Auaha - Academic Delivery Innovation and Whātui Mahi Tahi - Network Collaboration,[8] both of which are key activities within this project.

4. Quality multidisciplinary clinical placement experience for our tauira

Wintec offers a considerable range of sports and health professional programmes at both Bachelor and Masters' level. Areas of specialization include nursing, midwifery, counselling, social work, exercise physiology, sport science, physiotherapy, and health professional practice.[9] Occupational therapy is also offered at Wintec via a partnership agreement with Otago Polytechnic.[10] All sports and health professional programmes require trainee involvement in high levels of real-world experiences in various clinical and profession specific settings. It is most common for placement experiences to occur in professional contexts focussed on a single profession. The experience of tauira may also be variable if a placement context is overly busy, lacks supervising staff, or exposes students to a narrow range of clinical scenarios. Tauira-assisted clinics can provide unique opportunities to emulate interprofessional engagement. Within this context, educators and learners interact in a meaningful way, maximizing student capacity to work as a member of interdisciplinary health care teams.[4]

5. Building on existing success

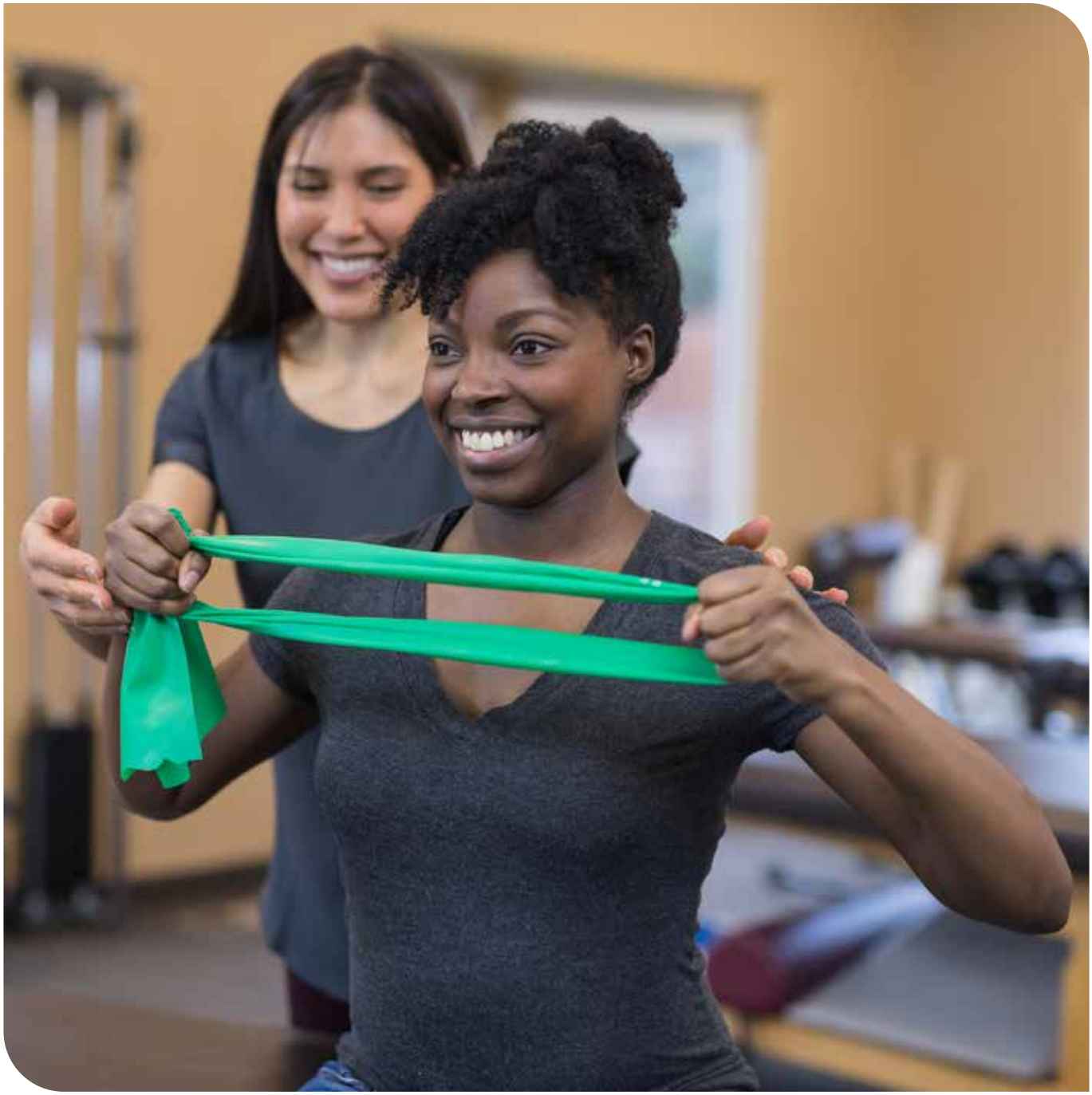
Wintec's CSSHP has a well-established Biokinetic Centre that includes a clinic providing services to the local community.[11] The Centre provides specialised exercise prescriptions for individuals living with chronic health conditions. The supervised teaching space provides valuable training opportunities for postgraduate tauira enrolled in Postgraduate Diploma and Master of Science in Sport and Exercise Science programmes. Tauira provide personalised exercise programmes that include aerobic, strength and balance training. Baseline and progress assessment are also included in the service, for example, ECG monitored exercise tests, flexibility and strength training, and blood analysis. The experience and success in running the Biokinetic Centre provides a strong base from which to establish the tauira-assisted health clinics proposed within this report.

6. Extending engagement with our communities

The option to design and implement tauira-assisted clinics provides tangible opportunity for Wintec's tauira to develop competency in collaborative, community-focussed, inter-professional practice, a highly desired tenet of contemporary sports and health professional education.[2] The mechanisms for community engagement occur via partnership with tāngata whenua, key community partners, industry stakeholders and through direct service provision to attendees of the clinics which in the first instance may be drawn from on-campus tauira cohorts. A very important component of community engagement includes the partnerships which have been established over the course of the project to-date and which will include collaboration, monitoring and evaluation as the project moves forward.

7. Bringing life to Wintec's Tōia Mai framework

Wintec is currently embarking on a new and unique journey in raising Māori and Pasifika achievement. The newly developed Tōia Mai framework steps away from a localised, specialised Māori unit to provide opportunities to realise a whole-of-organisation approach enhancing Māori and Pasifika success, cultural identity, world view and knowledges. The establishment of a Pasifika Lead role further supports the strengthened equity lens guiding our educational practice. Engaging in this project with Māori and Pasifika healthcare providers to explore the feasibility of their involvement in tauira-assisted clinics alongside Wintec, we propose a new model which brings life to these aspirations for Māori and Pasifika tauira experience and success, key to the Tōia Mai framework.



Kaupapa: Our approach

Whāinga: Objectives

The purpose of this project was to determine the need for a tauira-assisted clinic in the Waikato, that would serve to generate sustainable, high quality, interprofessional learning opportunities for tauira and provide accessible, low/no cost, quality health services to a community with high health needs.

To do so, we sought to fulfil the following key objectives:

1. Determine the community need, explore community viewpoints and the feasibility of establishing tauira-assisted health services in the Waikato Region
2. Explore innovative 'real world' learning opportunities for Wintec tauira to learn industry-relevant skills in ways that are integrated into the cultural fabric of the communities we serve
3. Identify opportunities and barriers to the development, implementation and evaluation of a tauira-assisted health service involving Wintec tauira
4. Enhance and extend opportunities for collaboration between two centres within Wintec: Centre for Sport Science and Human Performance and Centre for Health and Social Practice

Tikanga: Methods

To address the key objectives of this study, a mixed method study design was employed. This involved, firstly, a scoping review of the literature on tauira-assisted health services in Aotearoa New Zealand. Secondly, we undertook analyses of key Ministry of Health/ Manatū Hauora and ACC/Te Kaporeihana Āwhina Hunga Whara datasets to understand patterns of healthcare need in the community. Thirdly, we engaged in a three-fold consultation process incorporating the following elements:

- An online survey of Wintec staff perspectives on implementing a tauira-assisted health service
- Consultation with other New Zealand education providers about their experiences of developing, implementing and evaluating tauira-assisted health services
- Kaupapa Māori informed whakawhiti kōrero with representatives from community-based organisations to gain a deeper understanding of the needs of the community and their views around the potential for establishing tauira-assisted health service

Through collating and synthesising these data sources we have co-constructed a compelling case for a tauira-assisted health service that will create learning opportunities and provide accessible health services through an approach designed to generate sustainable, high quality, interprofessional learning opportunities for tauira and providing low/no cost, quality healthcare to a community with high health needs.

Ethical approval for this study was obtained from the Wintec Human Research Ethics Group for the staff survey in August 2020 (WTLR35130820) and the community consultation in September 2020 (WTFE14130820). As part of gaining informed consent, participants agreed to the organisation where they served being identified when reporting kōrero and not themselves individually. This was an opportunity to respect the origins/whakapapa of the kōrero and enhance the mana of the speaker's kōrero. Data from three organisations are included in this report, as these organisations consented to participate in the feasibility study. The perspective of other Māori organisations also informed our recommendations, however, representatives from these organisations chose to informally contribute data for analysis.

Tāngata Whenua/Hapori: Waikato healthcare providers

Wintec values working together, partnership and industry engagement, and a starting premise of this work was that any tauira involved service must engage and align with existing services. With this in mind, we consulted during this scoping exercise with the following key agencies:

K'aute Pasifika
Registered as a charitable trust in 1999, K'aute Pasifika is a Pan-Pacific organisation with a mission to improve the holistic well-being of Pacific communities in Hamilton/Kirikiriroa and beyond. In practice, K'aute Pasifika provides whole of family, wraparound services to all, using Pacific models of care. The organisation offers a wide range of

services in health; social services; education; Whānau Ora; gambling harm prevention; and employment and training support. K'aute Pasifika and Wintec have always had a collaborative and meaningful relationship. Leaupepe Elisapeta (Peta) Karalus, K'aute Pasifika founder, is a former staff member and tutor at Wintec's nursing school. Wintec recently established Leaupepe Elisapeta (Peta) Karalus scholarships, supporting Pasifika people to pursue study at a degree level in the areas of health and social practice. The organisations continue to work to strengthen and expand these ties still further through tauira placement opportunities and other initiatives.

K'aute Pasifika continues to grow and thrive. It has recently begun work began on a ground-breaking Pacific Community Hub at Hinemoa Park, Hamilton. The hub will incorporate K'aute services, offices, a Pan Pacific Early Childhood Centre, and health services, including a medical clinic and pharmacy dispensary.

Te Kōhao Health
Established in 1994 on Kirikiriroa Marae, Hamilton East, Te Kōhao Health is a Marae based provider of health, social, employment, Whānau Ora, education, and justice services to a predominantly Māori (80%) client base in Hamilton and surrounding areas. Kiingi Tūheitia Potatau Te Wherowhero is the Patron of Kirikiriroa Marae, and his wife Makau Ariki Te Atawhai Paki is the Patron of Te Kōhao Health. The vision of Te Kōhao Health is "Kia whakatinanatia ko te ihi, ko te wehi, ko te wana me te hauoranga o te whānau" - "Living their Tino Rangatiratanga through Strong, Healthy, Vibrant and Prosperous Whānau". It operates a full-service GP primary health clinic, pharmacy services, podiatry and physiotherapy clinics, rehabilitation and home-based services, and public health outreach services, amongst others.

Rauawaawa Kaumātua Charitable Trust
Rauawaawa Kaumātua Charitable Trust, also known as Te Puna o Te Ora, is a non-profit, Kaumātua governed and led organisation servicing the needs of Kaumātua (55 years and over) within Kirikiriroa/Hamilton, providing a range of culturally focussed, appropriate and accessible health, social and community-based activities and services. Over six hundred Kaumātua are registered on the Rauawaawa database with 80 percent Māori, 65 percent female and 35 percent male. Established in 1997 by a group of Kaumātua, the Rauawaawa mission is "He korowai oranga hei tau awhi i ngā Kaumātua" - "To offer a korowai of services, which will wrap around Kaumātua to keep them warm and safe".[12] The key reasons identified by Kaumātua for accessing support from Rauawaawa are health, education and information, and socialisation.

Mātauranga: Knowledge gained

What the literature told us

Mā te kimi ka kite, Mā te kite ka mōhio, Mā te mōhio ka mārama

Seek and discover, discover and know, know and become enlightened

As an initial platform for our investigation, we studied what others have written regarding tauira involved health clinics, with a particular emphasis on the Aotearoa New Zealand examples that are most directly relevant to us. Rather than risk 'reinventing the wheel' and not learning from the work of others, we set out to review the literature relating to tauira involved clinics in Aotearoa New Zealand, which has not previously been synthesised. This work has been published elsewhere7, and we have summarised our key findings below to maintain the integrity of the process described.

Our approach
To review the literature and identify relevant insights, we first defined the key research questions to guide our work. Working collaboratively, we agreed on the following:

1) What are the general characteristics of tauira-assisted clinics in Aotearoa New Zealand?
2) What are the underpinning models used?
3) What (if any) consultation with communities has occurred?
4) What (if any) lessons have been learned? and
5) What (if any) evaluation of clinics in Aotearoa New Zealand has taken place?

Our literature search involved keyword searching various online databases and checking reference lists and contacting people in our professional networks to identify any other works. This approach netted a total of 10 relevant articles, relating to various clinics (see Table 1).

Table 1: Publications included in the scoping review and associated student-assisted clinics

Publications	Institution and clinic
[13] Friary, P., Tolich, J., Morgan, J., Stewart, J., Gaeta, H., Flood, B., & McNaughton, S. (2018). Navigating Interprofessional Spaces: Experiences of Clients Living with Parkinson's Disease, Students and Clinical Educators. *Journal of Interprofessional Care, 32*(3), 304–312. [14] Morgan, C. J., Bowmar, A., McNaughton, S., Flood, B., & O'Brien, D. (2019). Transformative learning opportunities for students and educators during interprofessional healthcare practice experiences in higher education: Viewed through the lens of Threshold Concepts Theory. *Focus on Health Professional Education: A Multi-Professional Journal, 2*0(2), 41. [15] O'Brien, D., McCallin, A., & Basset, S. (2013). Student perceptions of an interprofessional clinical experience at a university clinic. *New Zealand Journal of Physiotherapy, 41*(3), 81–87. [16] O'Brien, D., McNaughton, S., Flood, B., Morgan, J., & Bowmar, A. (2016). Piloting an integrated, interprofessional programme for people living with Type II diabetes: Outcomes and experiences. *Australian Journal of Clinical Education, 1*(1), 1. [17] O'Brien, D., Swann, J., & Heap, N. (2015). Can the Communities of Practice Model Explain the Complex Organization of an Interprofessional Student-Led Health Clinic? *Journal of Allied Health, 44*(1), E11–E16. [18] Tucker, L. (2012). *Service users' views of collaborative care* [MPhil Thesis, Auckland University of Technology].	Auckland University of Technology Integrated Health – Interprofessional (IP) programmes* **Description** Tauira attend operating clinic one-day/week, seven to twelve-weeks. Includes IP in-service, IP appointments, IP education and interactive discussion-based sessions, IP group tutorial sessions and IP client focused care conferences led by health students **Involved tauira discipline/s** Case management, counselling psychology, exercise and nutrition, health administration, health promotion, nursing, occupational therapy, oral health, physiotherapy, podiatry, psychotherapy **Population/s served** Staff, tauira and local community; three documents focused specifically on patients with Parkinson's disease and type 2 diabetes
Publications	**Institution and clinic**
[19] Godbold, R., Lees, A., & Reay, S. (2019). Ethical Challenges for Student Design Projects in Health Care Settings in New Zealand. *International Journal of Art & Design Education, 38*(1), 182–192.	Auckland University of Technology Design for Health and Well-being (DHW) Lab **Description** Tauira at both undergraduate and postgraduate levels engage with a hospital through a design lab and have access to the real-world context of acute health care **Involved tauira discipline/s** Design **Population/s served** District Health Board acute health services

Publications	Institution and clinic
[20] Allan, J., O'Meara, P., Pope, R., Higgs, J., & Kent, J. (2011). The role of context in establishing university clinics. *Health & Social Care in the Community, 19*(2), 217–224.	Three unspecified clinics from Aotearoa New Zealand and seventeen from Australia
	Description
	Varied. The most common clinic type described was an on-campus clinic provided by a single tauira professional group, often co-located with other disciplinary clinics
	Involved tauira discipline/s
	Audiology, dental, human movement and exercise physiology, multidisciplinary, podiatry, physiotherapy, psychology, psychotherapy, occupational therapy, optometry, speech therapy, veterinary
	Population/s served
	Varied but not reported in detail: urban and rural; typically run in partnership with healthcare providers or near existing populations of high need e.g., aged care facility; target high waiting lists

Publications	Institution and clinic
[21] Vaughan, B. (2018). Exploring the measurement properties of the osteopathy clinical teaching questionnaire using Rasch analysis. *Chiropractic & Manual Therapies, 26*, 13.	Unitec Osteopathy clinic (and others from Australia and the United Kingdom)
	Description
	Osteopathy tauira are responsible for the management of patients; approximately five to seven tauira are simultaneously supervised by a qualified osteopath
	Involved tauira discipline/s
	Osteopathy
	Population/s served
	Not described

Publications	Institution and clinic
[22] Pullon, S., McKinlay, E., Beckingsale, L., Perry, M., Darlow, B., Gray, B., Gallagher, P., Hoare, K., & Morgan, S. (2013). Interprofessional education for physiotherapy, medical and dietetics students: A pilot programme. *Journal of Primary Health Care, 5*(1), 52–58.	University of Otago Health Sciences
	Description
	Groups of three health tauira undertook a home visit with a patient; students worked together to share decision-making, construct a joint management plan and make recommendations
	Involved tauira discipline/s
	Dietetics, medicine, physiotherapy
	Population/s served
	Patients attending a local primary care provider and receiving health care for several comorbidities

Findings

The scope of tauira contributions varied across the clinics described in the literature, with most providing opportunities for tauira to independently plan and deliver a service directly to clients. Several clinics involved tauira from more than one tauira discipline. With regards to daily operations, some had tauira working for only a few hours a fortnight to working full-time and over varying periods of time. Some clinics required tauira to engage in periods of directed educational components whilst others were entirely hands-on treatment-based work (with some planning and note-taking). Educational models described included an interprofessional care-based model, Wenger's Communities of Practice model, and a client-centred, collaborative, holistic, and interprofessional care model. Key points collated from the studies and relating to opportunities, challenges and lessons learned are provided in the tables below.

Table 2: Key opportunities generated by Tauira-assisted clinics

For students
• Offers real-world opportunities to implement learning
• Exposure to a diversity of clinical presentations
• Opportunity to gain a more holistic appreciation of the person
• Possibility of gaining interprofessional teamwork skills, broadening perspectives, and strengthening tauira sense of professional self
• Learning can be scaffolded in a safe/controlled environment, matching various stages of study
• Chance to give back to the community
For the community
• Address healthcare gaps and a meet community need
• Interprofessional teamwork between tauira, based on client-centered holistic goal setting, was enjoyed by clients
• Interprofessional practice provided clients with a one-stop shop for accessing services
For educators
• Aids in providing placements and practicum experiences necessary for programmes of study

Table 3: Key challenges with implementing tauira-assisted clinics

For the learner	For the academic institution
• Limited diversity in range of conditions seen • Complexity of chronic conditions • Tauira were often fringe contributors to the Community of Clinical Practice • Interpersonal challenges • The volume and complexity of knowledge and skills acquired during interprofessional teamwork can leave a learner feeling uncertain • Logistics, such as "getting up in the morning to information overload" 15(p85> • Arranging clinical contacts	• Do not necessarily generate all placement experiences required • Patient supply (except where developed in response to community need) • Tension between curriculum requirements, tauira learning needs and patient needs • Timetabling and aligning placements for multiple professions • Continuity of care: tauira availability to run clinics throughout the year; limited tauira attendance when not a course requirement • Operating as a healthcare provider (including marketing, managing costs and income, developing and maintaining a referral network; professional accountability) • Staffing: clinic management not recognised in academic workloads • The risk factor in setting up a project with no track record to guide it

Table 4: Key lessons learned from developing, implementing and evaluating tauira-assisted clinics

Lessons about teaching and learning
• Planning is required to provide consistent education and expert supervision
• Tauira experiences were positive, with practice often transformed
• Interprofessional components can be successfully introduced across existing pre-registration health professional degree courses in an Aotearoa New Zealand context
• Clinics can provide an authentic interprofessional environment in which tauira can engage safely with expert practitioners
• A sharing of the vocabularies, cultures and worldviews of disciplines requires making knowledge explicit to enable situated learning to occur
• Curriculum alignment is needed to facilitate consistent interprofessional learning opportunities
• One study reported participation in an interprofessional tauira-assisted clinic had a limited impact on future career decisions1>
• Creation of practice stories and heuristics may be important in the NZ context
• There is value in including clients as part of any community of practice, as they are integral in the treatment and management of their own conditions
• Educators gained valuable insight into their own collaborative processes and learning, and into difficult aspects of interprofessional teamwork for tauira
Lessons learned about operational factors
• Policies and procedures need to support and reflect interprofessional practice and prevent siloed practices and communication
• A focus on interprofessional practice should come from the leadership team
• Plan to ensure ongoing supply and diversity of clients: locating in an area of high need is insufficient evidence this will occur
• Successful examples included outreach clinics and partnerships with established healthcare providers
• Educational institutions operate within different financial arrangements than healthcare providers: training providers should recognise the substantial costs associated with providing healthcare

This review identified opportunities and benefits for learners, communities and the educational institutions. For learners, 'real-world' learning through tauira-assisted clinics seems generally positive and indeed can be transformational in nature. Tauira-led services were described as a safe or controlled learning environment that could provide additional support as required, especially for tauira who may need extra scaffolding of their learning. Some challenges were reported, such as tauira experiencing 'information overload' (p85).[12]

From an institutional perspective, tauira-assisted health services appear to present invaluable opportunities for providing flexible placements which align with curriculum and programme requirements. In terms of challenges, an inherent tension was frequently suggested between curriculum/learning requirements, tauira learning needs and the needs of clients. In addition, consistently staffing clinics (with tauira and appropriately qualified professionals) was frequently discussed as something requiring particular attention.

No published study described any community consultation, including with Māori, as part of the process for developing or implementing tauira-assisted clinical experiences. Also absent was any explicit discussion of practices inclusive of Te Ao Māori or cultural support for tauira, educators or community members, or engagement between the tauira-assisted health service and iwi/hapū/whānau.

Summary: Literature review

In summary, the literature surrounding tauira-assisted clinics in Aotearoa New Zealand shows that such clinics offer tauira an opportunity to 'give back', to address healthcare gaps, and generate significant benefits across a range of learning and health domains. However, it was noted that establishing them involves complex considerations, in curriculum design, ethical, financial and resource implications, and the most appropriate structure and educational model.

What the data told us

Whaowhia te kete mātauranga

Fill the basket of knowledge

Another element of our investigation involved reviewing data to help establish the community need. To do so we accessed Ministry of Health and ACC data in the Integrated Data Infrastructure (IDI), an innovative research database which holds deidentified information about people and households across Aotearoa New Zealand.[2*]

The IDI, managed by Statistics New Zealand, contains data from a range of government and non-governmental agencies, the census, and various surveys. Data sets are linked together (integrated) across individuals, but all personal identifiers are removed before researchers gain access. Access is limited to approved researchers in secure research facilities, and Statistics New Zealand staff check all research results for identifying information before release. Our application to access the IDI was approved on 23 October 2020.

Disclaimer: These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) which is carefully managed by Stats NZ. For more information about the IDI please visit https://www.stats.govt.nz/integrated-data/.

Immunisation Coverage

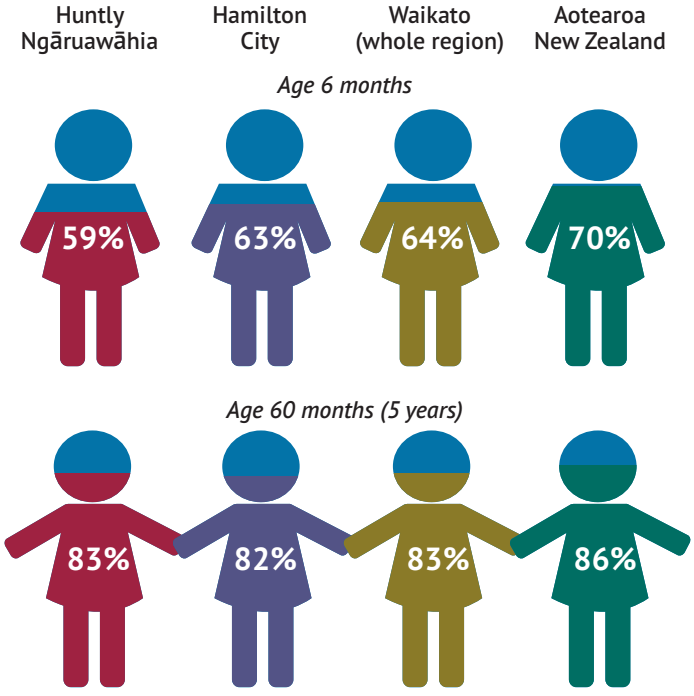
The Figure below (Figure 1) shows the percentage of people who, when turning the milestone ages of 6 months and 5 years, were recorded in the National Register as being fully immunised as per the New Zealand Vaccination schedule.[2] The World Health Organisation[25] notes that vaccination is a cornerstone of good public health and an essential tool for reducing the burden of disease. However, global coverage rates in some areas have stalled or declined, and there is a risk that complacency will undermine past achievements.

This is a snapshot look at coverage with no grace period. It shows whether each child was fully immunised when they turned each age, even if they had the required vaccinations the day after. Included are all people born between 1 January 2012 and 31 December 2018 and included on the national register.

Figure 1: Percentage of male and female residents on the NIR who had completed all age-appropriate immunisations

Chronic Conditions/Significant Health Events

The percentages of infants fully immunised at 6 months in Huntly/Ngāruawāhia and Hamilton City is somewhat less than that in New Zealand as a whole. Rates at 60 months, though higher, are also somewhat lower than the national average. Considering recent outbreaks of preventable diseases, rates of non-vaccination are concerning.[2]> For example, a 2019-2020 measles epidemic was the worst seen in Aotearoa New Zealand since 1997, affecting some 1,541 people, almost all of whom were non-vaccinated.[28]

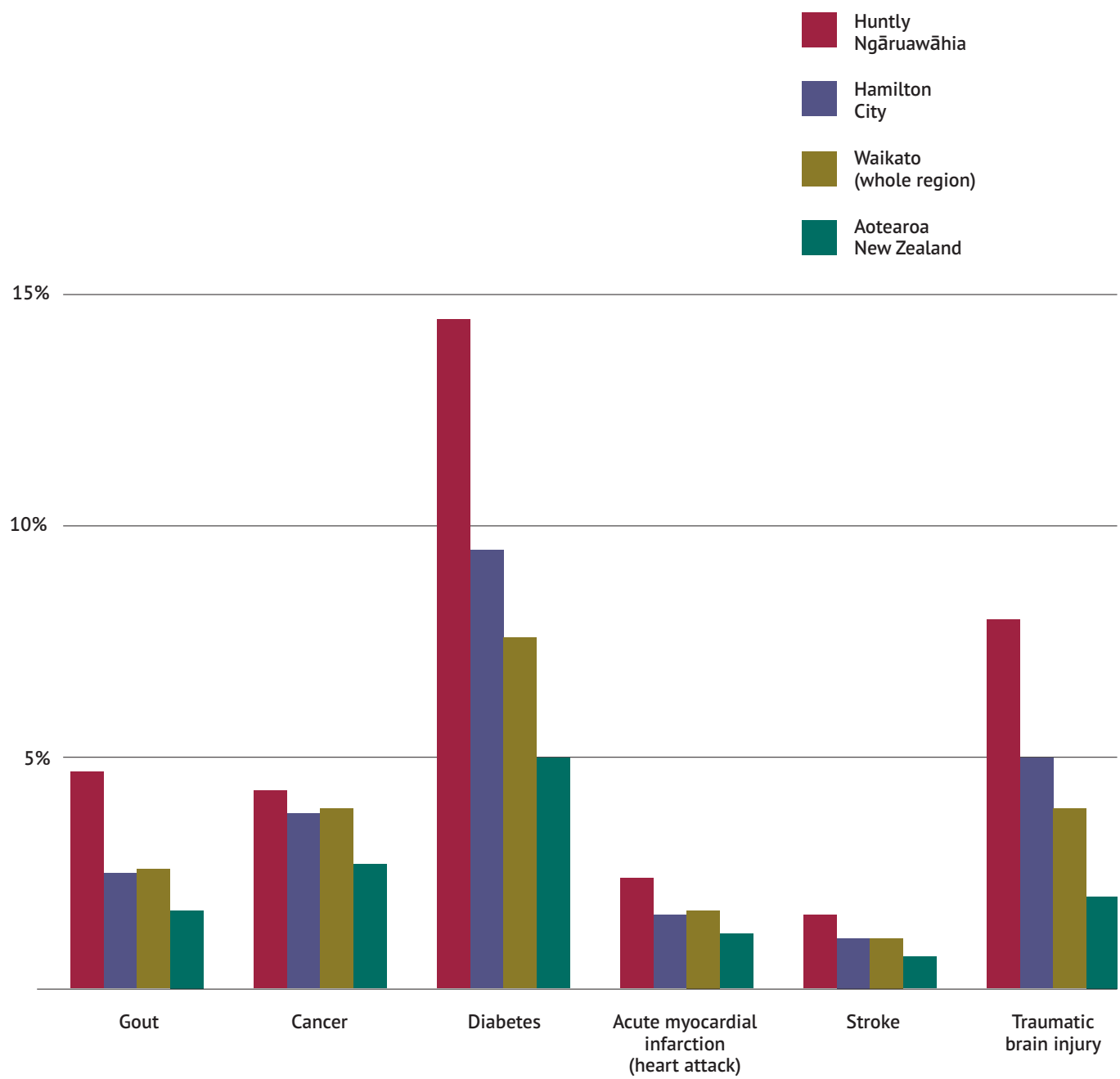


Confidentiality rules have been applied to all cells, including randomly rounding to base 3. Individual figures may not add up to totals, and values for the same data may vary slightly between different text, tables and graphs.

The Ministry of Health's Chronic condition dataset tracks New Zealanders who have been diagnosed with or who have experienced one or more of six defined chronic conditions/significant health events. Conditions include diabetes (type 1 or 2), gout or cancer, while the events include a traumatic brain injury, stroke, or acute myocardial infraction (heart attack). These are diagnoses with a high likelihood of ongoing, long term or recurring effects that can have a significant impact on people's lives.

It is important to note that these statistics are taken from various national health data collections, primarily hospital admission data, and reflect only actual diagnoses made within the health system. Undiagnosed incidence will not be included.

Figure 2: Resident population ever diagnosed or treated for key significant health event/chronic condition



*population usually resident 2018

Huntly/Nga	20,910
Hamilton	176,900
Waikato Region	499,300
NZ	5,090,200

Confidentiality rules have been applied to all cells, including randomly rounding to base 3. Individual figures may not add up to totals, and values for the same data may vary slightly between different text, tables and graphs.

Data show the significant level of chronic disease existing in the community. The most obvious health challenge is the number of people with diabetes: the 3,039 people with diabetes in the Huntly/Ngāruawāhia represent approximately 15% of the population, and in Hamilton 16,773 diabetes sufferers represent over 10% of the city. These numbers are concerning given the risk diabetes poses to long-term health outcomes, especially when poorly controlled. A New Zealand review of almost 30,000 patients found at least 29% of diabetes patients were in this category, with HbA1c levels above 64 mmol/mol. Cancer diagnoses are also prevalent and while it would typically be considered less serious, gout is a painful condition which indicates an increased risk of many other health problems. It too is common.

A significant number of residents in Huntly/Ngāruawāhia and Hamilton have experienced one or more of stroke, traumatic brain injury or acute myocardial infarction (heart attacks), events with long-term health repercussions. A traumatic brain injury (TBI) indicates any sudden damage to the brain caused by external force ranging from minor concussion to catastrophic injuries with permanent effects. Of the three significant events these are the most common, followed by heart attacks and then stroke.

Aotearoa New Zealand's current health systems do not necessarily manage sustained chronic conditions and long-term health challenges well. These require effective, longer-term and personalised primary health practice, with family/whānau involvement, and clients aided to help overcome any barriers or challenges they face.

ACC Claims

The ACC administers the no-fault national accident compensation scheme which provides cover for New Zealanders and visitors injured by accident. For injuries covered under the scheme ACC pays medical fees; compensation for loss of income; rehabilitation; and other assistance where necessary .

The counts shown here exclude *medical fees only claims*. Only *entitlement claims* (injuries that receive other entitlements such as payments for time off work) are shown. Entitlement claims are more actively managed, and this data is therefore of higher quality. These claims are also the more serious, typically requiring more intensive rehabilitation or treatment.

The table below (Table 7) shows the number of claims made by current residents (as recorded in the IDI resident population at 30 June 2020), for each of ACC's primary diagnosis group categories. Counts include all claims made before June 2020 for injuries occurring in the 5-year period from 1 January 2015 to 31 December 2019.

Table 5: Claims made by residents[1] for injuries sustained 2015-2019

ACC Primary Diagnosis/Location	Huntly Ngāruawāhia	Hamilton City	Waikato (whole region)	Aotearoa New Zealand
Amputation/Enucleation	72	366	1,341	13,068
Burns	219	1,794	5,142	44,328
Concussion/Brain Injury	321	3,960	10,653	111,584
Deafness	228	1,179	5,526	48,378
Dental Injury	21	87	306	2,970
Disease/Infection	...	75	237	2,187
Foreign body in orifice/eye	9	318	891	8,784
Fracture/Dislocation	4,539	40,833	114,123	1,032,660
Gradual onset	378	2,214	6,483	53,562
Hernia	36	462	1,671	14,001
Inhalation/Ingestion (non-gradual onset)	9	51	210	1,821
Laceration/Puncture/Sting	1,806	13,083	36,756	313,287
None	654	6,090	16,059	136,143
Other	135	798	2,388	22,485
Soft Tissue Injury	10,995	94,986	244,785	2,186,532
Total claims	**19,442**	**166,296**	**446,571**	**3,991,770**

Confidentiality rules have been applied to all cells, including randomly rounding to base 3. Individual figures may not add up to totals, and values for the same data may vary slightly between different text, tables and graphs.

The most common primary diagnosis of claims were soft tissue injuries, i.e. damage to muscles, tendons and ligaments. These injuries, such as strains, sprains and bruises, are not only the most common but also the costliest form of claim. The second most common were claims for fracture/dislocation (broken bones or the abnormal separation of joints), while other acute injury claims such as laceration/puncture/sting, burns, foreign body in orifice/eye and amputation/enucleation (i.e. the removal of limbs or eye) are also frequent. Note some diagnoses listed, such as deafness or infection/disease, are only covered by ACC when due to occupational exposure (i.e. related to the persons job). Examples include leptospirosis in those working with animals, or healthcare workers infected with COVID-19 at work.[34]

Overall, these claims are telling in their number. Over the three-year period shown almost 20,000 claims made by people living in Huntly/Ngāruawāhia and over 166,000 by those living Hamilton City resulted in payment for time of work or for further rehabilitation, beyond simply medical care. Accidents and injuries clearly represent a significant community health problem.

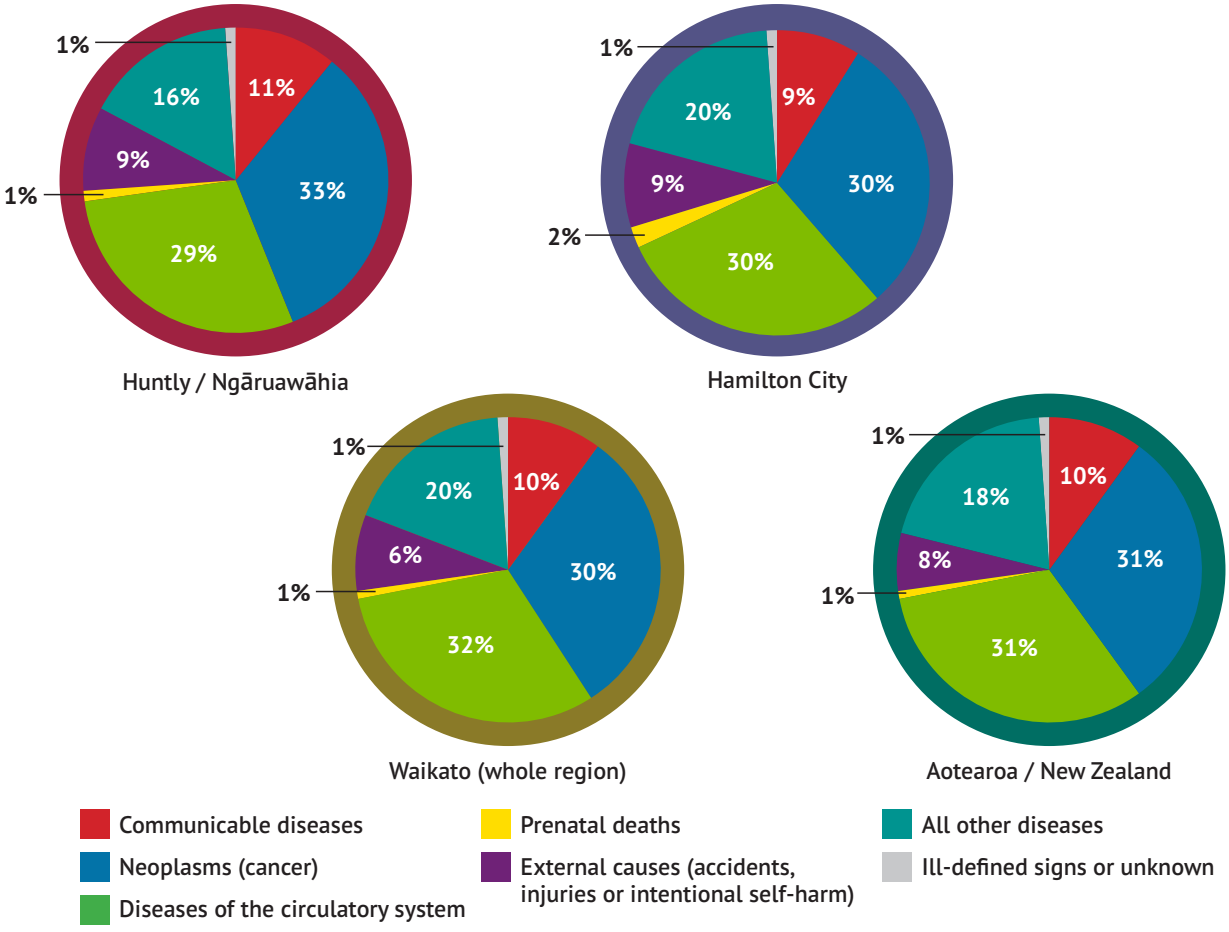
Mortality

Data classifying the underlying cause of death for all deaths registered in Aotearoa New Zealand between 2016 and 2018, including all registered fetal deaths (stillbirths), using the World Health Organization Rules and Guidelines for Mortality Coding.

The World Health Organisation International Classification of Diseases (ICD) provides rules for selecting the COD that is most relevant from a health perspective. In ICD terminology, this is the 'underlying' cause of death. While over 2,000 individual causes have codes in the ICD, to obtain a panoramic view of deaths these have been grouped here into the Pan-American Health Organisation PAHO-6 list of 6 broad groups of causes.[3]>

Included are death records of people from each area from January 1, 2016 to December 31, 2018, the most recent 3-year period available.

Figure 3: Resident causes of death, 2016-2018



Confidentiality rules have been applied to all cells, including randomly rounding to base 3. Individual figures may not add up to totals, and values for the same data may vary slightly between different text, tables and graphs.

The spread of causes in these areas was comparable to national proportions (see Table 7). Cancers and diseases of the circulatory system (most commonly cardiovascular disease, but also including stoke and aneurism) were the most common, each representing around a third of deaths. It is notable that the risk of both can be significantly lowered by lifestyle changes and effective primary care. Around ten percent of deaths were caused by communicable diseases (most often pneumonia or influenza), and a similar percentage from external causes, such as accident, injury or suicide.

Summary: Data
Taken together, Ministry of Health and ACC data we have presented here showed that Huntly, Ngāruawāhia and Hamilton City communities face significant healthcare needs. Local rates of childhood immunisation could be improved, cancer represents a considerable healthcare burden, the number of claims made to ACC for accident or injuries may be surprising and mortality records reveal that a many local deaths are tied to potentially preventable causes. Especially notable are the prevalence of chronic conditions and significant health events, with a remarkable number of people in these communities living with diabetes, and/or with the potentially long-term effects of events such as stroke, heart attack or traumatic brain injury.

What the people told us

He aha te mea nui o te ao

He Tāngata, he Tāngata, he Tāngata

What is the most important thing in the world?

It is the people, it is the people, it is the people

To obtain diverse perspectives about the development and implementation of a tauira-led health service, we consulted with three key groups. The first were Wintec staff, who were invited to participate in an online survey. The survey focused on the potential they saw for tauira-assisted service within their programmes. The second group were representatives of Aotearoa New Zealand education providers operating tauira-assisted services, who we interviewed via teleconference. These interviews sought to extend our knowledge of existing practice, and the challenges and opportunities of tauira-delivered clinical experiences. The third group consulted were local health providers, who we consulted via whakawhiti kōrero and Talanoa*. Our aim here was to gain a broad understanding of current Wintec tauira involvement with each organisation and determine the potential for expanding on this in the context of a tauira-assisted health service. The findings from each channel of enquiry are described below.

Consultation with Wintec staff

Seeking understand the opportunities and barriers for its integration into current health-related programmes at Wintec, we undertook a survey of staff working in the Centre for Health and Social Practice and Centre for Sport Science and Human Performance. The survey sought opinions about tauira preparedness and the feasibility of tauira-assisted services.

The survey ran through September 2020 and was sent to approximately 150 eligible staff from both Centres. A total of 30 responses were received, representing a response rate of 20%. Respondents taught in a range of disciplines (16 different clinical/professional backgrounds were reported), with the highest proportions indicating nursing (11) and/or sport science (10).

Current Practice
In terms of the existing picture, when asked how prepared tauira currently are to practice in interprofessional environments, 70% felt that this could be improved. Respondents described interprofessional practice as being 'discussed in class, but not practiced in authentic learning opportunities', and that there is some 'lack of scaffolded education' and 'programmes are largely delivered in [disciplinary] silos'.

When asked what current opportunities exist for tauira to engage in professional practice, several reported being 'unsure' or feeling these were 'limited'. Some indicated placements as being particularly important in this area, particularly where the placement organisation was interprofessional. Staff in nursing and sport science mentioned specific initiatives: these included an existing rural immersion project, DairyNZ, Field days, KidneyNZ, and the Wintec Biokinetic Centre (which offers clients programming in exercise physiology, biomechanics, and nutrition).

Future Potential
When asked if there was scope to include a tauira-assisted clinic within their programme, almost all respondents (90%) agreed, some commenting *'I think that it's a great idea', 'I think it would be an excellent initiative', 'could be very effective',* and *'I have wanted to see this for years'.* It was acknowledged that such clinics are already running in the Centre for Sport Science and Human Performance.

* A personal encounter where people story their issues, their realities and aspirations; Vaioleti, T. M. (2016). Talanoa research methodology: A developing position on Pacific research. *Waikato Journal of Education, 12*(1), 21–34. https://doi.org/10.15663/wje.v12i1.296

Attitudes were mentioned as potential barriers, including possible public *'lack of trust'* or '*confidence in the ability of students to use their skills effectively'*. Possible student *'lack of interest'* was noted, particularly if the work is unpaid or not part of a learning module, and that students may *'lack confidence in their own abilities'*. More than one current staff member indicated that learning would need to be *'scaffolded'* into practice and that discipline-specific supports would need to be provided.

There were some differences of opinion regarding at what level of study tauira may appropriately work in such clinics. Concerns were raised about earlier stage tauira *'level of knowledge'*, and that they are *'focused on their own profession - not ready to learn about others'*. For other staff though, there were opportunities for placements to be adapted at *'all levels'* and the *'earlier this can be integrated into the learning pathway the better the scaffolding of learning can occur'*.

Staff described the possibility of the tauira-assisted clinic as a *'great opportunity'* to deliver *'higher quality placement opportunity'* and demonstrate *'hauora in action'*. Achieving this was seen as a chance to *'break the dominant white ideology that overwhelms Wintec and many other teaching environments'*. A large proportion of respondents referred to how *'the practicality of this type of endeavour may suit primarily tactile learners'* and its *'not just Māori and Pasifika achieve more in a hands-on environment'*.

Mini-summary: Key considerations from staff consultation
Staff expressed strongly that any such clinic would need to be well resourced, and several mentioned logistics (such as finding an appropriate space and timetabling conflicts) as important considerations. Some staff noted the challenges of appropriate staffing, supervision and workload. Authentic consultation (with mana whenua, stakeholders and the community) was mentioned by many staff as an essential prerequisite for success, which was already embedded into our project planning.

Consultation with education providers

The published information on tauira-assisted clinics in New Zealand is limited and recent, given the length of time some clinics have been established (i.e. decades in several cases). To extend our knowledge to include clinics and areas which may not have been written about, the research team reached out to key individuals at tauira-assisted clinics across New Zealand. Representatives from five clinics described in the table below agreed to an interview (see Table 7).

Table 6: tauira -led clinics consulted via interview

Student-led clinics	Student disciplines	Description	Population served
Otago Polytechnic Massage Clinic	Massage	Undergraduate massage programme tauira deliver massage therapy and write client notes under supervision (approx. tauira:staff ratio 3:1). Tauira complete 50-70 hours at the clinic/year depending on level of study	Self-referrals of staff, tauira and general public
University of Otago Physiotherapy Clinic	Physiotherapy	Undergraduates in 2nd-4th year of study and postgraduates deliver treatment under the supervision of a registered physiotherapist. Placement lengths vary between 1 morning/week for 3 weeks to 6 weeks full time (approx. tauira:staff ratio 4:1)	Self-referrals of tauira, staff, and general public with musculoskeletal injuries and balance challenges
Victoria University Psychology Centre	Psychology	Tauira in 4-6th year of study (postgraduate clinical psychology programme). Tauira lead care under supervision of clinical psychologist	Self-referrals or via GPs for clients (children, youth and adults) with mild-moderate mental health needs
Wintec Biokinetic Centre	Clinical exercise physiology	Tauira design and run exercise programmes with referred clients under supervision of accredited clinical exercise physiologist. Programmes last 8 weeks	Clients accessing the Green Prescription programme through Sport Waikato; referrals from local primary healthcare providers

When comparing the clinics which feature in the published literature to clinics which were identified via the internet search and snowball sampling of our consultation process, it is apparent that clinics are more likely to be written about if they involve a collaboration with industry partners or are designed to take an interprofessional approach within a single institution, a finding which is consistent with the international literature3>. The relative lack of studies looking at single-profession clinics run by educational providers could be considered a form of publication bias[39] that limits the evidence-base for clinics as a whole.

Given the importance of positioning Māori as priority learners and health-service users under Te Tiriti o Waitangi/ The Treaty of Waitangi, the consultation process included asking clinic representatives about any consultation processes undertaken with Māori during clinic development and implementation. Indications were that it was not a common component in the development of clinics. This appears to have had an impact on the client populations accessing services, as providers reported that their clinics had generally low proportions of Māori clients. In terms of incorporating culturally appropriate models of care, when asked how clinic practices reflect Te Ao Māori, one provider reported including an introduction to some 'dos and don'ts' of working with Māori clients in their student orientation and having reminders of greetings in a range of languages, including te reo Māori, visible on the walls. Another referred to providing students with instructions about how to demonstrate respect for tapu (sacred) areas of the body.

In terms of practicalities of clinic operations, people closely involved with the operation of clinics mentioned how health practitioners in Aotearoa New Zealand are all held accountable to the same overarching legislation (Health Practitioners Competence Assurance Act, 2003). When asked about clinic opportunities, they typically noted that clinics can align with system-wide priorities about improving access for clients, and they meant tauira could be educated in ways that closely align with curriculum. Some did caution that clinics operate in potential competition with other providers (some of which may also offer placement opportunities), and that this tension is something to be managed.

Asked about the key lessons they would impart, interviewees stated that aligning participation with course requirements maximises tauira attendance and commitment. Other recommendations included starting small and building up, avoiding over-reaching or over-committing, and that a clear vision and objectives are essential. One representative interviewed described how the physical environment of clinic space can facilitate or inhibit effective interprofessional practice and learning. A receptionist/front-facing administrator can help ensure tauira stay focused on clinical experiences, and online booking systems are most efficient and private and reduce human error. Having a single point of entry for external provider referrals is useful.

Mini-summary: Key considerations from external provider consultation

Comparing local tauira-assisted clinics, which feature in the literature, with those we identified via online searching, research networks, and snowball sampling we found more traditional and single-discipline clinics were less likely to have been written about. To widen our perspective, we therefore reached out to kōrero with some of these clinics. Our discussions with providers confirmed an initial observation from the literature that clinics appeared to have limited levels of Māori consultation and involvement, including in the planning and operational phases. Representatives from clinics were universally positive about the opportunities and successes of clinics for tauira learning, but noted some important considerations, and offered advice borne from their own experiences.

Whakawhiti kōrero: Community consultation

Each of the organisations we consulted with have unique client populations, i.e. kaumātua, Māori, Pasifika. It was not uncommon for clients to be referred to as whānau/family and all three organisations were passionate about meeting the needs of underserved whānau/families and uplifting the health of their target population as a whole. In this report we present our whakawhiti kōrero in response to four key questions:

1. What is the current Wintec student involvement at each organisation?
2. What are the needs of the population accessing your services?
3. What are the potential opportunities of developing a tauira-assisted clinic with your clients/whānau?
4. What are the potential barriers to developing a tauira-assisted clinic with your clients/whānau?

#1 Current student involvement
Our whakawhiti kōrero captured examples of current tauira involvement at each organisation. Staff were enthusiastic about tauira input and provided examples of tauira from the following disciplines being placed within their services: nursing, social work, occupational therapy, health and wellbeing.

#2 Population needs
Five key themes identified by staff when noting the needs of whānau were 1) *access to allied health/fitness services*, 2) *health promotion*, 3) *addressing stigma*, 4) *time to build relationships*, and 5) *tino rangatiratanga/client autonomy and self-determination*.

Access to allied health/fitness services
The health needs of whānau were described as 'complex' and intergenerational' (K'aute

Pasifika) and it was acknowledged that facilitating whānau to access community services could be a 'lengthy' and expensive process *(Rauawaawa Kaumātua Charitable Trust)*. For two of the organisations this was a driving factor in their expanding provision:

"...the idea with [new Wellness Centre], is to get that at a point where, when we do open across the road, all those services are going to be there; it's all going to connect and the people in that community will know that these great services are now available every day" (Te Kōhao Health).

In particular, staff reported a need for healthcare provision for their whānau from exercise specialists, nurses, physiotherapists, podiatrists and occupational therapists.

Exercise
The impact of exercise on the physical and mental health of kaumātua was clearly reported:

> *"You see them [kaumātua], they'll go in there and it's quite funny when they shuffle in and next minute they come bouncing out. Their whole demeanour changes, they're full of life when they come out. Exercise is so important" (Rauawaawa Kaumātua Charitable Trust)*.

It was acknowledged that current service provision is limited, due to the constraints of staff roles and responsibilities, and that greater access to this type of input would be beneficial for whānau.

Nursing
Each of the services employ nurses, whose role was often seen as key to positive outcomes:

> *"The nurse does all the background work and actually has the relationship with the whānau member. It's not the doctor, nine times out of 10" (Te Kōhao Health)*.

One service was moving towards a model of nurse-led practice, which was an opportunity to empower and grow the workforce in this area and better serve whānau;

> *"It can be led by nurses, and that empowers nurses to actually go another step up, to become nurse practitioners. It gives them also that bit of autonomy. Like in surgeries, you've got the doctor then you've got the nurse, whereas in nurse led clinics, the nurse, she manages it. That's growth... A lot of nurses, if you don't hold onto them in the first two years, they'll go off and do another degree and move out of nursing altogether" (Te Kōhao Health)*.

Physiotherapy
Physiotherapy was seen as a valuable addition to service provision for addressing specific concerns, such as 'pulmonary rehab' *(Rauawaawa Kaumātua Charitable Trust)*, and as part of providing an overall wrap-around service:

> *"...eventually, once we do get the big wellness centre in [location], then we will have those services available and we will be able to go "hey look, we've got the physio next door, let's get you booked in" (Te Kōhao Health).*

Podiatry
One of the organisations highlighted podiatry services as a specific need that was difficult for their whānau to access:

> *"One of the reasons we started our foot clinic was because there is a massive gap in that area, because most podiatry appointments cost, I don't know what they cost, $60?" (Rauawaawa Kaumātua Charitable Trust).*

Another saw access to podiatry as a need for their clients and have built this into their planning of future service provision:

> *"We're also going to be doing podiatry as well [at the proposed Wellness Centre]. There's going to be other services there, so there is opportunity for other graduates "(Te Kōhao Health).*

Occupational therapy
At the time of our whakawhiti kōrero, none of the services employed an occupational therapist but staff clearly identified the potential for occupational therapy to enhance service provision and target currently unaddressed need:

> *"It's actually they're living in their own home and they think they need – they don't even think they need help, but you know that there's equipment that can help them. Tying those two together easier would be good "(Rauawaawa Kaumātua Charitable Trust).*

> *"I'll probably have my nose in there now and again once the OTs come, because I think they're brilliant. My last two were absolutely brilliant. I said to [Manager], you need to go and find some funding. I said we just need one OT here, between the clinic and my service" (Te Kōhao Health).*

Health promotion
The organisations have contracts for delivering health promotion information and services, such as health checks and screens. Most commonly, this work related to the prevention and management of chronic conditions (such as diabetes), immunisations, before school checks, and cervical screening. Some of this work was opportunistic, offering services while whānau happened to be onsite already, with plans to extend these opportunities into whānau homes:

> *"...and they bring someone else in, and if the kids aren't immunised then we're like well let's get them immunised while they're here because who knows how they got here. Are they going to be able to come back again?" (Te Kōhao Health).*

> *"We're getting all our nurses, even in our Whānau Ora team, trained up so we can offer more services in the homes. With these nurse-led clinics, it's giving whānau more opportunity to come into the clinics, if they can't get into the clinic down here [city centre location]" (Te Kōhao Health).*

Much of the emphasis was on preventative work, keeping people well and meeting whānau where they are at with their health needs:

> *"I guess one of the points of difference is we don't have time limits. If it takes our nursing team to spend an hour or 40 minutes or whatever with someone then that's what it takes, because we see them less and less, which is what we want... That's when we can tell that we're keeping them well" (Rauawaawa Kaumātua Charitable Trust).*

> *"The thing for her [Manager] is she wants to pre-check everyone, not post-check everyone. She wants anyone to be able to come in, have a complete wellness check from diabetes to heart check to going through the ultrasounds and all that, everything done" (Te Kōhao Health).*

Some health promotion work required staff to deliver information, often multiple times to the same whānau, and to do so in a way that maintained their engagement and kept it relevant:

> *"It's not easy to keep rehashing the same information that you need to share, because we have to have so many events of the same topic, so it's got to be creative about how you engage everyone if you're saying the same message all the time" (Rauawaawa Kaumātua Charitable Trust).*

Addressing stigma
In our whakawhiti kōrero, staff talked about the stigma associated with health screening (such as cervical smears) and general stigma associated with health conditions, mental health in particular. Reducing stigma to increase whānau access of health services was identified as an important health need:

> *"The stigma around it does need to be lifted in a massive way. I feel like I was a bit naïve before coming in here about certain things. It's really opened my eyes up, especially around mental health ... Now that I'm seeing it all the time coming through the clinic, I feel like my whole life I've just been blind to that and not really understood... It's more awareness in the public, as well. It's just everyone needs to have that knowledge" (Te Kōhao Health).*

> *"When you see that nanny has never been screened for cervical cancer, we know why, and all it is about. I've gone and done talks at maraes and said, Nan, it's one minute of shame, but it means it may be another 20 years with your moko [grandchildren]" (Te Kōhao Health).*

Time to build relationships
Across each of the organisations, the importance of building meaningful and trusting relationships was identified as critical for facilitating access to services:

> *"...and kaumātua talk too. At the fun stuff, if someone says oh, I've got a sore puku today or whatever, they'll say, oh go see the nurses. It's that whole level of trust. They talk to each other" (Rauawaawa Kaumātua Charitable Trust).*

> *"Even us as Māori, sometimes we get Māori tell us, no, not interested, but you don't give up on them, especially if they're māuiui. You go, okay, we've got to find another way to get in here... One of the big things with Māori – I hate phone calls. I want kanohi ki te kanohi, face to face" (Te Kōhao Health).*

Tino rangatiratanga/client autonomy and self-determination
Underpinning the content of much of the whakawhiti kōrero was the assertion that whānau autonomy or tino rangatiratanga should be promoted, upheld and developed. Opportunities for tauira to experience this in practice will be invaluable in facilitating their knowledge of how to apply this concept in practice.

> *"I think it's about giving our whānau – and that's another great thing for nurses – choices. Not dictation. Where you walk into the doctors, and you watch it, and the doctor holds the power. Our whānau should always hold the power with support from me, with support from you, with support from you, to keep that power" (Te Kōhao Health).*

#3 Opportunities for a tauira-assisted clinic
Staff in these organisations could identify potential opportunities for collaborating in the development of a tauira-assisted clinic. These opportunities could be broadly grouped into the following nine themes: 1) *working alongside experienced clinicians*; 2) *gaining real-world experiences*; 3) *interprofessional collaboration*; 4) *developing 'soft skills'*; 5) *holistic service provision*; 6) *authentic experiences of cultural practices*; 7) *health promotion delivery*; 8) *diversity in health conditions*; and 9) *generating a pipeline into the workforce*.

1) Working alongside experienced clinicians
Staff felt they had experienced clinicians who tauira could learn from. Pairing up staff and tauira was perceived as an opportunity for staff to share their knowledge and feel empowered and for the tauira to know who to approach to get the right support for whānau. Furthermore, it was seen as beneficial that this could be achieved without additional cost to the organisation.

> *"I think probably knowing the chain of command – who do I go to if such and such happens, or if I've got nothing to do or if I've got a question who do I go to? so that they're not confused" (Rauawaawa Kaumātua Charitable Trust).*

> *"I can tell you now, managing director, she will support that. One, because it's no cost to us as such, it's an opportunity especially for young graduate Māori nurses to come through the system, but open to anyone. It's a win-win for [the practice manager], because her nurses get the opportunity to lead but also train and give knowledge. So, I honestly can't see any problem there" (Te Kōhao Health).*

2) Gaining real-world experiences
Tauira being able to gain hands-on, real world experiences was seen as a significant opportunity of having a tauira-assisted clinic. By taking responsibility for putting theory in practice tauira would gain a better understanding of how to begin to adapt and develop their practice for different populations and environments:

> *"That could be a good place for students to see, you learn a lot in theory but to see it at first hand sometimes it can be quite different and sometimes it does involve a lot of adapting. I think it would be a good place to do placement" (K'aute Pasifika).*

> *"It's, students have the opportunity to learn that and to see it and to experience it is a lot more valuable than it just being, like you were saying, told in a classroom. It's very different... But if students aren't exposed to it at an undergraduate level, they might not seek it or know about it or think about it once they graduate" (Te Kōhao Health).*

3) Interprofessional collaboration
The opportunity to work alongside and learn from staff from a range of disciplines was evident from current practices within each of the organisations and this presents a valuable learning opportunity for tauira. While not all disciplines were always employed at each organisation, the implied messaging was that increasing the range of options available to whānau was seen as beneficial for achieving positive outcomes:

> *"We were lucky to have all these different services that I can say, well, why don't you come and do some work experience with us, shadow our social worker, shadow our counsellors, our nurses who go out into the communities. From there they were given the opportunity to learn what it's like out on the streets, so to speak" (K'aute Pasifika).*

4) Developing 'soft skills'
Soft skills are often described as the generic, decontextualized skills of practice that can be readily transferred from one setting to another, such as communication skills, attitudes and empathy (Ratka, 2018; Touloumakos, 2020). During our whakawhiti kōrero, these soft skills were positioned as valuable attributes that included communication skills, attitudes, and team-work.

Communication skills
While communication skills in general were identified as important, communication with specific populations was conveyed as a priority for staff from each organisation. For example, the ability to communicate respectfully with kaumātua or with Māori/Pasifika peoples generally.

> *"...and they find it intimidating, a lot of nurses, because they tell me. They'll say, Auntie [staff name], can you come with us, we're a bit worried about this... Knocking on the door can be the biggest breakthrough for a Māori whānau who should be in our system, who, had someone been able to communicate better with them they wouldn't have been in what you'd call chronic stage" (Te Kōhao Health).*

> *"The skill set I'm looking for [in a student/staff] is really just more around they can pick up stuff about obviously interactions with Pacific communities and being able to relate" (K'aute Pasifika).*

Attitudes
Key to success for tauira working in these organisations is the willingness to challenge their own attitudes, to be flexible and creative. These were attributes valued in tauira and one organisation in particular identified opportunities for tauira to demonstrate these:

> *"If you were just out in the public you'd see an older person, but actually they're just a person, still the same. Sometimes they'll shy away from older people for lots of reasons ... as long as they're flexible. Because we're a Māori organisation, we wear many hats, we get involved in many things, but there are things that just drop into our day that none of us are aware of until it happens and then are they going to be flexible to change?" (Rauawaawa Kaumātua Charitable Trust).*

Team-work skills
The ability to work as part of a team and to work with people in a range of positions was identified as an opportunity for tauira to develop their team-work skills:

> *"I think an important thing for any tauira is to get involved with the clean ups. When we have kai, they're there swinging the tea towel and that too, because a lot can be learned from that. I actually think that that's one of the reasons why our team works so well together is because we – I was going to use the word forced - we are forced to clean up. If any tauira need to learn about team work – it doesn't matter if you're the CEO or the cook, you're swinging a tea towel... You tend to make good networks that way, even when you're driving the tea towel" (Rauawaawa Kaumātua Charitable Trust).*

5) Holistic service provision
Each organisation identified that their wrap around approach offers tauira the unique opportunity to engage in holistic service provision:

> *"We promote a lot within our staff and to our clients - holistic health or holistic wellbeing - that's definitely probably a point of difference that we have as well to other organisations" (K'aute Pasifika) .*

The importance of tauira seeing that a person is more than their health condition and that it takes time to engage with the whole person was emphasised:

> *"...having a range of experiences, not just clinical. And seeing that our service is not just about clinical, it's more holistic. It's everything. For the students to be able to see all of it and not just one part of that" (Rauawaawa Kaumātua Charitable Trust).*

Furthermore, it was widely understood that the 'client' encompassed more than just the individual and a collective approach was embedded in service provision:

> *"...and this is where our service is fantastic, and I'm going to put it up there, fantastic, because if you're māuiui and he's your tāne, you've got to look after him too because the whole family is tipping over. If one of their main poles, like you, is māuiui, very sick, we need to look after dad so he can look after you. We need to make sure that the kids are in on the journey with you and still go to school. It becomes one big circle. When we find that someone's got chronic conditions, nine times out of 10 they're in my service. Then we go and look at their whare, they need some budgeting help, they're finding it hard, kids aren't going to school because they're whakamā, they don't have the right school uniform, they feel. We're always looking for money to make sure our kids aren't stopped from having the best opportunity to grow" (Te Kōhao Health).*

6) Authentic experiences of cultural practices
Each of the organisations engaged in the whakawhiti kōrero emphasised how their client base and way of working opportunity for tauira to experience authentic cultural practices:

> *"I believe it is of great benefit to your nursing tauira, whether Māori or European, to – one of the best things that Wintec should be looking at is putting those nurses – don't put Māori with Māori. They've already got it. Put European with Māori and you'll see, because we see it, how uncomfortable they feel, and yet they expect our Māori tauira to be comfortable going into a Western doctor's service. We don't reverse the roles enough to capture the truth" (Te Kōhao Health).*

For some, the structure of placements inhibited opportunities for staff to fully engage in tikanga practices that would be beneficial for the tauira learning, engagement with staff, and relationship building with whānau:

> *"That's a real valid point because of our Kaupapa Māori protocol is around whakatau so welcoming people on, but with our tauira, sometimes it's so short we actually don't have time to even do that, but we're actually not fulfilling our end of it by saying welcome to Rauawaawa, this is who we are" (Rauawaawa Kaumātua Charitable Trust).*

7) Health promotion delivery
All three community organisations that engaged in the whakawhiti kōrero were primary care services, so there was a predictable focus on preventative health care that went beyond the 'band aid approach of just flick them some money' (K'aute Pasifika). This was seen as a valuable opportunity for students to learn about health from a health promotion perspective:

> *"Probably heaps in the health promotion, because that's a learning as well, they're learning about those topics as well as learning how to disseminate the information" (Rauawaawa Kaumātua Charitable Trust).*

8) Diversity in health conditions
Each of the organisation identified how tauira working with their whānau would be exposed to people representing the continuum of health, from the well to the very unwell, and have opportunities to work across the spectrum:

> *"Not all the kaumātua who come to us are without injury or without medical conditions that they've put up with for years and years ... That would be good learning, because how people get past that is another learning again, how they actually get over those – I've just had a knee replacement, I've just had a hip replacement. I would think that would be good learning for someone, doing those kind of studies" (Rauawaawa Kaumātua Charitable Trust).*

> *"I love the concept of nurse led clinics where your students have that opportunity to have a look at lots [of conditions], and how you work with that" (Te Kōhao Health).*

9) Generating a pipeline into the workforce
One of the benefits of tauira placements at these organisations was the opportunity to potentially address the 'real gap' *(K'aute Pasifika)* of Māori and Pasifika health workers in the workforce. The possibility of tauira going on to be employed following graduation was a considered a 'win' for the organisation, Wintec, and the tauira:

> *"If you had a number of kids [tauira] come through and four out of six get a job from that, then that's a good thing. That's the whole reason why they study" (K'aute Pasifika).*

> *"What I'm seeing from this and really loving from this is if we get them at their first year, by the time they've got to the fourth year, they live and breathe it. It's not a scary thing. It's not a "oh God, I don't want to go and work in a Māori organization", they actually want to work [here]" (Te Kōhao Health).*

#4 Barriers for a tauira-assisted clinic
Each organisation could identify potential barriers or challenges to developing a tauira-assisted clinic. These opportunities could be broadly grouped into the several themes:

Existing inequities experienced by Māori organisations
Perhaps the most powerful challenge expressed related to funding inequities. Resourcing was noted as being unfair and not fit for purpose, matching neither the needs of the communities served, nor the model of care provided:

> *"So Tui up in Rototuna, those doctors up there must laugh all the way to the bank because they're probably seeing someone every 10 minutes and they're getting funded the same as us whose takes half an hour because Nan wants to have a kōrero with the doctor" (Te Kōhao Health).*

> *"Trying to get more funding. But just making it fair. If the population is 12% Māori, why don't we have 12% of the funding? Why is it going to DHBs where our patients are now on waiting lists for six months to a year? Some are dying in that time. We could prevent that by getting them through our services. It just leads to other stuff so then you get someone passes away then there's depression in the family, then maybe that person – it's a horrible, horrible cycle and they're not just seeing it like that" (Te Kōhao Health).*

Perceived and actual inexperience of tauira
Another challenge mentioned by organisations when discussing tauira-provided care was the relative inexperience of tauira and how tauira-provided care may be perceived by clients:

> *"Yeah, because there's that trust thing with kaumātuas, it's quite big. You might get some that will challenge the fact that oh no, I don't want to see a tauira" (Rauawaawa Kaumātua Charitable Trust).*

> *"No, because they get all the clinical training. They don't really much life skills training unless they've come from a home where it's the norm" (Te Kōhao Health).*

This could be mitigated through training and experience, and engaging with clients in appropriate ways:

> *"For our services, it would be preferrable that tauira are towards the end of their studies so they've had a range of experiences through different placements as well as the theoretical stuff that comes... It's that trust thing, eh. Gaining their trust" (Rauawaawa Kaumātua Charitable Trust).*

> *I think kaumātua would feel much more at ease even if they saw one of us attached to them at least, just to kind of get that buy in. Because it's almost like if we have faith in the tauira then they will too (Rauawaawa Kaumātua Charitable Trust)*

Resources for placements
Having appropriate resources for tauira was considered important. Staff understandably want to 'see and make sure that [the] team is safe in their practice' (Rauawaawa).

> *"...the organisation's space is a very crowded and sometimes the resources available when we have students [are limited]" (K'aute Pasifika).*

> *"It's a matter of us having the resources. The money as well, is a big thing, so having that to support what we're already in the process of doing, so the nurse led clinics and being able to offer that all in one place. The [location] clinic we have now has only got a doctor's room and a nurse room, so what we'll be running is to the capacity that we can" (Te Kōhao Health).*

Mini-summary: Key considerations from community consultation
These organisations are engaged deeply with health needs and services in our communities. Our whakawhiti kōrero with them improved our knowledge of local needs, and the opportunities for partnership in a student-assisted healthcare initiative. Those we talked to clearly valued existing relationships with Wintec and their prior/current experiences with tauira on placement. Their kōrero emphasised the benefits of students experiencing their holistic, client-centred and culturally responsive models of care. They showed support for extending these relationships, which they saw as having potential benefits for their own organisations, Wintec and tauira.

Despite these synergies and positive views, staff did note the challenges their organisations face. Some of these relate to the structures and funding models they operate in, which do not necessarily align or reflect their models of care. Establishing and sustaining a tauira-assisted health initiative would require adequate resourcing, emphasise client safety, and align with the organisation's own goals and objectives and uphold their mana motuhake.

Summary: Consultation

Our staff survey and kōrero with tauira clinics and local organisations has revealed obvious potential for tauira-assisted health service. Over 90 percent of the 30 staff surveyed saw potential for such a clinical service within their programmes, while staff from clinics involving tauira from across New Zealand made clear their educational and health benefits. Local health and social service providers saw student led clinics as offering synergies with their own holistic models of practice and expressed a willingness to collaborate in clinics, providing important precursors were met.

All three groups consulted suggested that such a clinic would offer authentic training experiences with underserved communities but similarly pointed out important considerations for developing and sustaining it. Authentic consultation (with mana whenua, stakeholders and the community) was mentioned by several staff as an essential prerequisite for success, and staff from Wintec and other tauira-assisted clinics noted the importance of adequate resourcing, including relating to staffing, supervision and workload.

Although some Wintec staff saw such an initiative as being a chance to '*break the dominant white ideology that overwhelms Wintec and many other teaching environments*' and demonstrate '*hauora in action*', other tauira-assisted health initiatives in New Zealand reported that they had not consulted or engaged with Māori during clinic development and implementation and perhaps unsurprisingly their clinics had generally low proportions of Māori clients. Our whakawhiti kōrero with local health providers further emphasised the importance of authentic consultation and collaboration for effective outcomes.


HIA SHOP & SAVE
SHOP 'N' SAVE
2 for $7

Our recommendations

Establishing tauira-assisted clinic requires aligning curriculum design with opportunities in the placement experience; obtaining ongoing perspectives of key partners and being deliberate about how the service is best structured; having a clear vision and service objectives that are promoted by leadership; starting small and building up; explore funding options recognising the substantial costs associated with healthcare provision that are not typically built into educational provider budgets; partnering with a community organisation where possible; and embedding evaluation of both tauira clinical placement and experience, and client health and social outcomes from the beginning.

Recommendation title	Context	Evidence	Recommendation
1 Tauira learning outcomes	In order to be work-ready on graduation, tauira need authentic opportunities to learn in real-world environments, to engage with real people (clients and colleagues) and to understand the complexities of healthcare in contemporary practice	Tauira-assisted health services provide authentic, real-world learning opportunities SAHS create opportunities for scaffolded learning SAHS contribute to necessary placement and practicum experiences required for programmes of study SAHS offer exposure to diverse and complex health presentations SAHS can offer transformative experiences	Develop a tauira-assisted health service offering tauira sustainable, high quality learning experiences
		Earlier opportunities for students to engage in SAHS will create more opportunities for scaffolded learning Aligning participation with course requirements maximises student attendance and commitment SAHS offer opportunities to work alongside experienced practitioners SAHS offer opportunities to develop soft skills: communication, attitudes, teamwork	

Recommendation title	Context	Evidence	Recommendation
Community need 2	There is a clear need in the community for high quality and accessible health services. Ministry of Health and Accident Compensation Corporation data in the IDI identified high community health needs in the Waikato region	Tauira-assisted health services can offer tauira a chance to 'give back' and address healthcare gaps Regional rates of immunisation are lower than the national average Rates of various cancer types in the region are comparable to Aotearoa New Zealand as a whole Chronic conditions require effective, longer-term and personalised primary health practice, with family/whānau involvement, and clients aided to help overcome any barriers or challenges they face Accidents and injuries are a significant health burden in the region Community identified a need for a range of allied health services Potential perceived inexperience of tauira	Develop a tauira-assisted health service in the Waikato Region
Financial viability 3	There is evidence that tauira-assisted clinics have the potential to provide high quality care, however, this needs to be financially feasible from the perspective of the health service provider	Staff and education provider learnings suggest starting small Waikato Human Performance Hub is an existing example of a financially viable service delivered primarily by tauira The Biokinetic Centre on the Wintec Rotokauri campus could provide a low cost, low risk venue for an initial trial Staffing, supervision and workloads need to be taken into account Educational institutions operate within different financial arrangements than healthcare providers: training providers should recognise the substantial costs associated with providing healthcare	Develop a tauira-assisted health service that offers low-cost health care provision

Recommendation title	Context	Evidence	Recommendation
4 Interprofessional focus	There is strong evidence across Aotearoa New Zealand and internationally that making tauira-assisted health services interprofessional promotes better health and educational outcomes	Interprofessional practice provided clients with a one-stop shop for accessing services Interprofessional teamwork between tauira, based on client-centred holistic goal setting, was enjoyed by clients Interprofessional teamwork skills, broaden perspectives and strengthening tauira sense of professional self SAHS can provide an authentic interprofessional environment in which students can engage safely with expert practitioners Curriculum alignment is needed to facilitate consistent interprofessional learning opportunities	Ensure any planned tauira-assisted health service is interprofessional by design
		Policies and procedures need to support and reflect interprofessional practice and prevent siloed practices and communication Authentic opportunities to improve interprofessional practice are needed	
5 Partnership with Tāngata Whenua/ Hapori	Addressing health inequalities and providing care in the Aotearoa context requires genuine partnership with tāngata whenua/ Hapori in order to uphold the principles of tino rangatiratanga, participation, options, active protection, and equity	Successful SAHS include outreach clinics and partnerships with established healthcare providers Importance of authentic consultation with local organisations Previous lack of consultation has potentially contributed to low rates of Māori and Pasifika in the community accessing SAHS "Partnering with" healthcare providers reduce tensions that may be associated with being seen as "in competition with" Potential pipeline into the workforce	Formalise a collaborative approach model that explicitly outlines the partnership approach to developing a tauira-assisted health service (see proposed collaborative approach model below)
		Inequities exist for Māori health providers	

Recommendation title	Context	Evidence	Recommendation
Develop cultural competence 6	In order to practice in way that upholds the principles of Te Tiriti O Waitangi tauira require the curriculum supporting their learning to enable their ongoing development into culturally aware and culturally competent practitioners	SAHS provide opportunities to practice in authentic Kaupapa Māori/Pasifika services Opportunities to practice holistically and see wraparound healthcare in action SAHS offer opportunities to develop culturally appropriate soft skills: communication, attitudes, teamwork SAHS provide an opportunity to 'break the dominant white ideology' in other teaching environments	Ensure any planned tauira-assisted health service delivers healthcare using culturally informed models of care and provides opportunities for engaging in Kaupapa Māori practices
Effective pilot 7	Community health providers are understandably anxious about taking the risk of implementing an untrialled initiative within their already limited resources	A single-discipline clinic already operates from Wintec Additional resources will need to be secured to expand physical space for SAHS	Seek health provider status to enable capacity to conduct a pilot tauira-assisted health services within Wintec, capitalising on current resources and infrastructure (see potential operational models overpage)

Te Rarauhe Kotahi: Collaborative Approach Model

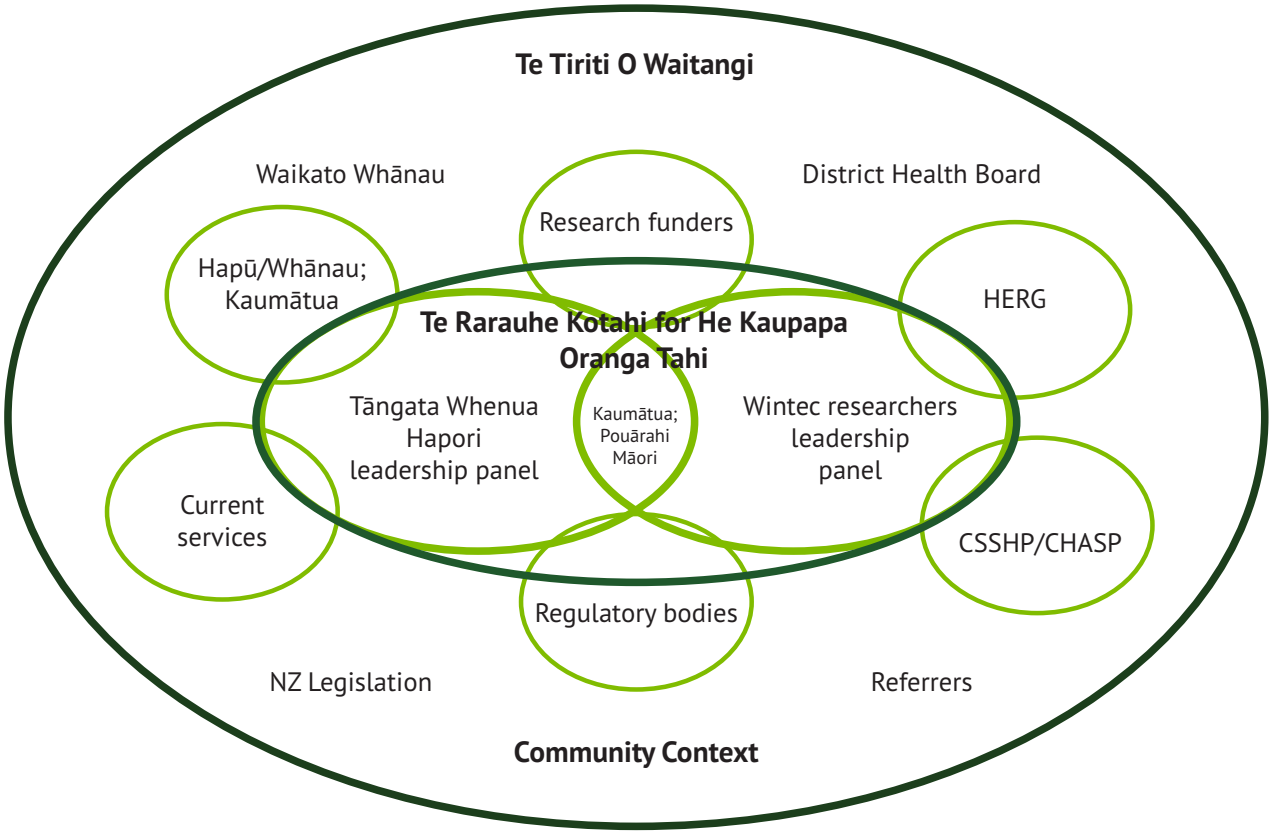
The work in this project has been greatly enhanced by the guidance of our Wintec Kaumātua Papa Tame Pokaia and now retired Executive Director Māori, Hera White. With their guidance and the input of the Māori researchers on our team, we have engaged with key stakeholders to agree a model that has informed our work-to-date and will provide a structure of how we will continue to work together as we seek to implement the recommendations within this report. This model is underpinned by Te Tiriti o Waitangi principles.

These Terms of Reference are under development and in draft form. The collaborative advisory rōpū, Te Rarauhe Kotahi, are responsible for the leadership and oversight of a project aimed at developing a student-assisted health service designed to generate authentic, high quality learning experiences and high quality, low cost health care services. Membership of Te Rarauhe Kotahi is composed of Tāngata Whenua and Hapori involved in healthcare in the Waikato region, as well as associated Wintec staff.

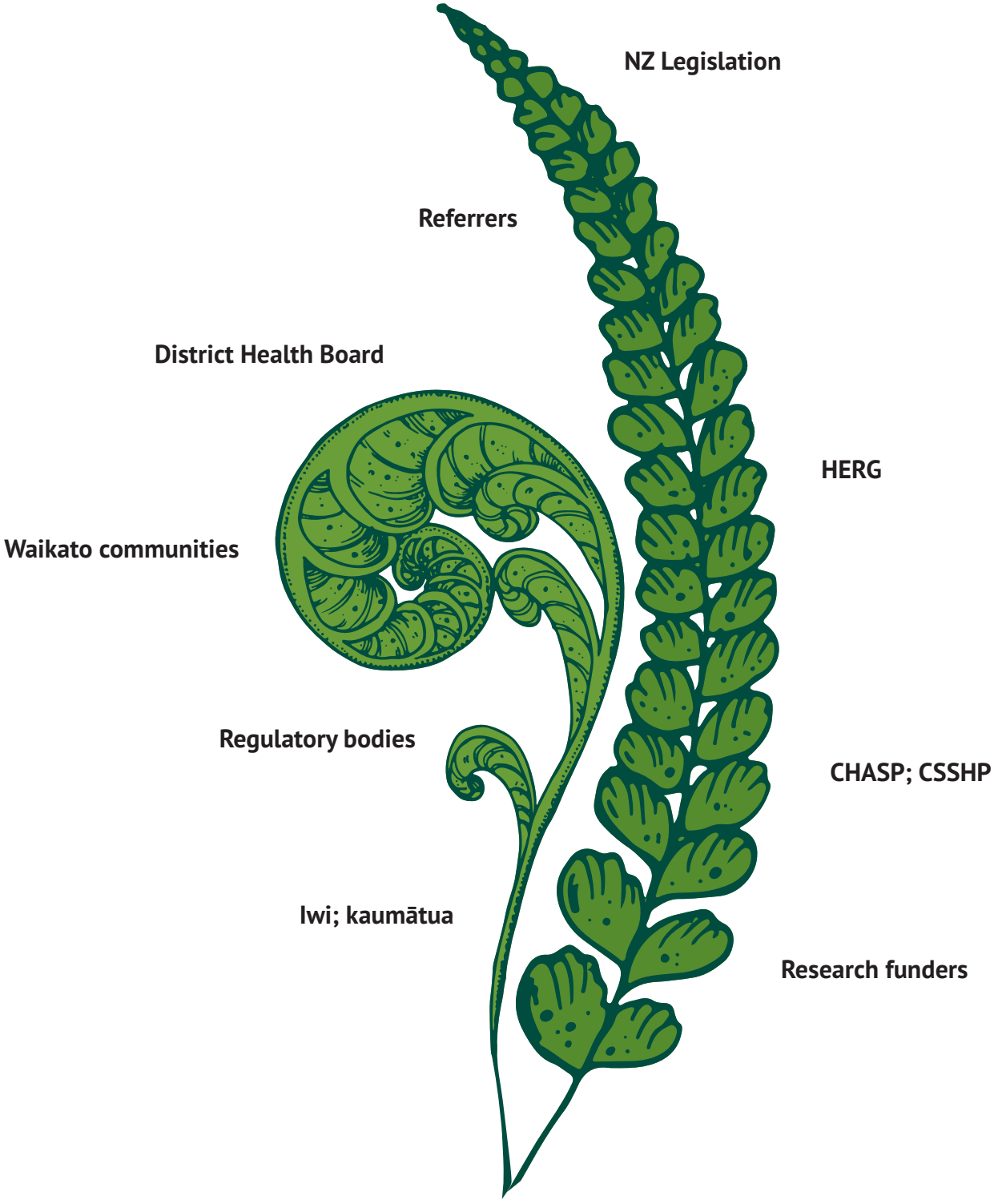
Te Rarauhe Kotahi
The mahi we do is fundamentally underpinned by Te Tiriti O Waitangi, hence Te Tiriti o Waitangi forming the base of the model. As Te Tiriti o Waitangi is a partnership between Tāngata Whenua and the crown, the two strands of the plant are representative of each party. They both live and grow together and contribute to the structure of the model.

Each of the entities listed around the Rarauhe (Fern) are the key partners and stakeholders from within the community who with Wintec contribute enormously to the success of the projects.

The unfurled or still unfurling part of the Rarauhe is representative of further growth and development yet to come. It indicates that the roles played by all and the project itself still have room to evolve.



CHASP: Centre for Health and Social Practice
CSSHP: Centre for Sports Science and Human Performance
HERG: Human Ethics in Research Group



Tāngata Whenua/Hapori leadership panel

Kaumātua; Pouārahi Māori

Wintec researchers leadership panel

CHASP: Centre for Health and Social Practice
CSSHP: Centre for Sports Science and Human Performance
HERG: Human Ethics in Research Group

Tauira-assisted health services
An innovation in health education delivery is the development of student-assisted health services. These well-designed simulation activities have been internationally recognised as a means for providing safe, quality controlled, real-world learning experiences for students. Innovative curricular design including high fidelity simulation experience can replicate practice that health care students would normally be exposed to in mainstream health care delivery contexts. Within these carefully designed contexts, students provide care in partnership with and under the direct supervision of appropriately credential health professional educators. The rationale for employing student-assisted clinics in health education are now well documented. This includes the dual benefit providing 'real world' work integrated learning for health professionals in training while increasing competencies in meeting community needs.[1,2]

Membership of Te Rarauhe Kotahi
Te Rarauhe Kotahi membership reflects the partnership between Tāngata Whenua/Hapori and Wintec Researchers. All members have a vested interest in the development of a culturally competent health workforce and hold mana within the health industry. Members have been sought from a range of community health providers with existing relationships with the Wintec Centers.

Role of Te Rarauhe Kotahi
Members of Te Rarauhe Kotahi are asked to contribute our expertise and time, and to be prepared to consult more widely within our own contacts and networks to inform decision-making. All members are asked to commit to working according to the principles of Te Tiriti o Waitangi:[40,4]

- Rangatiratanga – autonomy, self-determination, acknowledging each member's mana to hold our own opinions and support decisions that reflect our organisational values, choice to lead, informed consent
- Participation – promote the active engagement of all participants, ensuring access to necessary information and relationships that are key to making informed decisions
- Active protection – protecting mātauranga Māori through respectful kōrero, clarifying understandings, reviewing information together, acknowledging contributions and working in ways that ensure we enhance the mana of all members, the right to refuse
- Options – ensuring choices are available about how and when to participate, being open to negotiation and presenting a range of solutions to problems
- Equity – the world view of Tāngata Whenua and Tāngata Tiriti are sought, with opportunities to elevate Māori tauira and Te Ao Māori within planning and processes
- Members will need to agree the resources (including time and expertise) that we will contribute, to ensure the projects successful progression. Initially, members of Te Rarauhe Kotahi agree that, we will:
- Attend up to five hui annually (kanohi-ki-te-kanohi or online) to discuss progress, debate challenges and opportunities, engage in decision-making
- Review information shared via email in advance, in preparation for meaningful kōrero at each hui
- Delegate and brief a representative from our organization to attend hui on our behalf, if we are not able to attend or submit comments ahead of the hui
- Agree to having time following hui for members to have the opportunity to submit comments or engage in whaikōrero on the matter, particularly if they were not able to be present
- Respect decisions made at a hui where we have not been able to attend
- Submit comments (brief or comprehensive) promptly, in response to requests for feedback, in ways we feel reflect our organizational values
- Consult within our own networks to inform and shape our thinking and responses that go into the collaborative approach model
- Oversee the planning of a student-assisted health service in collaboration between Tāngata Whenua/Hapori and Wintec
- Help publicise the student-assisted health service to appropriate potential whanau/clients/patients
- Oversee the evaluation of a student-assisted health service and determine measures that genuinely reflect improvements in health and educational outcomes for Tāngata Whenua and Tāngata Tiriti
- Advise the Chair of Te Rarauhe Kotahi if communications and expectations are overly burdensome, to enable exploration of possible solutions

Timeframes

Going forward will continue to involve authentic engagement with our community partners. Therefore, timelines will be negotiated within the process of ongoing engagement and consultation.

Potential operating models

While the initiative would involve a collaborative advisory rōpū of Wintec and community tāngata whenua/Hāpori representatives as outlined above, the study identified that the clinic could operate under one of several possible models:

Model 1: Wintec hosts and operates the 'clinic'
This operating model would see Wintec lead, staff, and operate a clinic hosted onsite at a Wintec campus – fully owned and operated by Wintec This model offers some benefits: Wintec is best placed to balance service and educational goals, and potential risks remain with Wintec and not external partners. Locating the clinic on-site would facilitate tauira access and participation, and lines of responsibility and focus would be the simplest of all of the possible practice models identified. A similar model already exists with the Wintec Biokinetic Clinic, a training clinic for Clinical Exercise Physiologists. Referrals to other agencies may be provided as required.

Wintec would retain relative autonomy, however, would require close connection with local PHO's and other health providers as a source of referral. In consultation, providers made it clear they did not believe their client base was likely to embrace a service that was new or unconnected to their existing networks without the reassurance of their own provider, thus the need for a Wintec owned and operated model to be closely linked and gain referrals from existing providers.

As Wintec is not a health provider, with primary expertise elsewhere, this model would require extensive implementation requirements in gaining the necessary registration and accreditations. Clear links to community organisations would be needed to mitigate risk of offering services it suits Wintec to provide rather than those the community requires.

Model 2: Community health provider hosts the 'clinic'
Under this model, the clinic would be hosted off-site at one or more existing community-based health provider partners, and partner resources (space, fit-out and possibly consumables) may be necessary, perhaps on a cost recovery basis. Such a model would align with student's current community-based placement approaches and may best facilitate ease of access for clients, who are already familiar with the location and relationships within their existing services.

An issue identified by key stakeholders is that this approach may burden already stretched local community organisations with more responsibilities. It is also unclear that partners have the physical capacity to host a clinic: several discussed during the consultation that they had limited space. Consultation identified that for some of the community organisations this is not the preferred option, at least initially. The preferred approach would see Wintec accepting the lead in clinic establishment, prior to possibly rolling out a perfected model in community locations following careful pilot and evaluation. However, opportunity exists for several providers to undertake the initial small-scale pilot within their existing premises.

Model 3: Existing health provider co-facilitates 'clinic' within Wintec facilities
In this model, Wintec would host the clinic, at least originally or in its first iteration, with significant stakeholder involvement in leading co-staffing the initiative. Specifically, Wintec would provide the premises and a fully accredited health service provider would lead joint delivery within the space. Benefits would include building on the existing professional and community expertise that exists within these community organisations. Organisations would help facilitate referrals and access to a client base and could support trust in the service from the community who know and trust these organisations. External funding may be easier to obtain for existing service organisations who already possess health service accreditations and ACC affiliations. A partnership-based model of this nature could help ensure the clinic makes a strong impact and responds to existing community need without duplicating existing services. Location on the campus would provide easy access for both students and faculty. Further, a shared approach would extend the partnership between Wintec towards making a genuine community impact inside and outside the clinic. Wintec's Rotokauri campus and Perry House facilities provide optimal opportunity for such a model. Site accreditation is likely to be required to align with the partnering providers existing accreditations. Such a model is likely to be viable following initial pilot and community guided full-scale implementation of Model 1 over a 3-5 year horizon.

Moving forward

We have listened carefully to the advice of the collaborative advisory rōpū established for this initiative and the feedback provided by wider community providers during the consultation phase. Tauira and community safety were a matter of priority. Further, providers made it clear they did not believe their client base was likely to embrace a service that was new or unconnected to their existing networks if their own service was fully engaged in the development and was the voice of referral and reassurance to clients. In following the advice given, the implementation plan for tauira-assisted clinics will proceed under Model 1. Existing clinics at the Rotokauri campus will be used to trial the concept of a multidisciplinary tauira-assisted clinic in ongoing consultation with the community. The benefits of this approach include:

- As an education provider, Wintec is best placed to balance service and educational goals, and any potential risks remain with Wintec rather than external partners.
- Locating the clinic on-site would facilitate tauira access and participation, and lines of responsibility and focus would be the simplest of the possible practice models identified.
- A similar model already exists with the Wintec Biokinetic Clinic, a training clinic for Clinical Exercise Physiologists.
- Use can be made of existing facilities with funding sought for expansion
- Wintec would retain relative autonomy, however, would require close connection with local PHO's and other health providers as a source of referral.
- The establishment of the Te Rarauhe Kotahi Collaborative Advisory Rōpū provides a continued opportunity for partnership with health providers and community, and for their participation in establishing and evaluating a tauira-assisted clinic, to ensure that subsequent phases of the initiative led to a successful and safe migration of the concept to the community in the future.

The pilot will include a continuous cycle of consultation and input from Māori and Pasifika health providers; ongoing hui with Te Rarauhe Kotahi and a parallel evaluation of tauira, staff and client experience.

He Kaupapa Oranga Tahi: Project overview

Working together to grow the health workforce through tauira-assisted health service

Feasibility Study and Initial Planning Completed 2020-2021

Next stage Development 2022-2024 Planning, Pilot & Implementation

Feasiblity & Planning 2020-2021	Detailed Planning First Semester 2022	Pilot Second Semester 2022	Implementation 2023-2024
• Reviewed evidence base and publish findings: Systematic review educational benefits, Scoping review NZ Context; Integrative review health benefits • Reviewed Midlands demographic and socioeconomic data • Consulted with teaching faculty • Consulted with Māori and Pasifika health service providers in Kirikirora rohe; established Te Rarauhe Kotahi (collaborative advisory rōpū) • Aligned with Te Pūkenga letter of expectations • Prepared report to Te Pūkenga and Wintec Executive confirming feasibility and recommendations going forward	• Clinic planning, health service focus, confirming client base, client management system, referral pathways, tracking client outcomes • Curriculum plans, interprofessional placement sequences, assessment details, supervision arrangements • Ongoing hui with Te Rarauhe Kotahi • Research plan evaluation method to include student, faculty, client and community experiencs and outcomes, ethics applications, publication plan • Facilities planning and building consent/ approvals for Perry House 2022/2023 redsign • Commence marketing	• Establish pilot multidisciplinary tauira-assissted clinic in Q Block Wintec Rotokauri Campus • Clinic to include tauira from a minimum of 5 CHASP and CSSHP health and sports related programmes • Continuous cycle of consultation and input from local Māori and Pasifika health providers; Ongoing hui with Te Rarauhe Kotahi • Pilot to include parallel evaluation of tauira experience, faculty experience, client experience and costs modelling • Specialist report to Te Pūkenga and Wntec Executive and participating advisory partners • Evaluation to inform scale up of expanded clinic development and delivery • Ongoing marketing	• Delivery of community-connected, evidence-based, interprofessional clinical placement experiences for health, sports and exercise physiology tauira • Scale up of clinic activity to 5 day per week functioning from purposefully designed spaces in Perry House • Continuous measurement and evaluation • Development and publication of resources including best practice guidelines, how to guides and implementaiton requirements for tauira-assited clinics • Model available for roll-out among Māori and Pasifika health provider and Midlands based Te Pūkenga Network • Ongoing hui with Te Rarauhe Kotahi

Karakia whakamutunga

Unuhia, Unuhia

Unuhia te uru tapu nui

Kia wātea, kia māmā, te ngākau

Te wairua i te ara takatā

Koia rā e Rongo, whakairia ake ki runga

Kia tīna, tīna!

Hui e, tāiki e!

Draw on, draw on

Draw on the supreme sacredness

To clear, to free the heart

And the spirit of mankind

Rongo, suspended high above us

Draw together!

Affirm!

References

1. Bostick G, Hall M, Miciak M. Novel clinical learning from a student-led clinic. *Clin Teach*. 2014;11(7):512-515. doi:10.1111/tct.12214

2. Walpola RL, Schneider CR. Longitudinal interprofessional student-led clinics: A formula for implementation. *Int J Pharm Pract.* 2018;26(6):473-474. doi:10.1111/ijpp.12495

3. Wintec. Wintec mission. https://www.wintec.ac.nz/about-wintec. Published 2021.

4. Wilson O, Broman P, Tokolahi E, et al. Educational outcomes from participation in a student-run/led health clinic: A systematic review. *J Interprof Care*. (submited & under review).

5. Te Pūkenga. Te Pūkenga - New Zealand Institute of Science and Technology. https://tepūkenga.ac.nz/. Published 2021.

6. New Zealand Herald. Dynamics of the "golden triangle." https://www.nzherald.co.nz/property/dynamics-of-the-golden-triangle/QKYKWWIM7NIQTXYJSRITPPEBU4/. Accessed June 23, 2021.

7. Tokolahi E, Broman P, Longhurst G, et al. Student-led clinics in Aotearoa New Zealand: A scoping review with stakeholder consultation. *J Multidiscip Healthc.* 2021;14(Accepted):2053-2066.

8. Strong M, Town S. *Updated Letter of Expectations to Te Pūkenga Subsidiaries. For the Attention of the Board of Directors and Management of Each Te Pūkenga Subsidiary: 8 June.*; 2021.

9. Wintec. Wintec programmes. https://www.wintec.ac.nz/professional-programmes/programmes. Published 2021.

10. Otago Polytechnic. Occupational therapy at WINTEC. https://www.op.ac.nz/students/graduation/hamilton-occupational-therapy-graduation/. Published 2021. Accessed June 23, 2021.

11. Centre for Sport Science & Human Performance. Wintec Biokinetic Centre. https://www.wintec.ac.nz/whph/biokinetic-centre. Published 2020. Accessed June 23, 2021.

12. Rauawaawa Kaumātua Charitable Trust. About us. https://www.rauawaawa.co.nz/about-us/. Published 2021. Accessed September 23, 2021.

13. Friary P, Tolich J, Morgan J, et al. Navigating Interprofessional Spaces: Experiences of Clients Living with Parkinson's Disease, Students and Clinical Educators. *J Interprof Care*. 2018;32(3):304-312. doi:10.1080/13561820.2017.1417238

14. Morgan CJ, Bowmar A, McNaughton S, Flood B, O'Brien D. Transformative learning opportunities for students and educators during interprofessional healthcare practice experiences in higher education: Viewed through the lens of Threshold Concepts Theory. *Focus Heal Prof Educ A Multi-Professional J.* 2019;20(2):41. doi:10.11157/fohpe.v20i2.301

15. O'Brien D, McCallin A, Basset S. Student perceptions of an interprofessional clinical experience at a university clinic. *New Zeal J Physiother.* 2013;41(3):81-87. http://eds.a.ebscohost.com.iris.etsu.edu:2048/ehost/pdfviewer/pdfviewer?vid=11&sid=a4abd49c-6924-4cc7-9ab2-a12c758de6c6%40sessionmgr4005&hid=4103.

16. O'Brien D, McNaughton S, Flood B, Morgan J, Bowmar A. Piloting an Integrated, Interprofessional Programme for People Living With Type II Diabetes: Outcomes and Experiences. *Aust J Clin Educ*. 2016;1(1):1.

17. O'Brien D, Swann J, Heap N. Can the communities of practice model explain the complex organization of an interprofessional student-led health clinic? *J Allied Health*. 2015;44(1):e11-6.

18. Tucker L. Service users' views of collaborative care. 2012. http://hdl.handle.net/10292/5330.

19. Godbold R, Lees A, Reay S. Ethical Challenges for Student Design Projects in Health Care Settings in New Zealand. *Int J Art Des Educ*. 2019;38(1):182-192. http://10.0.4.87/jade.12170.

20. Allan J, O'Meara P, Pope R, Higgs J, Kent J. The role of context in establishing university clinics. *Heal Soc Care Community*. 2011;19(2):217-224. doi:10.1111/j.1365-2524.2010.00971.x

21. Vaughan B. Exploring the measurement properties of the osteopathy clinical teaching questionnaire using Rasch analysis. *Chiropr Man Therap.* 2018;26(1):N.PAG-N.PAG. doi:10.1186/s12998-018-0182-2

22. Pullon S, McKinlay E, Beckingsale L, et al. Interprofessional education for physiotherapy, medical and dietetics students: A pilot programme. *J Prim Health Care*. 2013;5(1):52-58. doi:10.1071/hc13052

23. Statistics New Zealand. Integrated Data Infrastructure. https://www.stats.govt.nz/integrated-data/integrated-data-infrastructure/. Published 2020.

24. Ministry of Health. New Zealand immunisation schedule. https://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/new-zealand-immunisation-schedule. Published 2021.

25. World Health Organization. *New Zealand Health System Review*. Geneva, Switzerland; 2014.

26. Gibbs S, Bycroft C, Matheson-Dunning N. *Identifying the New Zealand Resident Population in the Integrated Data Infrastructure (IDI)*. Wellington, NZ; 2016.

27. Ministry of Health. *Protecting Children Who Can't Be Immunised against Measles*. Wellington, NZ; 2012.

28. Turner N. A measles epidemic in New Zealand: Why did this occur and how can we prevent it occurring again? *N Z Med J*. 2019;132(1504):8-12.

29. Ministry of Health. Long-term conditions. https://www.health.govt.nz/our-work/diseases-and-conditions/long-term-conditions. Published 2020. Accessed September 16, 2021.

30. Best Practice NZ. Getting to know patients with type 2 diabetes and poor glycaemic control: One size does not fit all. *Best Pract J.* 2014;58:40-48.

31. National Institute of Neurological Disorders and Stroke. Traumatic brain injury information page. https://www.ninds.nih.gov/Disorders/All-Disorders/Traumatic-Brain-Injury-Information-Page. Published 2019.

32. Statistics New Zealand. *IDI Data Dictionary: ACC Injury Claims Data (June 2015 Edition)*. Wellington, NZ; 2015.

33. Ministry of Health, Accident Compensation Corporation. *Injury-Related Health Loss: A Report from the New Zealand Burden of Diseases, Injuries and Risk-Factors Study 2006-2016*. Wellington, NZ; 2013.

34. Accident Compensation Corporation. COVID-19 information for clients. https://www.acc.co.nz/covid-19/clients/. Published 2021.

35. Ministry of Health. WHO cause-of-death certification. https://www.health.govt.nz/our-work/regulation-health-and-disability-system/burial-and-cremation-act-1964/who-cause-death-certification. Published 2018.

36. Pan American Health Organisation. Table 1: PAHO 6/67 List for tabulation of mortality data (ICD-10). https://www.paho.org/english/dd/ais/be_v23n4-short_list.htm#1. Published 2002.

37. Ministry of Health. *Saving Lives: Amenable Mortality in New Zealand, 1996–2006*. Wellington, NZ; 2010.

38. Albinsson G, Elmqvist C, Hörberg U. Nursing students' and lecturers' experiences of learning at a university-based nursing student–run health clinic. *Reflective Pract*. 2019;20(4):423-436. doi:10.1080/14623943.2019.1638242

39. Weber EJ. Publication bias begins at home. *Emerg Med J*. 2019;36(9):518-519. doi:10.1136/emermed-2019-208857

40. Came H, O'sullivan D, Kidd J, McCreanor T. The Waitangi tribunal's wai 2575 report: Implications for decolonizing health systems. *Health Hum Rights*. 2020;22(1):209-220. https://www.jstor.org/stable/26923487.

41. Came H, Kidd J, McCreanor T, Baker M, Simpson T. The Simpson-led health sector review: A failure to uphold te Tiriti o Waitangi. *N Z Med J*. 2021;134(1531):77-82.

Appendix 1: Scoping review (published)

Full text freely available at: https://www.dovepress.com/student-led-clinics-in-aotearoa-new-zealand-a-scoping-review-with-stak-peer-reviewed-fulltext-article-JMDH

Student-led clinics in Aotearoa New Zealand | JMDH (dovepress.com)

Journal of Multidisciplinary Healthcare

Dovepress
open access to scientific and medical research

Open Access Full Text Article

REVIEW

Student-Led Clinics in Aotearoa New Zealand: A Scoping Review with Stakeholder Consultation

Ema Tokolahi[1,2]
Patrick Broman[1]
Glynis Longhurst[1]
Amy Pearce[1]
Cassandra Cook[1]
Patrea Andersen[1,3,4]
Sharon Brownie[1,5]

[1]Centre for Health and Social Practice/ Centre for Sports Science and Human Performance, Wintec, Hamilton, New Zealand; [2]School of Occupational Therapy, Otago Polytechnic, Dunedin, New Zealand; [3]School of Nursing, Midwifery and Paramedicine, University of the Sunshine Coast, Sunshine Coast, Queensland, Australia; [4]School of Nursing, Midwifery and Social Science, CQUniversity, Rockhamptom, Queensland, Australia; [5]School of Medicine, Griffith University, Gold Coast, Queensland, Australia

Background: Student-led clinics have gained increasing attention as a mechanism for students across various health professions to gain authentic interprofessional clinical placement experience during their educational programme.

Purpose: This scoping review is designed to identify and describe experiences relating to student-led clinics in Aotearoa New Zealand.

Methods: The review involved five key steps: 1) identifying the research question; 2) identifying relevant studies; 3) study selection; 4) charting the data; and 5) collating, summarising and reporting the results.

Discussion: Student-led health clinics present invaluable educational opportunities for authentic collaborative practice and capacity to improve population health and well-being, especially in marginalised and disadvantaged communities. Clinic establishment and operation require consideration of a complex set of factors.

Conclusion: Community consultation (including with Indigenous populations) should precede establishment of clinics. There is scope for more reporting and objective evaluation to ensure best practice is being determined, developed, and achieved.

Keywords: student run clinic, student-led clinic, interprofessional education, clinical practicum

Introduction

Student-led clinics (SLCs) have gained increasing attention as a mechanism for students across various health professions to gain authentic interprofessional clinical placement experience during their educational programme.[1,2] Capacity for SLCs to improve the health and well-being, especially in marginalised and disadvantaged communities, is well documented.[3–7] While an increasing global body of knowledge considers the nature, characteristics and outcomes achieved by SLCs, literature relating to such clinics in the Aotearoa New Zealand[(1)] context has not previously been synthesised. Aotearoa New Zealand is a particularly useful context to explore these questions. It is one of the so-called CANZUS states (Canada, Australia, New Zealand and the United States),[8,9] all Anglo-settler states home to politically active Indigenous minorities.[10] Indigenous populations in all of these countries experience significant health disparity, for which colonisation has been described as the "cause of causes".[11] Aotearoa New Zealand is distinctive amongst CANZUS states in having an Indigenous "majority minority", with Māori making up 16.5% of the population.[12] It has a particularly high percentage of foreign-born people – 27%, compared for example to 14% in the United States.[13] It is thus an obvious example of the "superdiversity"[14] countries increasingly experience across the world, and the

Correspondence: Ema Tokolahi
Wintec, Centre for Health and Social Practice, Private Bag 3036, Hamilton, 3240, New Zealand
Tel +64 7 834 8800
Email ema.tokolahi@wintec.ac.nz

Received: 6 May 2021
Accepted: 24 June 2021
Published: 3 August 2021

formal government commitment to biculturalism and the visibility of Māori offer a unique and interesting dimension to questions of health and policy.

The purpose of this scoping review is therefore to identify and describe experiences and outcomes relating to SLCs in Aotearoa New Zealand. Scoping reviews, as defined by Daudt et al.[15]

> map the literature on a particular topic or research area and provide an opportunity to identify key concepts; gaps in the research; and types and sources of evidence to inform practice, policymaking, and research. (p. 48)

They are particularly suited to areas of focus that have not previously been comprehensively reviewed, and have the benefit of allowing the incorporation of very broad sources of information, methodologies and study design in gaining a comprehensive overview of a topic.[16,17] Unlike a systematic review, a scoping review does not include detailed quality analysis of identified items.[18,19] As some SLCs exist in Aotearoa New Zealand that have not been the focus of published study, the review was augmented by provider consultation to corroborate and validate findings.

An understanding of prior SLC experiences is an important precursor when considering incorporating of this type of clinical experience within educational programmes. The specific area of focus for this review is therefore on the practical operation of SLCs in Aotearoa New Zealand, as an example of CANZUS state. We concentrate specifically on the ways in which these clinics have been designed, implemented, and evaluated, and on gaps in the literature that warrant further research.

Methods

The methodological framework for this scoping review was informed by the work of Arksey and O'Malley[20] with later refinements by Colquhoun et al.[21] and Tricco et al.[22] The review involved five key steps: 1) Identifying the research question; 2) identifying relevant studies; 3) study selection; 4) charting the data; and 5) collating, summarising and reporting the results. An optional "consultation" step of the framework was also included. To balance rigor with the efficient use of available resources,[23] one author completed the initial literature search, while subsequent screening and review was distributed amongst authors. Each source identified in the literature was allocated to at least two authors for separate data screening and charting.

Authors subsequently used existing connections to arrange consultation interviews with key individuals in five student-led clinics across Aotearoa New Zealand. Analysis of data collected via consultation interviews was completed by one author before being circulated to other authors and to interviewees for further feedback and refinement.

Identifying the Research Question

Scoping reviews are typically less precise and broader in nature than systematic reviews.[19,24] As such this review was guided by a range of questions as outlined in Table 1. The foci guiding this review were 1) general characteristics of SLCs in Aotearoa New Zealand; 2) underpinning models used in SLCs in Aotearoa New Zealand; 3) consultation with communities and with Māori; 4) lessons learned from implementing SLCs in the Aotearoa New Zealand context; and 5) evaluation of SLCs in Aotearoa New Zealand.

Table 1 Research Questions

Aspects	List of Questions
General	What types of SLCs currently exist in Aotearoa New Zealand?
	What patient populations are served?
Underpinning model	What models of practice are utilised?
	What is the scope of student contributions?
Cultural/community considerations	How were communities consulted in clinic development, implementation, and evaluation?
	What cultural supports are available to students (and staff) during placement at a SLC?
	What cultural/Te Ao Māori practices are incorporated into SLCs?
Implementation	With regards to developing and implementing a SLCs, what were the reported: • Benefits? • Challenges? • Lessons?
Evaluation	How were SLCs evaluated? What outcomes were measured (eg student, academic, community)?
	What methods were used?

Locating Relevant Studies

As the start point, a search strategy was developed that followed Arksey and O'Malley's[20] recommendations to search several multiple sources, including electronic databases, reference lists, and hand searching of key journals or authors. The intention was to create a broad, sensitive search rather than a narrow specific search. Search terms were selected that focused on SLCs in the Aotearoa New Zealand context (see Box 1). Search terms were entered into several electronic databases including PubMed and CINAHL Complete, Health Source, SOCindex, SPORTDiscus, and Vocational Studies Complete (via EBSCOHost). Where the name of an author appeared more than once in literature about SLCs, an internet search was conducted to identify any other relevant publications. Reference lists of identified articles were also screened for additional relevant publications. A Google search was also conducted, with the first 100 hits screened. All citations were imported into the web-based reference management software Mendeley,[25] and duplicate citations removed.

Study Selection

Study selection followed a two-stage screening process to determine the relevance of studies identified from the searches. Initially, studies were considered eligible if the title or abstract referred to SLC's and appeared to include students from Aotearoa New Zealand, if it had an Aotearoa New Zealand-based author, or if the location was not clear. Study selection was limited to publications in English, however, no restrictions were set on date or type of publications selected.

The second stage of screening involved obtaining a full-text copy of each of the 17 publications selected in the initial screening and reviewing these to confirm: 1) the SLC involved direct contact with an end-user (eg client or patient); 2) at least one of the SLCs reported on was based in Aotearoa New Zealand and 3) the SLC had a health focus. Publications were excluded if the clinical experience involved simulations or teaching only without direct provision of care. Articles were selected independently by more than one author to monitor consistency, with no disagreements about article selection. To increase clarity of our review process, the preferred reporting for systematic reviews and meta-analysis (PRISMA) was used to provide a visual illustration of the screening and selection process (see Figure 1).

Box 1 Search Terms

Tertiary OR student* OR undergraduate* OR graduate* OR volunteer*
AND led OR run OR facilitated OR managed OR assisted
AND service* or centre* OR center* OR clinic*
AND Zealand OR Māori OR Maori OR Maaori OR kaupapa

Notes: *Indicates use of a wildcard symbol that broadens the search to words that begin the same but may have different endings, for example "centre*" would find "centre", "centres" and "centred".

Data Extraction and Synthesis

To extract pertinent data from each included study Joanna Briggs Institute (JBI) guidelines for data extraction were followed.[26] Extracted data included: author/s, year of publication, location of the SLC, how the SLC was defined and the population served. Data abstraction tables were developed that related to each of the remaining aspects of the study research questions: 1) underpinning model; 2) community consultation; 3) implementation: opportunities, barriers, and lessons; and 4) evaluation. At least two research team members independently extracted data from each study and the tables were reviewed by all study team members. Data were analyzed for themes and frequencies by at least two members with preliminary results reviewed and negotiated by the team until consensus was achieved.

Consultation

In a scoping review of scoping reviews[27] less than 40% of studies were found to include a consultation exercise as part of the scoping review method. Stakeholders were most often consulted in the search phase (to identify key search terms) and, more rarely, during the interpretation of findings or for providing feedback during the report writing stage. This scoping review utilised consultation with stakeholders (current education providers) for the purposes of a) identifying additional relevant literature to include in the review, b) elaborating further on details reported on each SLC, and c) gaining knowledge of additional SLCs not having previously been published on. Ethical approval for this consultation was sought and granted by the Wintec Human Research Ethics Group (WTFE14130820).

Results

Table 2 shows the article selection. A total of 10 articles met the eligibility criteria, with the earliest being a thesis published in 2012.[28] The small and recent nature of the literature reflects the relatively novel nature of SLCs in Aotearoa New Zealand.

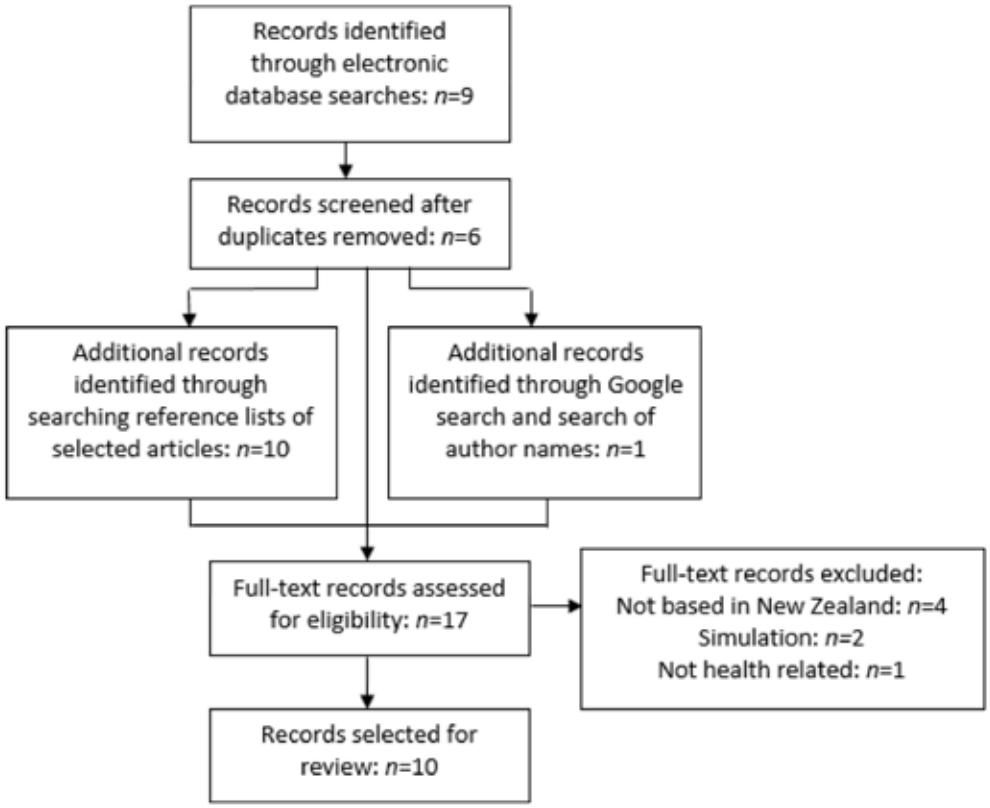


Figure 1 PRISMA flow diagram.
Note: Adapted from Liberati A, Altman D, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Journal of Clinical Epidemiology*. 2009;62(10)e1-e34. Creative Commons.[64]

General Characteristics of Student-Led Clinics

An overview of each clinic is described in Table 3. Six documents related to Auckland University of Technology's (AUT) Integrated Health Interprofessional programmes;[28–33] additional information about this centre, as a centre for developing clinical skills and knowledge, was gained through the consultation process. The remaining documents referred, respectively, to a clinic collaboration between AUT and Auckland District Health Board,[34] an IP learning experience at University of Otago,[35] data from several osteopathy SLCs including one based at Unitec, Auckland[36] and data from unspecified student clinics including three from Aotearoa New Zealand.[37] Consultation with education providers resulted in information being collected from a further four clinics involving a range of disciplines and institutions in Aotearoa New Zealand (see Table 4).

Underpinning Models of Practice

The scope of student contributions varied across the clinics, with most providing opportunities for students to independently plan and deliver a service directly to clients. Four of the clinics reported using a business or private practice model, charging for services, and operating much as they would in the commercial marketplace. One student-led clinic was project-based and involved a collaboration between two organizations: this placement was not necessarily aligned with a physical clinic space and service provision was not expected to be sustained beyond the placement experience. With one exception,[37] all the clinics identified in the literature involved students from more than one profession, while the additional clinics identified through consultation involved only one profession. Educational models described were the scientist-practitioner model, interprofessional care-based model, Wenger model of Communities of Practice (which was reported to have since gone out of favour with this clinic), and a client-centred, collaborative, holistic, and interprofessional care model (see Table 5 for details).

Community Consultation

None of the included documents described community consultation, including with Māori (Indigenous population), as

Table 2 Location, Type and Focus of Documents Included in Scoping Review

Ref	First Author (Alphabetical)	Location	Document Type	Focus
[37]	Allan et al 2011	Unspecified: three clinics in Aotearoa New Zealand plus seventeen clinics across Australia	Research article	Consultative enquiry of the goals, possibilities, and challenges of clinics and conceptualising and describing the role of context, particularly rural, for these clinics.
[29]	Friary et al 2018	Auckland University of Technology, Auckland	Research article	Phenomenological exploration of the experiences of clients, students and educators associated with a university clinic-based interprofessional programme for clients with Parkinson's disease.
[34]	Godbold et al 2019	Auckland University of Technology and Auckland District Health Board, Auckland	Opinion article	Reflection on the ethical issues raised for students in an interprofessional clinic through the application of a human-centred approach to design in a collaborative health context.
[30]	Morgan et al 2019	Auckland University of Technology, Auckland	Research article	Mixed methods study exploring the learning experiences of health students, clinical educators, interprofessional facilitators and health administrators associated with a student clinic pilot programme for patients living with type 2 diabetes.
[31]	O'Brien et al 2013	Auckland University of Technology, Auckland	Research article	Mixed methods study exploring student beliefs and attitudes regarding clinical placements at a university clinic that aim to develop interprofessional collaborative practice.
[32]	O'Brien et al 2016	Auckland University of Technology, Auckland	Research article	Mixed methods study exploring and evaluating the outcomes and experiences of clients, staff and students piloting an integrated interprofessional programme for community members with type 2 diabetes.
[33]	O'Brien et al 2015	Auckland University of Technology, Auckland	Research article	Understanding the organization of interprofessional student learning opportunities through mapping key participants, practices, and structures in an interprofessional student-led health service.
[35]	Pullon et al 2013	University of Otago, Wellington	Research article	Mixed methods study testing the feasibility of delivering an interprofessional-based course component to health students, including home visits.
[28]	Tucker 2012	Auckland University of Technology, Auckland	MPhil Thesis	Qualitative descriptive exploration of service user's experiences, expectations and understanding of care received at an interprofessional student-lead health service.
[36]	Vaughan 2018	Unitec Institute of Technology, Auckland, plus two in Australia and one in the United Kingdom	Research article	Implementing Rasch analysis to investigate the construct validity of the Osteopathy Clinical Teaching Questionnaire as a tool for evaluating clinical education in an on-campus, student-led osteopathy clinic environment.

part of the process for developing or implementing the student-led clinical experiences. We consider three studies[35,37,38] might have been expected to include such information as relevant to discussion about the feasibility, development or conceptualisation of the student-led service. Similarly, descriptions of practices inclusive of Te Ao Māori (Indigenous worldview), cultural support for students, educators or community members, and marketing of the student-led health service to Māori were not discussed in any of the included documents.

In terms of incorporating Indigenous models of care, when asked how clinic practices reflect Te Ao Māori, one provider reported including an introduction to some "dos and don'ts" of working with Māori clients in their student

Table 3 Characteristics of Student-Led Clinics Identified in the Literature

Student-Led Clinics (Alphabetical)	Description of Student-Led Health Service	Student Disciplines (Alphabetical)	Population Served
Auckland University of Technology Integrated Health – Interprofessional programmes*	One-day/week, seven to twelve-week programmes: includes IP in-service, IP appointments, IP education and interactive discussion-based sessions, IP group tutorial sessions and IP client focused care conferences led by health students.	• Case management • Counselling psychology • Exercise and nutrition • Health administration • Health promotion • Nursing • Occupational therapy • Oral health • Physiotherapy • Podiatry • Psychotherapy	Staff, students, and local community; three documents focused specifically on patients with Parkinson's disease and type 2 diabetes.
Design for Health and Well-being (DHW) Lab	Students at both undergraduate and postgraduate levels engage with a hospital through a design lab and have access to the real-world context of acute health care.	• Design	District Health Board acute health services.
Three unspecified clinics from New Zealand and seventeen from Australia	The most common clinic type described was an on-campus university clinic provided by a single professional group, often co-located with other clinics.	• Audiology • Dental • Human movement and exercise physiology • Multidisciplinary • Podiatry • Physiotherapy • Psychology • Psychotherapy • Occupational therapy • Optometry • Speech • Veterinary	Varied but not reported in detail: urban and rural; typically run in partnership with healthcare providers or near existing populations of high need eg aged care facility; target high waiting lists.
Unitec Osteopathy clinic (and others from Australia and the United Kingdom)	Osteopathy students are responsible for the management of patients; approximately five to seven students are simultaneously supervised by a qualified osteopath.	• Osteopathy	Not described.
University of Otago	Groups of three health students undertook a home visit with a patient; students worked together to share decision-making, construct a joint management plan, and make recommendations.	• Dietetics • Medicine • Physiotherapy	Patients attending a local primary care provider and receiving health care for a number of comorbidities.

Note: *Also included in the consultation process.

orientation and having reminders of greetings in a range of languages, including Te Reo Māori, visible on the walls. Another referred to providing students with instructions about how to demonstrate respect for tapu (sacred) areas of the body. An ongoing relationship with a local Māori health provider was reported in relation to one of the clinics, specifically as a referrer of clients, although no targeted engagement was described.

Development and Implementation of Student-Led Clinics

Findings about the opportunities, challenges and learnings associated with developing and implementing student-led clinics were drawn from both the literature and the consultation with current education providers and are summarised in Box 2, Table 6 and Box 3.

Evaluation of Student-Led Clinics

Of the student-led clinics reported in the literature and included in the consultation process, Auckland University of Technology's Integrated Health Centre was the clinic evaluated formally the most extensively (see Table 7). Several of the consulted education providers had conducted informal evaluations reported within their institution but not published or disseminated more widely. Reported evaluations were primarily qualitative interviews or focus groups, with some inclusion of clinical outcomes as an objective measure of impact. One study evaluated the operational elements of student-led clinics.[37]

Table 4 Characteristics of Additional Student-Led Clinics Consulted

Student-Led Clinics (Alphabetical)	Description of Student-Led Health Service	Student Disciplines (Alphabetical)	Population Served
Otago Polytechnic Massage Clinic	Undergraduate massage programme students deliver massage therapy and write client notes under supervision (approx. student:staff ratio 3:1). Students complete 50–70 hours at the clinic/year depending on level of study.	• Massage	Self-referrals of staff, students, and general public.
University of Otago Physiotherapy Clinic	Undergraduates in 2nd-4th year of study and postgraduates deliver treatment under the supervision of a registered physiotherapist. Placement lengths vary between 1 morning/week for 3 weeks to 6 weeks full time (approx. student:staff ratio 4:1).	• Physiotherapy	Self-referrals of students, staff, and general public with musculoskeletal injuries and balance challenges.
Victoria University Psychology Centre	Students in 4–6th year of study (postgraduate clinical psychology programme). Students lead care under supervision of clinical psychologist.	• Psychology	Self-referrals or via GPs for clients (children, youth, and adults) with mild-moderate mental health needs.
Wintec Biokinetic Clinic	Students design and run exercise programmes with referred clients under supervision of accredited clinical exercise physiologist. Programmes last 8 weeks.	• Clinical exercise physiology	Clients accessing the Green Prescription programme through Sport Waikato; referrals from local primary healthcare providers.

Discussion

In seeking to develop interprofessional, student-led clinics, there is risk of "reinventing the wheel" and not learning from the work of others. This review collates available Aotearoa New Zealand-based evidence, as an example of a CANZUS state, to inform the planning, development, and implementation of a student-led health service. It is worth acknowledging characteristics in the Aotearoa New Zealand health system that differentiate it from those overseas, including: a publicly funded, regionally administered delivery system; a state-funded accident compensation scheme; and a diverse private/non-government sector. Approximately one-third of the population have private health insurance to help pay for noncovered services and copayments (relevant to some services and products).[39] These unique characteristics will have implications for the funding and systems planned for the development of a student-led clinic.

The limited amount and recency of published literature suggests student-led clinics are an emerging focus in the literature, relative to how long some clinics have been established (ie decades in several cases). There is scope for more reporting and objective evaluation of such clinics to ensure best practice is being determined, achieved, and developed. The consultation process highlighted the gap between what, and how much, is occurring within tertiary education in Aotearoa New Zealand and what is being formally written about and disseminated. In comparing the clinics identified through the literature search and those from the consultation process, it became apparent that clinics were more likely to be written about if they involved a collaboration with industry partners or were designed to take an interprofessional approach within a single institution, which is consistent with the international literature also.[40] The consultation process identified a range of single-profession clinics that were co-located and run by educational providers. This could be considered a form of publication bias[41] that jeopardises the ability of tertiary-level health educators to deliver quality learning experiences informed by a robust evidence-base.

There was a wide discrepancy in how the identified student-led clinics were described and operated. Terms such as "clinic" and "health service" were common, with others choosing not to use either – "clinic" is used consistently throughout this discussion for consistency although it is acknowledged this may not always be the most appropriate term. Some educators indicated the use of "clinic" implied accreditation as a health provider and by not using that word felt they were more clearly identifiable as an

Table 5 Models of Practice and Scope of Student Contributions Within Student-Led Clinics

Student-Led Clinics	Model of Practice	Scope of Student Contributions
Auckland University of Technology Integrated Health – Interprofessional programmes*	Business/private practice model.[33] Informed by Wenger model of Communities of Practice.[33] Client-centred, collaborative, holistic, and interprofessional care.[29–32]	Students plan and deliver interventions in an interprofessional environment, under the supervision of an appropriately registered health professional. As part of the IP programme, students facilitate a one-hour interactive self-management education group each week. Each student is assigned one patient, and all patient appointments are attended by student pairs from different disciplines. Client-focused conferences, led by health students, are held each week. Students reassess patients at the end of the program and compile a comprehensive report sent to their GP.
Design for Health and Well-being (DHW) Lab	Project-based defined as research Industry partnership.	Students engage in a collaborative design process with staff and patients, working through ethics, data collection, and design process
Otago Polytechnic massage clinic	Business/private practice model.	Students plan and implement massages and write up client notes independently. Second- and third-year students also set up appointments directly, manage payments and pay expenses for use of the space/materials.
Three unspecified clinics from New Zealand and seventeen from Australia	On-campus clinics provided by a single professional group.	-
Unitec Osteopathy clinic (and others from Australia and the United Kingdom)	-	-
University of Otago	Interprofessional, care-based course component.	In interprofessional groups of three, students arrange and undertake a home visit to consult with patient with comorbidities. Students then collaborate on group presentations for peers/teaching staff outlining the person's conditions and develop a multidisciplinary care/management plan.
University of Otago physiotherapy clinic	Business/private practice model.	Students plan and implement treatments and record client notes.
Victoria University psychology centre	Business/private practice model (subsidised by the university). Scientist/practitioner model.	Students provide psychological services, according to level of study, from observation to leading.
Wintec Biokinetic clinic	Not-for-profit, structured programme delivery.	Students complete an assessment with clients and send a feedback report to the referrer; plan and implement an 8-week intervention; and complete a final feedback report.

education provider that had non-registered health professionals (ie, students) providing a health service. Clarity of this medico-legal terminology was important from the perspective of organizational responsibility and mitigation of liability risks that need to be considered when providing a health service to the public. Furthermore, there was inconsistency across disciplines and institutions around in the use of labels, such as: student-assisted, -led, -run, or –facilitated. Additional terms identified in a separate, systematic review of international student-led clinics (submitted) included service-learning (examples[42–45]) and student free-clinics (examples[46–52]), the apparent distinction for these being the model of operation making no charge on service users, whereas as some, but not all, student clinics charge nominal fees to cover costs. Across all variations, the initiatives described appeared to fulfil the same purpose – addressing a community health need and generating authentic learning experiences for the student. In order to make future searching and synthesizing of evidence more effective and better inform practice, this indicates a need to adopt more standardized nomenclature across the health disciplines and localities.

Box 2 Benefits and Opportunities of Student-Led Clinics

For students

- Generate real-world opportunities to implement practice (clinical and operational) and contextualise teaching and learning.
- Exposure to a diversity of clinical presentations.
- Students gained a holistic appreciation of the person.
- Create understanding of authentic and effective interprofessional teamwork
- Learning can be scaffolded in a safe/controlled learning environment.
- Chance to give back to the community.

For the community

- Fill a healthcare gap and a meet community need: there is a demand for services.
- Provision of affordable, good quality healthcare.
- Interprofessional teamwork between students was enjoyed by clients.
- Interprofessional practice provided clients with a one-stop shop for accessing services.

For educators

- Collaborations with health provider partners: potential satellite services.
- Provides some of the necessary placements and practicum experiences students require.
- Consistent with government strategy and policies on health and well-being.
- Health practitioners all held accountable to the same overarching legislation (Health Practitioners Competence Assurance Act, 2003).

Table 6 Challenges of Developing and Implementing Student-Led Clinics

For the Learner	For the Academic Institution
• Limited diversity in range of conditions seen: high number of patients with the same problem. • Complexity of chronic conditions. • Interpersonal challenges, co-operation, and partnership. • Differences and misunderstandings in perceptions about what students should do and learn. • The volume and complexity of knowledge and skills to be acquired during interprofessional teamwork can leave a learner feeling uncertain. • Logistics, such as "getting up in the morning to information overload".[31] (p85) • Arranging clinical contacts.	• Do not generate all placements required. • Patient supply (except where developed in response to community need). • Tension between curriculum requirements, students' learning needs and patient needs. • Timetabling. • Continuity of care: student availability to run clinics throughout the year. • Operating as a healthcare provider and accountability. • Potentially in direct competition with other health providers. • Staffing: clinic management not recognised in academic workloads.

With regards to daily operations, some clinics had students working for only a few hours a fortnight to working full-time and over varying periods of time. Some clinics required students to engage in periods of directed educational components whilst others were entirely hands-on client-based work (with some planning and note-taking). In all the clinics, students conducted service delivery under some form of expert supervision. The heterogeneity of contexts is a potential barrier to evaluating and synthesising practice in student-led clinics. This also creates opportunities for each clinic to be tailored to the specific community and educational needs of the region and affiliated education and health providers.

In Aotearoa New Zealand, it is important to determine how best to uphold responsibilities under Te Tiriti O Waitangi/The Treaty of Waitangi when developing a health-related educational experience. Other CANZUS states will face similar obligations to their respective Indigenous populations. Positioning Māori as priority learners and priority health-service users is critical to reducing education and health inequalities, which will ultimately lift the socio-economic and health outcomes for the nation.[53,54] Thus, questions were asked of the literature and education providers about consultation processes undertaken with Māori during clinic development and implementation. Consultation with Māori was not widely reported in the literature and while it cannot be concluded that consultation did not occur, the consultation process from this review (with education providers) indicated that it was not a common component in the development of clinics. This appears to have had an impact on the client populations accessing services, resulting in a low proportion of Māori clients.

Limited access of Māori clients in these contexts is significant. In order to lift the health outcomes for Māori, health providers must find ways of breaking down access barriers and ensuring Māori "consistently experience positive, high-quality healthcare interactions that support Māori ways of being", with current service provision being described as "hostile and alienating"[55](p193). The literature suggests that locating clinics in an area of high need is insufficient for ensuring an ongoing and consistent supply of patients. Education providers should ensure students have access to learning opportunities which reflect

Box 3 Lessons Learned About Developing and Implementing Student-Led Clinics

Lessons about teaching and learning
• Planning is required to provide consistent education and supply of expert supervision. • Student experiences were positive, practice was transformative. • Aligning participation with course requirements impacts attendance and commitment. • Interprofessional components can be successfully introduced across existing pre-registration health professional degree courses in an Aotearoa New Zealand context. • Clinics can provide an authentic interprofessional environment. • A sharing of the vocabularies, cultures and worldviews of each disciplines requires making knowledge explicit to enable situated learning to occur. • Aligning of curriculum is needed to facilitate consistent and sustainable interprofessional learning opportunities within a student-led clinic. • Creation of practice stories and heuristics may be important in the NZ context. • Educators gained valuable insight into their own collaborative processes and learning, and into difficult aspects of interprofessional teamwork for students.
Lessons learned about operational factors
• Start small and build up: do not over-reach or over-commit. • Multi-perspective planning and staff facilitation is required for success. • A clear vision and clinic objectives are essential. • Policies and procedures need to support and reflect interprofessional practice and prevent siloed practices and communication. • A focus on interprofessional practice should come from the leadership team. • Plan to ensure ongoing supply and diversity of patients: locating in an area of high need is insufficient evidence this will occur. • Successful examples were outreach clinics and partnerships with established healthcare providers. • The physical environment can facilitate or inhibit effective interprofessional practice. • Educational institutions operate within different financial arrangements than healthcare providers. • Recommendation to operate as a quality healthcare provider and have strong processes in place for managing equipment and materials etc. • Having a single point of entry for referrals is useful for external providers. • Having a front-facing administrator can support health students to stay focused on clinical learning experiences with clients.

the healthcare sought or required in the community. Designing process and strategies for increasing access and reducing barriers for Māori to engage with services seems critical for generating authentic learning experiences for students.

This review identified several opportunities and benefits in developing and implementing student-led health services, for learners, communities, and the educational institutions. For learners it was evident that "real-world" learning through student-led clinics is generally perceived positively and can be transformational in nature. For students who may need extra scaffolding of their learning, student-led health services were described as a safe or controlled learning environment that could provide additional supports as required. Given the limitations in culturally informed practice reported, it would be useful to know if any of the additional supports indicated for students were relevant to their own or clients' cultural needs, and what opportunities this creates for partnership with a Māori health provider to embed culturally intelligent supports from the outset.

The diversity of patients accessing student-led health services was identified as both an opportunity and a barrier: with some populations presenting with highly diverse and complex conditions that generated rich learning experiences and some populations presenting with high rates of the same condition generating more repetitive learning experiences. Some of the opportunities and challenges identified in the literature by learners were not necessarily specific to the student-led health service context and could be considered applicable to student experiences of being on placements in general.[56,57] For example, challenges were reported such as getting up in the morning and experiencing "information overload".[31]

For educators, student-led health services present invaluable opportunities to collaborate with other health providers and to provide flexible placements which align with the curriculum and programme requirements. In some instances, student-led health services delivered through an education provider were the only opportunity available for students to gain clinical learning experiences during their academic career. In other programmes, the student-led health service was in competition with other healthcare providers, putting strain on relationships. It was frequently reported that there was some level of inherent tension between the requirements of the curriculum, the students' learning needs and the needs of the clients. Consistent staffing of the clinic with students and appropriately

Table 7 Evaluation Methods and Outcomes of SLCs

Student-Led Clinic	Focus of Evaluation	Evaluation Method(s)
Auckland University of Technology Integrated Health – Interprofessional programmes*	Explore and evaluate the experiences of clients, students and educators.[29,32] Explore student and educator experiences.[30] Explore student perceptions of the placement and the utility of the IPE Student Questionnaire.[31] Explore service-user perspectives.[28]	• Phenomenological hermeneutic interpretive approach; individual semi structured interviews with clients and focus groups with students and educators.[29,32] • Client demographic details, clinical indicators (BMI, waist circumference, blood pressure, blood glucose) and COPM scores.[32] • Focus groups.[30] • IPE Student Questionnaire.[31] • Qualitative descriptive design with an interpretative approach using semi-structured interviews.[28]
Design for Health and Well-being (DHW) Lab	Not a formal evaluation.	• NA
Otago Polytechnic massage clinic	No known formal evaluation.	• NA
Three unspecified clinics from New Zealand and seventeen from Australia	Examine the goals, possibilities, and challenges of university clinics.	• Consultative enquiry conducted within a context-input-process-products (CIPP) systems framework. • Semi-structured interviews were conducted with people in management, operations, or delivery of education within a university clinic or who were students.
Unitec Osteopathy clinic (and others from Australia and the United Kingdom)	Investigate the construct validity of the Osteopathy Clinical Teaching Questionnaire as used in student-led clinics.	• Rasch analysis.
University of Otago	Evaluate changes in student attitudes to interprofessional practice, IPE, and the effectiveness of health care teams.	• Focus groups with students and educators.
University of Otago physiotherapy clinic	No known formal evaluation.	• NA
Victoria University psychology centre	No known formal evaluation.	• NA
Wintec Biokinetic clinic	For accreditation purposes.	• Accreditation checklist.

Note: *Also included in the consultation process.

qualified health professionals was frequently raised as a challenge to the successful delivery of clinics. Aligning these diverse needs and providing consistent service delivery proved challenging, particularly within the financial, fiscal, and timetabling constraints of educational institutions, which operate very differently to healthcare providers.

Many of the student-led health services had been evaluated from the students' perspective, fewer from the educators' perspective and only one from the service-user perspective. While student-led health services are often promoted as a vehicle for providing affordable, quality healthcare to communities with high needs, without formal evaluation this is purely an assumption. Similar clinics internationally have evaluated the impact of healthcare delivered through a student-led health service on client outcomes, such as patient satisfaction,[58,59] falls prevention,[60] quality of mental health care,[61] smoking cessation[62] and screening rates.[36,63] The gap in empirical evaluation of student-led health services in Aotearoa New Zealand suggests that embedding data collection and analysis would be a useful approach when planning and developing any new student-led health service.

Conclusion

Undertaking what was a seemingly simple scoping review, about the development of student-led clinics, has alerted

us to the wide range of models in practice, the complexity of operational medico-legal considerations, the importance of community consultation during the development and implementation of such an initiative and that risks and opportunities need to be thoughtfully considered and managed. Key learnings from this review point to the level of planning required to successfully establish and execute the operation of a student-led health service. Planning clearly needs to include: consultation; aligning curriculum design with opportunities in the placement experience; obtaining multiple perspectives and being deliberate about how the service best structured; having a clear vision and service objectives that are promoted by leadership; starting small and building up; recognising the substantial costs associated with healthcare provision that are not typically built into educational provider budgets; partnering with a community organization where possible; and embedding evaluation of the health service from the beginning.

Acknowledgments

We would like to thank those educators who provided their time as part of our consultation process. We also acknowledge colleagues at Wintec, who have contributed thoughts and suggestions to this review, namely, Greg Smith, Marrin Haggie, Kay Syminton, Ruth Martis, Ricky Bell, Oliver Wilson, Tame Pokaia and Hera White. Sharon Brownie now has an additional affiliation: School of Nursing, Midwifery & Public Health, University of Canberra, Canberra, ACT, Australia.

Disclosure

This work was supported by Waikato Institute of Technology (Wintec) Seed funding. Ema Tokolahi, Amy Pearce, and Patrea Andersen report grants from Waikato Institute of Technology (Wintec), during the conduct of the study. The authors report no other potential conflicts of interest for this work.

References

1. Briggs L, Fronek P. Student experiences and perceptions of participation in student-led health clinics: a systematic review. *J Soc Work Educ*. 2020;56(2):238–259. doi:10.1080/10437797.2019.1656575
2. Schutte T, Tichelaar J, Dekker RS, van Agtmael MA, de Vries TPGM, Richir MC. Learning in student-run clinics: a systematic review. *Med Educ*. 2015;49(3):249–263. doi:10.1111/medu.12625
3. Ouyang D, Yuan N, Sheu L, Lau G, Chen C, Lai CJ. Community health education at student-run clinics leads to sustained improvement in patients' hepatitis b knowledge. *J Community Health*. 2013;38(3):471–479. doi:10.1007/s10900-012-9631-3
4. Lee TC, Frangos SN, Torres M, Winckler B, Ji G, Dow E. Integrating undergraduate patient partners into diabetes self-management education: evaluating a free clinic pilot program for the underserved. *J Health Care Poor Underserved*. 2016;27(4):1689–1708. doi:10.1353/hpu.2016.0156
5. Butala NM, Chang H, Horwitz LI, Bartlett M, Ellis P. Improving quality of preventive care at a student-run free clinic. *PLoS One*. 2013;8(11):1–6. doi:10.1371/journal.pone.0081441
6. Lee BJ, Wang SK, So C, et al. A student-led health education initiative addressing health disparities in Chinatown community. *Am J Pharm Educ*. 2015;79(9):132. doi:10.5688/ajpe799132
7. Stuhlmiller CM, Tolchard B. Developing a student-led health and wellbeing clinic in an underserved community: collaborative learning, health outcomes and cost savings. *BMC Nurs*. 2015;14(1):1–8. doi:10.1186/s12912-015-0083-9
8. Kenzie-Jones PR. Indigenous activism, community sustainability, and the constraints of CANZUS settler nationhood. *Transmotion*. 2019;5(1):104–131.
9. Nikolakis W, Cornell S, Nelson HW. *Reclaiming Indigenous Governance: Reflections and Insights from Australia, Canada, New Zealand, and the United States*. University of Arizona Press; 2019.
10. Ford L. Locating Indigenous self-determination in the margins of settler sovereignty. In: Ford L, Rowse T, editors. *Between Indigenous and Settler Governance*. Routledge; 2012:1–11.
11. Czyzewski K. Colonialism as a broader social determinant of health. *Int Indig Policy J*. 2011;2(1). doi:10.18584/iipj.2011.2.1.5
12. Statistics New Zealand. New Zealand's population reflects growing diversity; 2019. Available from: https://www.stats.govt.nz/news/new-zealands-population-reflects-growing-diversity#:~:text.Accessed May 5, 2021.
13. OECD. Foreign-born population; 2021. Available from: https://data.oecd.org/migration/foreign-born-population.htm. Accessed May 5, 2021.
14. Vertovec S. Super-diversity and its implications. *Ethn Racial Stud*. 2007;30(6):1024–1054. doi:10.1080/01419870701599465
15. Daudt HML, Van Mossel C, Scott SJ. Enhancing the scoping study methodology: a large, inter-professional team's experience with Arksey and O'Malley's framework. *BMC Med Res Methodol*. 2013;13(1):1–9. doi:10.1186/1471-2288-13-48
16. Tricco AC, Lillie E, Zarin W, et al. A scoping review on the conduct and reporting of scoping reviews. *BMC Med Res Methodol*. 2016;16(1):1–10. doi:10.1186/s12874-016-0116-4
17. O'Brien KK, Colquhoun H, Levac D, et al. Advancing scoping study methodology: a web-based survey and consultation of perceptions on terminology, definition and methodological steps. *BMC Health Serv Res*. 2016;16(1):1–12. doi:10.1186/s12913-016-1579-z
18. Aveyard H. *Doing a Literature Review in Health and Social Care*. Open University Press; 2018.
19. Aveyard H, Bradbury-Jones C. An analysis of current practices in undertaking literature reviews in nursing: findings from a focused mapping review and synthesis. *BMC Med Res Methodol*. 2019;19(1):1–9. doi:10.1186/s12874-019-0751-7
20. Arksey H, O'Malley L. Scopins studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8(1):19–32. doi:10.1080/1364557032000119616
21. Colquhoun HL, Levac D, O'Brien KK, et al. Scoping reviews: time for clarity in definition, methods, and reporting. *J Clin Epidemiol*. 2014;67(12):1291–1294. doi:10.1016/j.jclinepi.2014.03.013
22. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467–473. doi:10.7326/M18-0850
23. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*. 2010;5(69):1–18. doi:10.1017/cbo9780511814563.003
24. Ghalibaf AK, Nazari E, Gholian-Aval M, Tabesh H, Tara M. Comprehensive overview of computer-based health information tailoring: a scoping review protocol. *BMJ Open*. 2017;7(12):e019215. doi:10.1136/bmjopen-2017-019215

25. Elsevier. Mendeley; 2020. Available from: https://www.mendeley.com/homepage-2-1?interaction_required=true&adobe_mc_sdid=SDID%3D64C25792AA3B61ED-16D15DC322F56BBC%7CMCORGID%3D4D6368F454EC41940A4C98A6%40AdobeOrg%7CTS%3D1599188878&adobe_mc_ref=https%3A%2F%2Fwww.mendeley.com%2Fhomepage-2-1%3Finteracti. Accessed July 21, 2021.
26. Peters MDJ, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc*. 2015;13(3):141–146. doi:10.1097/XEB.0000000000000050
27. Pham MT, Rajić A, Greig JD, Sargeant JM, Papadopoulos A, Mcewen SA. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Res Synth Methods*. 2014;5(4):371–385. doi:10.1002/jrsm.1123
28. Tucker L. Service users' views of collaborative care; 2012. Available from: http://hdl.handle.net/10292/5330. Accessed July 21, 2021.
29. Friary P, Tolich J, Morgan J, et al. Navigating interprofessional spaces: experiences of clients living with parkinson's disease, students and clinical educators. *J Interprof Care*. 2018;32(3):304–312. doi:10.1080/13561820.2017.1417238
30. Morgan CJ, Bowmar A, McNaughton S, Flood B, O'Brien D. Transformative learning opportunities for students and educators during interprofessional healthcare practice experiences in higher education: viewed through the lens of threshold concepts theory. *Focus Health Prof Educ*. 2019;20(2):41. doi:10.11157/fohpe.v20i2.301
31. O'Brien D, McCallin A, Basset S. Student perceptions of an interprofessional clinical experience at a university clinic. *NZ J Physiother*. 2013;41(3):81–87.
32. O'Brien D, McNaughton S, Flood B, Morgan J, Bowmar A. Piloting an integrated, interprofessional programme for people living with Type II diabetes: outcomes and experiences. *Aust J Clin Educ*. 2016;1(1):1.
33. O'Brien D, Swann J, Heap N. Can the communities of practice model explain the complex organization of an interprofessional student-led health clinic? *J Allied Health*. 2015;44(1):E11–E16.
34. Godbold R, Lees A, Reay S. Ethical challenges for student design projects in health care settings in New Zealand. *Int J Art Des Educ*. 2019;38(1):182–192. doi:10.1111/jade.12170
35. Pullon S, McKinlay E, Beckingsale L, et al. Interprofessional education for physiotherapy, medical and dietetics students: a pilot programme. *J Prim Health Care*. 2013;5(1):52–58. doi:10.1071/hc13052
36. Vaughan B. Exploring the measurement properties of the osteopathy clinical teaching questionnaire using Rasch analysis. *Chiropr Man Therap*. 2018;26(1):13. doi:10.1186/s12998-018-0182-2
37. Allan J, O'Meara P, Pope R, Higgs J, Kent J. The role of context in establishing university clinics. *Health Soc Care Community*. 2011;19(2):217–224.
38. Flood B, McKinstry W, Friary P, Purdy SC. Cultivating interprofessional practice in New Zealand: an inter-sectorial approach to developing interprofessional education. *J Allied Health*. 2014;43(3):e59–e64.
39. Tikkanen R, Osborn R, Mossialos E, Djordjevic A, Wharton GA. International health care system profiles: New Zealand. The Commonwealth Fund; 2020. Available from: https://www.commonwealthfund.org/international-health-policy-center/countries/new-zealand. Accessed June 23, 2021.
40. Albinsson G, Elmqvist C, Hörberg U. Nursing students' and lecturers' experiences of learning at a university-based nursing student–run health clinic. *Reflective Pract*. 2019;20(4):423–436. doi:10.1080/14623943.2019.1638242
41. Weber EJ. Publication bias begins at home. *Emerg Med J*. 2019;36(9):518–519. doi:10.1136/emermed-2019-208857
42. Borges NJ, Hartung PJ. Service learning in medical education: project description and evaluation. *Int J Teach Learn High Educ*. 2007;19(1):1.
43. Seif G, Coker-Bolt P, Kraft S, Gonsalves W, Simpson K, Johnson E. The development of clinical reasoning and interprofessional behaviors: service-learning at a student-run free clinic. *J Interprof Care*. 2014;28(6):559–564. doi:10.3109/13561820.2014.921899
44. Ko J, Connor S, Jonkman L, Abraham O. Student pharmacists' perspectives on service-learning experiences in free clinics. *Am J Pharm Educ*. 2019;83(9):7379. doi:10.5688/ajpe7379
45. Hand J, Koransky A, Feinman J, et al. Alumni perspectives on the role of medical school service learning experiences in their professional development and practice. *J Health Care Poor Underserved*. 2018;29(4):1386–1399. doi:10.1353/hpu.2018.0102
46. Bell CL Impact of nursing students' free-clinic experiences on subsequent professional nursing practice; 2013.
47. Scott EA, Swartz MK. Interprofessional student experiences on the HAVEN free clinic leadership board. *J Interprof Care*. 2015;29(1):68–70. doi:10.3109/13561820.2014.934339
48. Campos-Outcalt DE. Specialties chosen by medical students who participated in a student-run, community-based free clinic. *Am J Prev Med*. 1985;1(4):50–51. doi:10.1016/S0749-3797(18)31400-4
49. Modi A, Fascelli M, Daitch Z, Hojat M. Evaluating the relationship between participation in student-run free clinics and changes in empathy in medical students. *J Prim Care Community Health*. 2017;8(3):122–126. doi:10.1177/2150131916685199
50. Nakamura M, Altshuler D, Binienda J. Clinical skills development in student-run free clinic volunteers: a multi-trait, multi-measure study. *BMC Med Educ*. 2014;14(1):250. doi:10.1186/s12909-014-0250-9
51. Heller M, Thomas AM, Peters SM, Düsterwald KM, Klausner JD. An evaluation of patient and student experience at a longstanding student-run free clinic in Cape Town, South Africa. *Cureus*. 2019;11(12):e6320.
52. Chopra N, Zhou DB, Fallar R, Chadha N. Impact of near-peer education in a student-run free ophthalmology clinic on medical student teaching skills. *J Surg Educ*. 2020;77(6):1503–1510. doi:10.1016/j.jsurg.2020.05.012
53. Ministry of Health. Ministry of Health reports on Māori health outcomes and disparity in outcomes between Māori and non-Māori from 1992 to 2016. 2017;(June):1–13. Available from: https://www.health.govt.nz/system/files/documents/pages/ministry_of_health_reports_on_maori_health_outcomes.pdf. Accessed July 21, 2021.
54. Sciascia A. *Māori Learner Success in Tertiary Education: Highlights from Ako Aotearoa Supported Research Projects*. Ako Aotearoa; 2017.
55. Graham R, Masters-Awatere B. Experiences of Māori of Aotearoa New Zealand's public health system: a systematic review of two decades of published qualitative research. *Aust N Z J Public Health*. 2020;44(3):193–200. doi:10.1111/1753-6405.12971
56. Lewis R, Kelly S. Changing hearts and minds: examining student nurses' experiences and perceptions of a general practice placement through a "community of practice" lens. *BMC Med Educ*. 2018;18(1):1–10. doi:10.1186/s12909-018-1182-6
57. Dancza K, Warren A, Copley J, et al. Learning experiences on role-emerging placements: an exploration from the students' perspective. *Aust Occup Ther J*. 2013;60(6):427–435. doi:10.1111/1440-1630.12079
58. Forbes R. Service dissatisfaction and non-attendance in physiotherapy student-led clinics: a qualitative study. *Physiother Theory Pract*. 2019;1–9. doi:10.1080/09593985.2019.1570576
59. Forbes R, Nolan D. Factors associated with patient-satisfaction in student-led physiotherapy clinics: a qualitative study. *Physiother Theory Pract*. 2018;34(9):705–713. doi:10.1080/09593985.2018.1423592
60. Bonner A, MacCulloch P, Gardner T, Chase C. A student-led demonstration project on fall prevention in a long-term care facility. *Geriatr Nurs (Minneap)*. 2007;28(5):312–318. doi:10.1016/j.gerinurse.2007.04.014
61. Liberman KM, Meah YS, Chow A, Tornheim J, Rolon O, Thomas DC. Quality of mental health care at a student-run clinic: care for the uninsured exceeds that of publicly and privately insured populations. *J Community Health*. 2011;36(5):733–740. doi:10.1007/s10900-011-9367-5

62. Lough LE, Ebbert JO, McLeod TG. Evaluation of a student-run smoking cessation clinic for a medically underserved population. *BMC Res Notes*. 2011;4(1):55. doi:10.1186/1756-0500-4-55
63. Hu ZI, Smith DM. Cancer screening rates in a student-run free clinic. *Ochsner J*. 2016;16(1):37–40.
64. Liberati A, Altman D, Tetzlaff J, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *Journal of Clinical Epidemiology*. 2009;62(10):e1–e34.


E WHAKAWHI
TE AHURE

ISBN 978-1-877510-21-2

Wintec
WAIKATO INSTITUTE OF TECHNOLOGY
Te Kuratini o Waikato

Te Pūkenga