



Pūhoro Charitable Trust

Pūhoro Outcomes 2016-2023

"Forging Future Pathways"



Our Vision

New Plan, New Strategy

In the spirit of Pūhoro’s continuous evolution, our new vision and purpose for 2023 chart an ambitious course to encourage more Māori into Science, Technology, Engineering, Mathematics and Mātauranga (STEMM).

2023 marks a pivotal moment as we unveil our new vision and purpose, shaping a dynamic strategy for the future. Although the waka is being steered towards new and exciting horizons, at its core our commitment remains the same - to drive systemic change, remove barriers and create seamless transitions, ensuring rangatahi have the tools to carve their own STEMM futures.

“Uhi tū
Uhi pae
Uhi tapu hei aha
Hei whakarei i ngā tohū rangatira”

“With the chisels of
Te Urunga Tū
Te Urunga Pae
and Te Urunga Tapu
We will carve out the
markings of a chief”

The following strategic framework encapsulates our commitment to grow a leading Māori STEMM community guided by their Māori worldview. From the foundational concept of Pūhoro as the source of quickness, speed and agility, our strategic pou represent the key elements steering rangatahi towards our vision – “Leading Māori STEMM success”. Within these pou, Pūhoro see the roadmap for the next chapter of our story. With the past as our guide and the future as our canvas, we’re set to paint a picture of Māori STEMM success that resonates across generations. Through our strategic vision, focused long-term and short-term objectives, and unwavering commitment, Pūhoro is poised to lead the way by ensuring that every rangatahi has the tools to be successful Māori leaders in STEMM.

OUR VISION

Leading Māori STEMM success

OUR PURPOSE

Growing a leading Māori STEMM community guided by their unique Māori worldview

OUR VALUES

Tauheretanga

We build meaningful and purposeful relationships to support collective impact

Ūkaipōtanga

We work to ensure Māori have a strong sense of belonging in STEMM

Māuitanga

We encourage curiosity and innovation to create opportunities for social, cultural and economic impact

Ngākau Pono

We act with sincerity and are guided by good practice in governance, management and all our relationships

Mātauranga Māori

We embrace mātauranga Māori as the key origin source upon which our strategic pou, outcomes and work is founded.

Strategic Pou

Nurturing Identity

We deepen rangatahi connection to their Māori identity, language, culture, and mātauranga.

Driving Change

We lead and influence structural change to ensure equitable access to STEMM education and full participation in the Research Science and Innovation sector.

Expanding Leadership

We embolden rangatahi to take their position as self-determining, empowered STEMM leaders.

Wayfinding Pathways

We wayfind pathways to ensure rangatahi have the tools they need to carve out their STEMM futures.

Pae Tawhiti 10 years+

15,000 culturally-anchored rangatahi who are grounded in their Māori worldview.

A rangatahi-ready STEMM workforce with **150 organisations** across the Pūhoro partner network, providing culturally-safe workspaces for rangatahi.

Equitable STEMM pathways with **15,000 rangatahi** Māori being engaged in STEMM opportunities.

More Māori enjoying high-value STEMM careers with **5,000 rangatahi** transitioned into STEMM industry employment in Aotearoa and internationally.

Pae Tata 4-5 years

6,500 culturally-anchored rangatahi participating across the Pūhoro pipeline who are grounded in their Māori worldview.

Pūhoro operating in **18 regions** in Aotearoa.

Pūhoro is **recognised as integral** to rangatahi Māori success within STEMM education, STEMM training and STEMM industry in Aotearoa and internationally.

Pūhoro is **sustainable** and able to **maintain, generate** and **build** new partnerships which further advance opportunities for rangatahi in STEMM.



Pūhoro

Highlights

Please find the following broad outcomes of Pūhoro from 2016-2023. This outcome report will reflect what has been some of the key success’ of Pūhoro.

Outcomes for the year 2022-2023 include:

- 2 years as an independent by Māori, for Māori organisation.
- Our expansion into Te Tai Tokerau region, signifying both our strength as a kaupapa and our intention to expand into further rohe.
- The ongoing delivery of weekly staff training sessions to enhance the growth of kaimahi skills and capabilities.
- A significant increase in school engagement for Pūhoro from 54 schools to 68 and climbing. Of note is the incorporation of Pūhoro Kaihautū sessions into the Awatapu College curriculum timetable.
- Key partnership with Te Aka Whai Ora - the Māori Health Authority, which will help facilitate seamless pathways forward for rangatahi passionate about careers in Health and Medicine.

Statement of Service Performance 2023

Description of Entity’s Outcomes

The Pūhoro Charitable Trust is a by Māori, for Māori and with Māori capability building pipeline for rangatahi Māori into STEMM (Science, Technology, Engineering, Mathematics, Mātauranga) related fields. Pūhoro supports rangatahi Māori with transitions from secondary school to tertiary programmes, internships, scholarships, industry opportunities and employment in the STEMM sector.

Description and Quantification of the Entity’s Outputs

The Pūhoro Charitable Trust provides key deliverables for rangatahi across Aotearoa. Pūhoro has 2108 (1505 in 2022) rangatahi in the programme. The breakdown consists of 1531 rangatahi in the secondary phase and 577 rangatahi in the tertiary and employment phases of the programme. Pūhoro delivers across 10 regions in Aotearoa, namely; Auckland Central/West, South Auckland, Waikato, Rotorua, Ruapehu, Hawke’s Bay, Manawatū, Kāpiti, Christchurch and Te Tai Tokerau (8 regions in 2022; Auckland Central/West, South Auckland, Waikato, Rotorua, Ruapehu, Hawke’s Bay, Manawatū, and Christchurch). Rangatahi in the programme affiliate and whakapapa to 134 iwi and 81 hapū from across Aotearoa. Over this period, Pūhoro has delivered 19 wānanga the majority of which were hosted at partner tertiary institutes, providing 422 (165 in 2022) STEMM (Science, Technology, Engineering, Maths and Mātauranga Māori) focussed workshops for rangatahi. Pūhoro works with 68 (54 in 2022) partner schools and delivered 906 science tutorials and 1783 kaihautū mentoring/21st century skills sessions. These sessions include career exposure opportunities, tuakiri and identity sessions, micro-credential aligned activities, and other pertinent sessions which develop rangatahi STEMM competencies. Pūhoro provided over 73 (35 in 2022) summer internship and scholarship opportunities for rangatahi and actively supports rangatahi in tertiary and employment in the STEMM industry sector. Our mission is to continue to increase equitable opportunities for rangatahi to engage, participate and thrive in STEMM. He waka eke noa!

Ongoing Growth and Expansion

Te Pae Tawhiti

We have experienced an inspiring wave of recognition and expansion in the past year, which has further fuelled our commitment to championing a future steeped in Science, Technology, Engineering, Mathematics and Mātauranga Māori.

Our impact has radiated well beyond our shores, in the form of both national and international accolades. We stood as finalists for the 2022 NZ Energy Excellence Awards in the “Community Initiative of the Year” category, a testament to our robust partnership with Genesis Energy. We also clinched top honours at the 2022 NZ Diversity Awards, walking away with both the *Ngā Ahuatanga o te Tiriti* award for commitment to, and embodiment of Te Tiriti o Waitangi and the prestigious *Supreme Award*. On the global stage, we earned recognition with the 2022 *International Engineering and Technology (E&T) Innovation Award*, lauded for our commitment to forward-thinking, equality, diversity, and inclusion in the realms of Engineering and Technology.

Our expansion as a kaupapa has surged in the form of rangatahi engagement across the motu. In July 2022, Pūhoro were privileged to have 1503 rangatahi engaged in our kaupapa. Today, as we mark the rising of Matariki, our number has increased to an impressive **2076 rangatahi** across the country. This remarkable growth underscores our impact and the growing demand for our unique approach to STEMM education for Māori.

Furthermore, our expansion into Te Tai Tokerau as mentioned has been well-received, and we’ve also opened our doors to 14 new secondary schools across Aotearoa. Among them, we proudly welcome three kura kaupapa Māori, affirming our dedication to nurturing tuakiri and promoting STEMM futures for rangatahi within Te Aho Matua – the kura kaupapa Māori education framework.

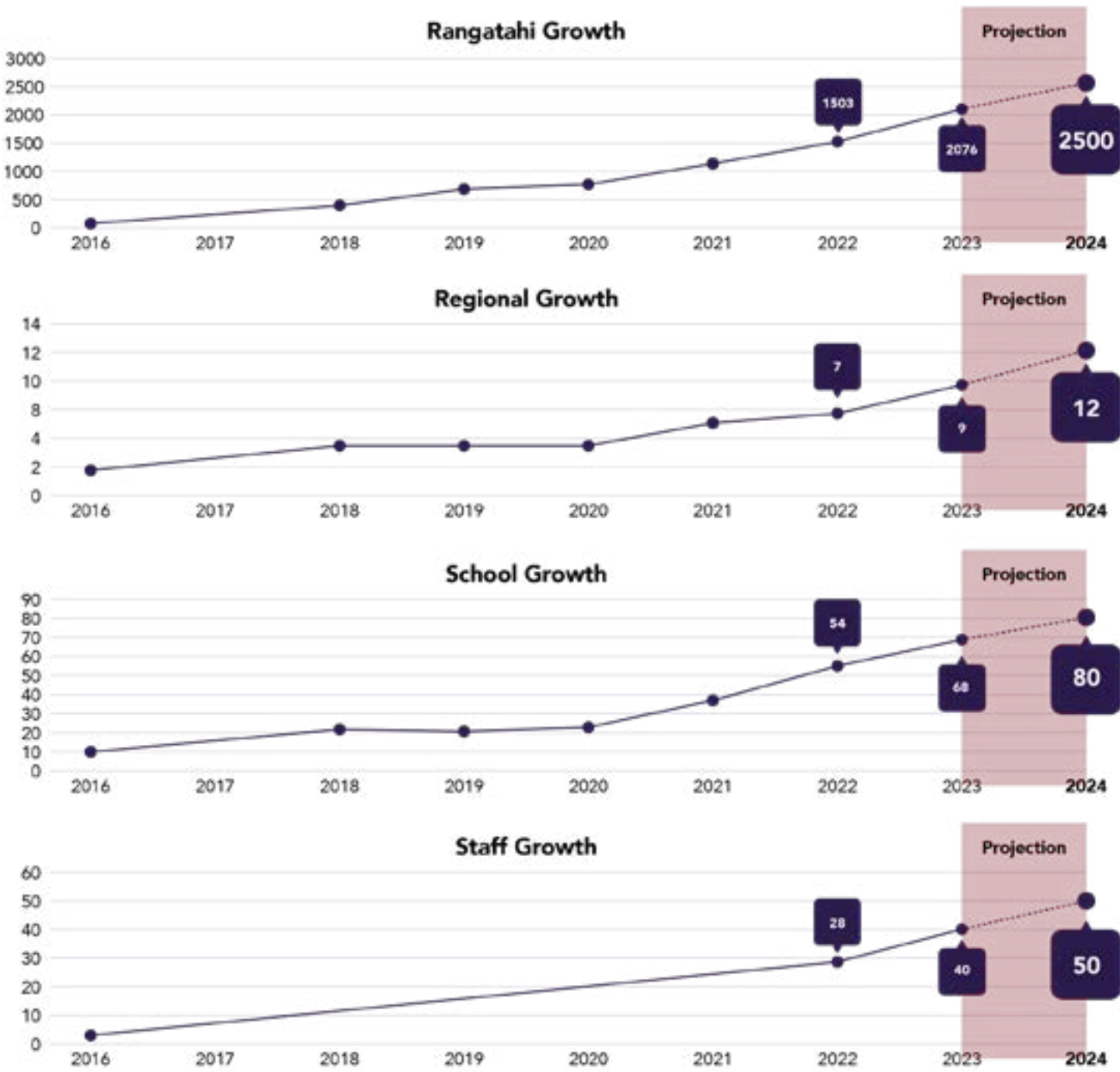
In a ground-breaking collaboration, we are proud to announce a strategic partnership with Te Aka Whai Ora, the Māori Health Authority, marked by a \$1.7 million investment. This visionary alliance aims to shape a bespoke Health Career Pathway within Pūhoro, which will further widen our pipeline of service provision and ensure Pūhoro rangatahi have a clear trajectory into the health sector. Through this transformative investment, Te Aka Whai Ora and Pūhoro embark on a journey of innovation, leadership, and cultural empowerment, charting new avenues for rangatahi excellence in the realms of health and science.

Finally, our journey has been fortified as mentioned, by the resounding commitment of the Ministry of Education. With their unwavering support, we’ve secured further funding to extend the reach of our kaupapa. This will propel us from 2000 rangatahi, to a visionary goal of 6500 rangatahi over the next four years.

“Me tiro whakamuri kia anga whakamua”
“I walk backwards into the future with my eyes fixed on my past”

As we reflect on a year of growth and recognition, we’re excited at what lays ahead as we look to anticipate as it stands, the complete transformation of STEMM in Aotearoa. As we have shown through the challenges of Covid-19 and Cyclone Gabrielle, Pūhoro is primed to front any challenges that lay ahead, and pivot where necessary. The 2023-2024 year looks promising as we encroach closer towards our vision of **Leading Māori STEMM success**.

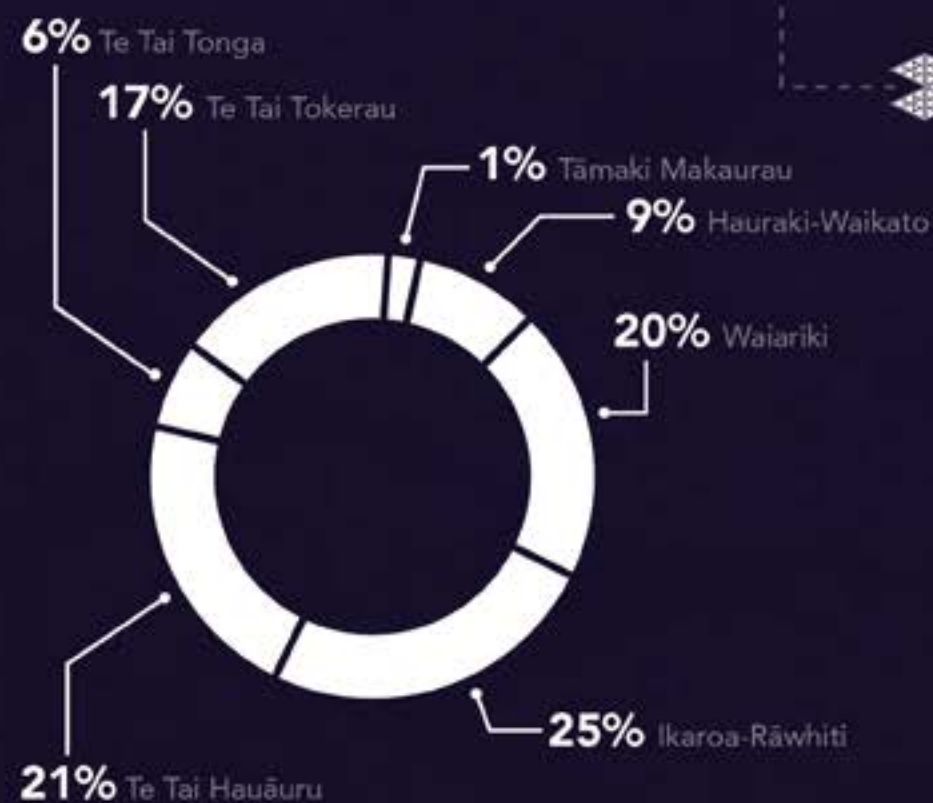
Our Growth



Iwi Affiliations

In 2021 and 2022, Pūhoro rangatahi affiliated to 86 iwi and 90 iwi respectively. As of June 2023, this number has risen to 113, showcasing the nationwide reach of the kaupapa, and illustrating the diverse whakapapa representation of Pūhoro rangatahi.

The following display shows the iwi affiliations of Pūhoro rangatahi in each rohe. The variation displayed prompt Pūhoro to consider in earnest, tailored approaches to Pūhoro programme design and delivery. Tainui for example, partnered with Pūhoro this year to co-design STEMM workshops based on Tainui-specific pūrākau to advance STEMM education for uri within their rohe.



Hauraki-Waikato:

Tainui
Waikato
Ngāti Hauā
Ngāti Hako
Ngāti Hikairo
Ngāti Tahinga
Ngāti Paoa
Ngāti Te Ata
Ngāti Apakura
Ngāti Mahanga
Ngāti Ruru
Ngāti Korokī Kahukura
Ngāti Porou ki Harataunga ki Mataora
Ngāti Tamaoho
Ngāti Whanaunga

Te Tai Tokerau:

Ngāpuhi
Te Rarawa
Ngāti Kahu
Ngāti Hine
Ngāti Kuri
Ngāti Wai
Te Aupōuri
Ngāti Kaharau
Te Māhurehure
Te Orewai
Ngāi Takoto
Ngāpuhi ki Whaingaroa
Ngāti Kahu ki Whaingaroa
Ngāti Tipa
Ngāti Whātua o Kaipara

Te Tai Hauāuru:

Ngāti Maniapoto
Ngāti Raukawa
Te Ati Haunui-a-Pāpārangi
Rangitāne
Te Atiawa
Ngāti Rangī
Ngāti Ruanui
Ngāti Apa
Ngāti Raukawa ki te Tonga
Ngāti Kauwhāt
Taranaki
Ngāti Ruahine
Ngāti Mutunga
Ngāti Toa Rangatira
Ngā Rauru
Mūaupoko
Ngāti Tūkorehe
Ngāti Uenuku
Ngāti Kapumanawawhiti
Ngāti Maru
Ngāti Pareraukawa
Rereahu
Ngāti Mahanga
Ngāti Hinemanu
Ngāti Huia
Ngāti Kahumake
Ngāti Kurawhatia
Ngāti Ngarongo
Ngāti Parewahawaha
Ngāti Te Maunu
Ngāti Tūranga
Ngāti Whakatere
Ngāti Hauiti
Ngāti Tamakopiri
Ngāti Whitikaupēka
Rangitāne o Manawātū

Tāmaki Makaurau:

Ngāti Whātua
Ngāi Tai
Ngāti Whātua o Ōrākei

Te Tai Tonga:

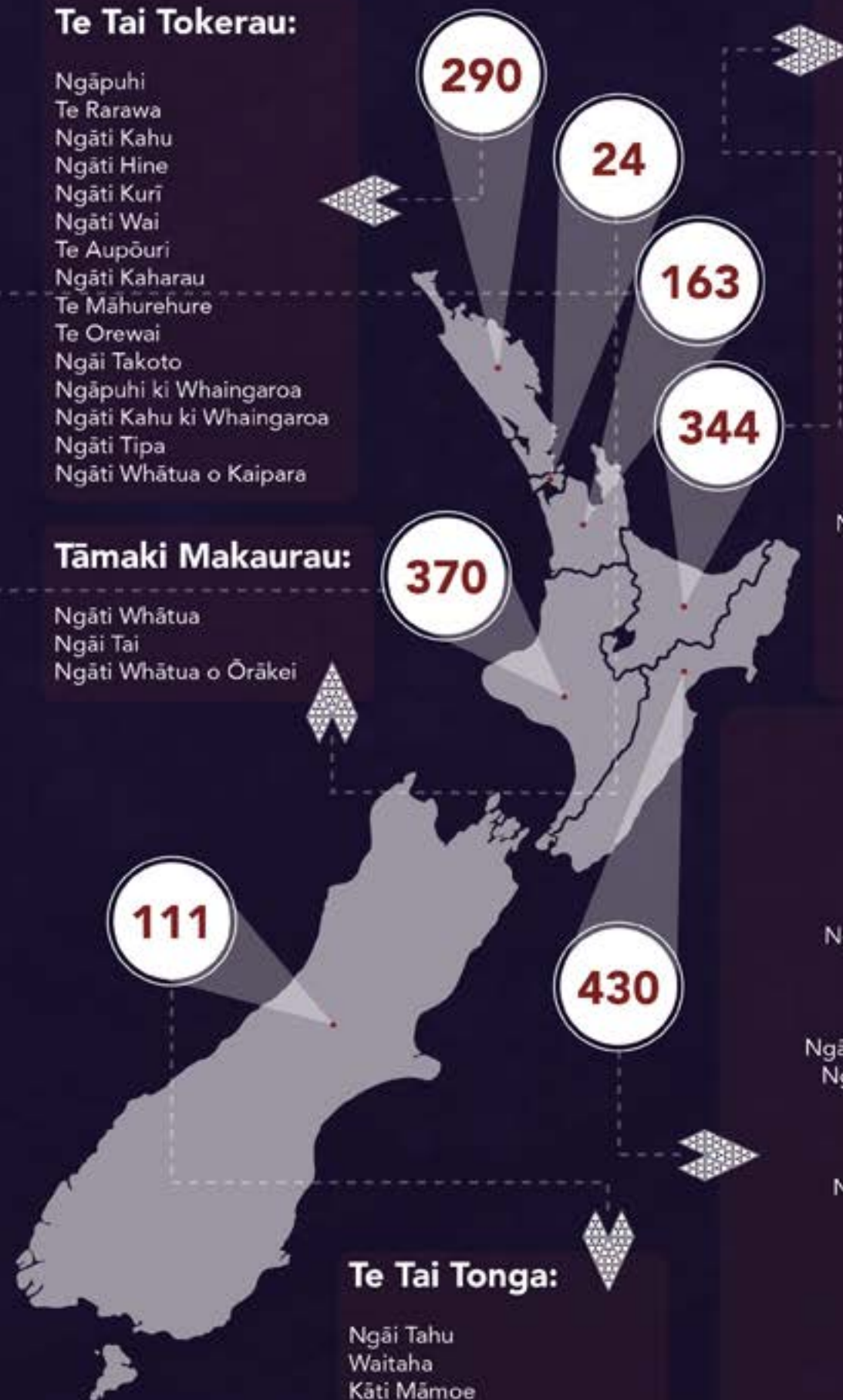
Ngāi Tahu
Waitaha
Kāti Māmoe
Ngāti Kuia
Ngāti Koata
Ngāi Tārewa
Ngāti Irakēhu
Ngāti Moki
Ngāti Apa ki Te Rā Tō
Ngāti Rārua
Te Atiawa ki te Waipounamu

Waiariki:

Ngāi Tuhoe
Ngāti Tūwharetoa
Te Arawa
Te Whānau-ā-Apanui
Ngāti Awa
Ngāti Whakaue
Ngāi Te Rangi
Ngāti Ranginui
Ngāti Manawa
Ngāti Pukenga
Tūhourangi
Ngāti Tamaterā
Tapuika
Ngāti Pikiao
Ngāti Tahu - Ngāti Whaoa
Ngāti Rangitahi
Ngāti Rangiwewehi
Ngāti Tūwharetoa ki Kawerau
Ngāti Hangarau
Ngāti Hinekura
Tuaropaki
Ngāti Kearo Ngāti Tuarā
Ngāti Tūwharetoa ki Taupo

Ikaroa-Rāwhiti:

Ngāti Kahungunu
Ngāti Porou
Rongomaiwahine
Whakatōhea
Rongowhakaata
Ngāti Kahungunu ki Te Wairoa
Ngāti Pāhauwera
Te Aitanga-a-Māhaki
Ngāti Rākaipaaka
Ngāti Kahungunu ki Heretaunga
Ngāti Kahungunu ki Wairarapa
Rangitāne o Wairarapa
Ngāti Hineuru
Ngāi Tamanuhiri
Ngāti Mutunga ki Wharekauri
Te Aitanga a Hauiti
Ngāi Te Apatu
Ngāti Hamua
Ngāti Hawea
Ngāti Ira
Ngāti Kohuru
Ngāti Konohi
Ngāti Kurupakiaka
Ngāti Moe
Ngāti Parera
Te Whānau a Kai
Te Whānau a Karuwai
Te Whānau a Ruataupare
Ngāti Kahungunu ki Tāmaki Nui ā Rua
Ngāti Ruapani



Te Urunga Tū

Rising Above The Storm

Although 2023 started with Cyclone Gabrielle, we emerged stronger, surging forward in our commitment to STEMM capability.

Drawing on the lessons learned during the challenges of the Covid-19 pandemic, our resilient Kaihautū once again demonstrated their adaptability, pivoting sessions to ensure continued support for regions affected by Cyclone Gabrielle. This show of resilience and versatility is why Te Urunga Tū has been able to continue building momentum in schools, which has resulted in continual growth in the number of rangatahi engaging in our kaupapa.

Building on the success of previous years, our Kaihautū have continued to visit schools on a weekly basis, providing mentorship and STEMM tutoring sessions both in-person and online. These sessions covered a diverse range of topics, from social hierarchy in the Manawatū, to cars made out of rubber-bands in the North, to budgeting and study skills in preparation for tertiary student-life in Te Matau-a-Māui. Foundationally, Kaihautū sessions serve as a bedrock for fostering 21st-century skills, tuakiri and STEMM career exposure. But what makes these sessions truly unique is the ability of Kaihautū to have complete autonomy over their creation, reflecting the essence of *Tino Rangatiratanga*. Kaihautū have the creative freedom to tailor their sessions based on their own unique skillset, while also addressing the specific needs of rangatahi in their own respective rohe. This approach empowers Kaihautū, rangatahi, their whānau and kura to co-create a meaningful and impactful educational experience.

To add further momentum, we expanded our offerings in digital technology in the Waikato region to enrich the curriculum there for rangatahi Māori. As part of our significant partnership with Tainui iwi, we successfully co-created STEMM activities, centred on kōrero from Tainui hapū and whānau for use with uri from within the rohe.

Thanks to the unique technological skills of our Kaihautū in the Waikato region, uri from Tainui were able to explore and develop their interests in technology and computing through these creative pūrākau-based STEMM activities.

Another Te Urunga Tū highlight this year has been the micro-badge component of our programme, which strengthens the STEMM employment potential of Pūhoro rangatahi at secondary-school level. Due to Kaihautū efficiency, effective teaching methods and increased uptake by rangatahi, micro-badges are proving increasingly valuable, with the number earned having increased by 852 in total compared to last year. Rangatahi are able to utilise these badges to enhance their CVs and strengthen applications for employment, scholarships, and internships, showcasing their achievements, their potential and setting rangatahi up for success as they transition to *Te Urunga Pae*, our tertiary phase.

Most notably this year, has been the success of termly wānanga, a cornerstone of our commitment to nurturing curiosity and passion for STEMM among rangatahi. Over the past year our wānanga have delivered an impressive array of 150 hands-on STEMM workshops across 19 wānanga nationwide. The response has been overwhelming, with over 2100 participants engaging in these immersive experiences. From coding to chemistry, robotics to environmental science, these workshops have become hubs of inspiration, paving the way for rangatahi to envision their own future as leaders within these dynamic fields. The growth and impact of termly wānanga signify not only the success of our kaupapa, but also the potential of a generation ready to embrace with their unique world-view, the challenges and opportunities that STEMM has to offer.

As Pūhoro continues to guide rangatahi through STEMM, Te Urunga Tū remains steadfast in its commitment to nurturing and developing their aspirations at the forefront. Collectively, our vision of fostering an active and capable Māori STEMM workforce is taking shape, and as we expand into further regions, we are poised to augment the success we have already achieved.

Te Urunga Tū Numbers

2022	2023
1077 rangatahi participating in Pūhoro	1531 rangatahi participating in Pūhoro
105 wānanga workshops delivered	434 wānanga workshops delivered
54 kura participating in Pūhoro	68 kura participating in Pūhoro
824 science tutorials delivered	906 science tutorials delivered
1580 micro-badges awarded	2495 micro-badges awarded
1704 rangatahi attendances at termly wānanga	2387 rangatahi attendance at termly wānanga
1326 kaihautū sessions delivered	1783 kaihautū sessions delivered

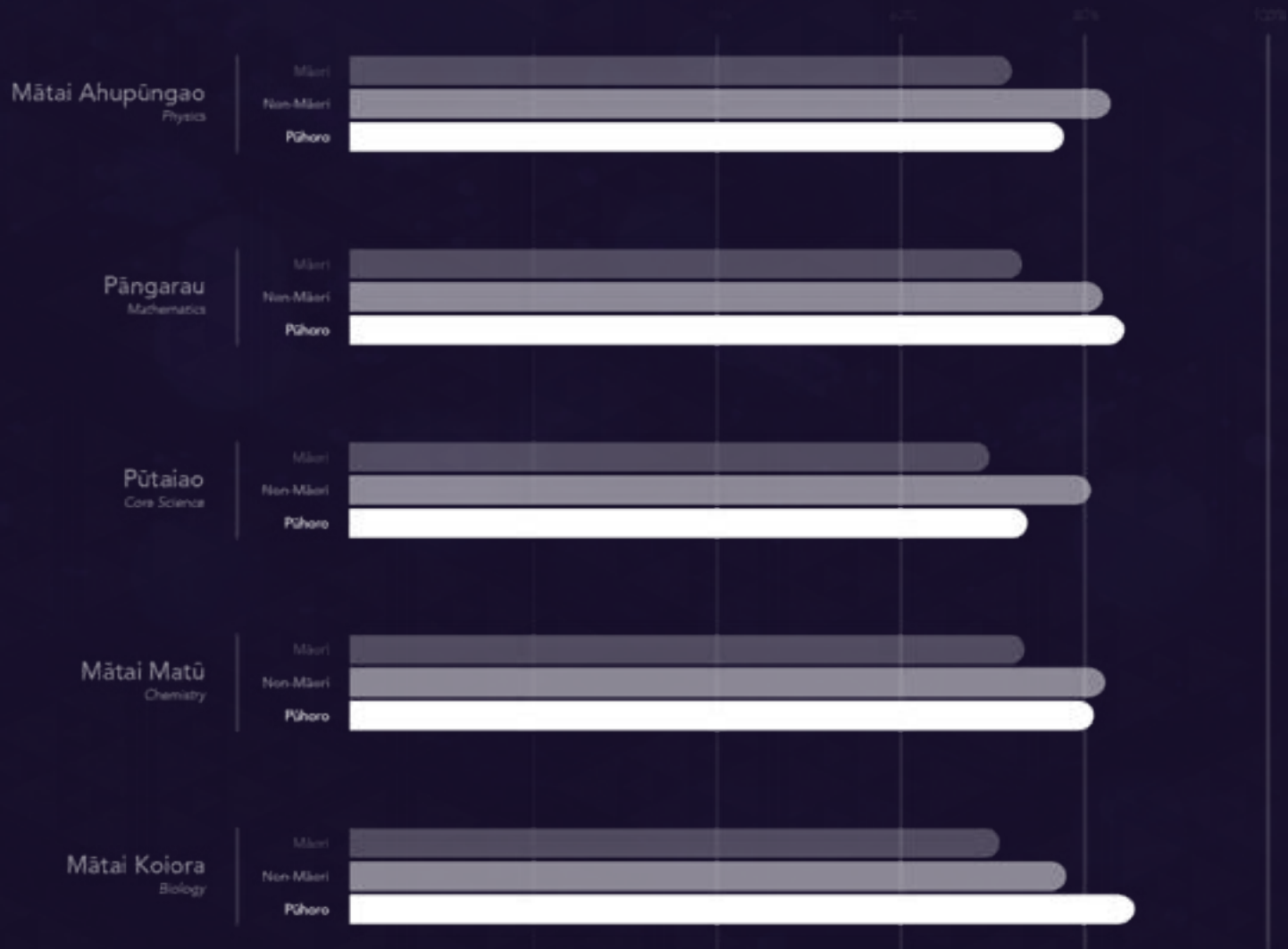
S9(2)(a)

Wānanga ki Te Matau-a-Māui, 2023

NCEA Data & Results

NCEA Pass Rates

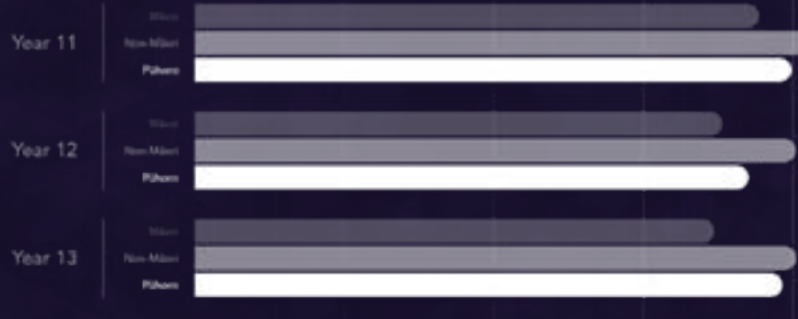
Overall



- Pūhoro rangatahi achieve science and maths NCEA standards at a rate higher than Māori.
- Pūhoro rangatahi achieve Maths and Biology NCEA standards at a rate higher than both Māori and non-Māori.
- Pūhoro rangatahi achieved at a rate close to non-Māori for Chemistry.
- While Physics and Core Sciences achievement rates for Pūhoro rangatahi were not as high as non-Māori, they were above the Māori rates of achievement for these subjects.

Mātai Ahupūngao

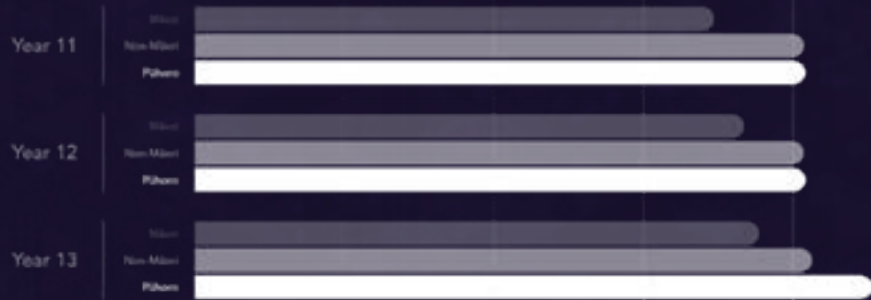
Physics pass rates



- Year 13 Pūhoro rangatahi achieved Physics (79%) at a rate close to non-Māori (81%).
- Year 11 (80%) and Year 12 (75%) Pūhoro rangatahi achieved Physics at a rate greater than Māori.

Pāngarau

Mathematics pass rates



- Year 13 Pūhoro rangatahi achieved Maths at a rate (91%) significantly higher than non-Māori (83%).
- Year 11 and Year 12 Pūhoro rangatahi achieved Maths at a rate (82%) equal to non-Māori (82%) and significantly more than Māori.

Mātai Matū

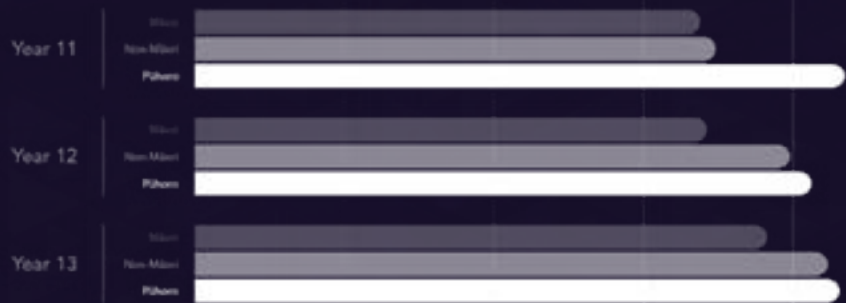
Chemistry pass rates



- Year 11 Pūhoro rangatahi achieved Chemistry at a significantly higher rate (87%) than non-Māori (81%).
- Year 12 (77%) and Year 13 (79%) Pūhoro rangatahi achieved Chemistry at a rate greater than Māori.

Mātai Koiira

Biology pass rates



- Year 11 Pūhoro rangatahi achieved Biology at a significantly higher rate (87%) than non-Māori (68%).
- Year 12 (83%) and Year 13 (87%) Pūhoro rangatahi achieved Biology at a rate greater than non-Māori and significantly more than Māori.

S9(2)(a)

Te Reo o Te Urunga Tū

The following is a transcript from a recorded interview with Pūhoro rangatahi, S9(2)(a) - a Year 12 from Palmerston North Boys' High School.

Tell us about your experience with Pūhoro.

I joined Pūhoro in Year 10 because I was a year ahead at school and already studying NCEA. Pūhoro has really helped me explore the opportunities that I myself as a rangatahi Māori can (tap in to), the different jobs and occupations that I can get into through Pūhoro, as a Māori student in STEM. Pūhoro has helped me gain new friends, and has given me a lot of opportunities, some that I am very grateful for specifically with Te Kāhui Akonga, which is a movement that I work alongside with NZQA, providing a Māori perspective on what quality education looks like.

How does Pūhoro help you to prepare for life after kura?

Pūhoro has presented me with a lot of opportunities where I can get a job straight out of school, or receive support if I do decide to go into tertiary education. I know that Pūhoro supports tertiary students across the whole country and this will help me when I decide to further my study and where.

How has Pūhoro made you more confident as Māori?

Before I joined Pūhoro the only real thing I was doing culture-wise was taking the subject of Te Reo Māori. Pūhoro has helped me to understand how many different aspects of being Māori there are. There's not just the kapa haka, there's not just the waiata, there's also the tikanga, the tāmoko, the whakapapa, our atua, and how us as Māori can connect, through being Māori.

Who is your favourite Kaihautū and why?

Favourite Kaihautū, I have two: Pā S9(2)(a) here in the Manawatū, he's helped me so much. I am really appreciative of what he has done for me and what sacrifices he has made for me to stand where I am today. And another Kaihautū up from the Tāmaki Makaurau region Pā S9(2)(a). I enjoyed our termly wānanga down in Wellington and I enjoy kicking it with him and having a bit of banter.

How has Pūhoro helped mentor you and strengthen you as a person?

Pūhoro has helped me to not be shy about being Māori. I remember when I was selected (at school) to be in the accelerate programme in year 9. I was one of the few Māori students selected and I felt like I was stuck in a shell, and I wasn't sure who to turn to because I was always curious about what opportunities there were for me as Māori, scholarships, jobs etc. But now seeing that there is a whole programme and system dedicated to rangatahi Māori thriving in a STEM environment, it really helps me.

What does the future hold for you?

Future holds for me? I guess wherever the wind takes me. I know there's a lot of opportunities with me going into a statistic-type of job. I've already got an internship lined up for me thanks to Pūhoro, and also even just a job straight out of university supporting and giving back to the kaupapa, what it has given to me.

*Tikokekoke taku manu ki
Ruapehu me Pekapeka,
Tirikohu ki te waitu ora o
Rangitikei me Waikato,
Ka topa ake taku manu ki te
Taumata O Te Ra,
Te marae e rangitāmiro ana e
ngā pou tini kōrero,
Ngāti Manomano hapū karanga,
Riporipo ana te wai o Tangaroa
Nā Tangaroa te waka Tainui e ū
ki Aotearoa nei,
Ka hono ngā uri o Ngāti
Raukawa,
Ki taua mana tihei mauri ora.*

Ko S9(2)(a) tōku ingoa.

"I enjoy everything about STEM. More specifically, I like statistics, I like collecting data, I like using data to predict future outcomes, see trends, and I think that's where I will follow my passion."

Te Urunga Pae

Rising Above The Storm

In the ongoing journey of Te Urunga Pae, our commitment to cultivating Māori leadership in STEMM at tertiary level takes a significant stride forward for 2023.

Te Urunga Pae has evolved from its foundational role in supporting rangatahi at Tertiary level, extending its reach further by acting as an intermediate between itself, Te Urunga Tū (secondary-school phase) and Te Urunga Tapū (industry phase).

Te Urunga Pae Kaihautū engage Year 13 from Te Urunga Tū as part of their transition to tertiary, by facilitating workshops at wānanga, and visiting schools through Terms 1, 2 and 3. So far the impact has been profound, with many rangatahi stepping seamlessly into higher learning environments equipped with essential STEMM skills, already established Kaihautū relationships, and a strong sense of identity and purpose.

Further along the STEMM pipeline, Te Urunga Pae continues to facilitate rangatahi into STEMM-based careers through the summer internship programme – a cornerstone event signifying a shift into Te Urunga Tapu. This year our internship programme has witnessed remarkable growth, becoming a linchpin in our engagement with the STEMM workforce. The surge in the number of internships this year not only accentuates the programme’s vitality, but also underscores the demand for Māori perspectives in the STEMM workforce. Recognising the accelerated growth of the summer internship programme, a kaimahi position has been instituted to ensure its quality standard endures.

Furthermore, Te Urunga Pae feel fortunate to be led this year by dual-manager S9(2)(a), who also leads the Pūhoro Mātauranga Māori team. The appointment of S9(2)(a) has come at a critical time for Te Urunga Pae, as it looks to solidify its position as a unique and purposeful programme for rangatahi pursuing STEMM tertiary pathways. With S9(2)(a) leadership and extensive experience in Māori education, Pūhoro are confident that Te Urunga Pae can continue to achieve its lofty aspirations, and enhance its delivery model as the tertiary phase of Pūhoro expands.

For 2023, the Pūhoro tutoring programme continues to embody the essence of tuakana-teina, as selected Te Urunga Pae rangatahi feed back into the kaupapa by tutoring STEM subjects to rangatahi in schools. Fostering an environment of collective growth, the tutoring programme serves as values-based work experience, where our tuākana get paid as tutors, get to fortify their own skills in STEMM, and be an example for rangatahi in Te Urunga Tū who look to assume the position of tuākana in the future.

While we celebrate our achievements, we also acknowledge the challenges ahead, and the aspiration of a future where Māori leadership is central to the advancement of STEMM in Aotearoa. With the team expanding and new leadership, Te Urunga Pae are well-positioned to lay the groundwork for a legacy of excellence, resilience and innovation in STEMM.

Te Urunga Pae Numbers 2023

- 572 rangatahi in Te Urunga Pae
- 144 Year 13 transitions to Te Urunga Pae
- 26 Tertiary institutions
- 621 Year 13 kaihautū support & mentoring engagements
- 34 TUP rangatahi employed as tutors
- 73 Summer internships completed
- 10 Tuakana (Te Urunga Pae mentors) providing mentoring to teina (new Te Urunga Pae rangatahi)
- 7 regions across Aotearoa where Te Urunga Pae rangatahi are studying
- 50 Year 13 rangatahi directly transitioned to study, trades, and apprenticeships

S9(2)(a)

Te Reo o Te Urunga Pae

I grew up in a small town called Feilding in the Manawātū.

Although I grew up as an only child, I was fortunate to be surrounded by numerous cousins, aunts, and uncles. This not only instilled a strong sense of family values from a very young age but also nurtured my inclination to care for people. Since I was young, I've always had a mindset of giving everything a try. I think all these factors have contributed to my upbringing today.

In 2017, I was incredibly fortunate to embark on my journey with Pūhoro when I was year 11 at Feilding High School. At the beginning, I didn't excel academically, and I wasn't particularly passionate about anything, except for sports and science. With Pūhoro, I gained access to valuable resources; I received extra support for my science and math coursework through fortnightly tutorials and workshops at termly wānanga. Pūhoro also organised offsite tutorials for NCEA papers. Initially, I was hesitant to attend these tutorials, however our Kaihautū went above and beyond to break down these barriers. They graciously provided transportation, picking us up and dropping us off every week for these tutorials.

I am eternally grateful to the Kaihautū for investing their time in us tauira. Thanks to their dedication, I began to excel in my classes and developed a commitment to my academics in the NCEA Level 1-3 journey. Pūhoro offered unwavering support, without which I doubt I would have made it through high school. It wasn't just about academics; I also forged lifelong friendships through the wānanga experiences I attended.

The most significant gift Pūhoro has given me is the awareness that there are opportunities available for Māori tauira interested in pursuing STEM, even though there may not be many individuals who resemble us in the STEM field. Pūhoro played a pivotal role in helping me discover my purpose, which was to become a doctor.

As a university student I've had the privilege of participating in three Pūhoro internships thus far, all centred around my passion for Hauora Māori. These internships have not only allowed me to deepen my knowledge in Hauora Māori, but have also offered me a chance to explore specific specialties, helping me make informed decisions about potential career paths.

In relation to employment, I have been invited to return to some organisations to continue the work I did during my internships. I've also had the chance to contribute to the programme by taking on roles like Tutor Lead for the Pūhoro teina in the Tāmaki Makaurau region in 2022. These opportunities have not only provided me with financial support, but have also allowed me to acquire additional skills and establish connections with numerous individuals.

Pūhoro has also provided me with a profound connection to my culture. When I began my journey with Pūhoro, I didn't have a strong background in Te Ao Māori. I knew I was Māori, but I often felt like I didn't meet some undefined standard of being 'Māori enough'. My cultural exploration truly began when I had the privilege of participating in the Āmua Ao Houston trip. During a pivotal moment on that trip, we gathered in a circle, and many of us shared how we had struggled with not feeling Māori enough. Matua S9(2)(a) played a crucial role for me during this trip, as he made us all feel accepted and validated in our Māori identity. He emphasised that if we had whakapapa, we were Māori, and that perspective profoundly shifted my mindset, inspiring me to delve deeper into my cultural heritage.

Looking ahead, I look forward to a future where I find daily fulfilment in my work and have the opportunity to support, advocate for, and inspire as many tauira, whānau and Māori as possible. My aspiration is to collaborate with, and serve my community, continuously acquiring new skills along the way.

*Ko Ruahine te pae maunga,
Ko Ōroua te awa,
Ko Tainui te waka,
Ko Ngāti Kauwhata, Ngāpuhi,
Te Ati Hau, Ngāti Toa Rangatira
me Ngāti Kahungunu ngā iwi,
Ko Hinepare te hapū,
Ko Kauwhata te marae,
Nō Kawakawa au,*

Ko S9(2)(a) tōku ingoa

S9(2)(a)

"I aim to become the type of doctor that my whānau have always needed but never had."

Te Urunga Tapu

Internships

The substantial number of graduates from the 2022-2023 Pūhoro Summer Internship programme marks the long-awaited ascendance of Te Urunga Tapu - the industry phase.

In its seventh year, Pūhoro has navigated rangatahi through the transformative journey from secondary school, to tertiary education and now into industry employment. The recently concluded Summer Internship programme, hosting an impressive cohort of 73 interns, marks a tangible milestone in this journey. These interns, products of the early years of Pūhoro (2016-2019), now stand at the precipice of the Pūhoro pipeline, nearing the completion of their STEMM education at tertiary level, and are now looking to transition into the STEMM workforce.

“This year our interns were hosted by 35 different organisations across the industry all of whom shared a passion for seeing more Māori in STEMM related careers. Without their commitment and the commitment of our funders our rangatahi wouldn’t have the same opportunities to grow and flourish”

- Te Urunga Pae Lead

The summer internships have been pivotal in preparing STEMM industries to be “rangatahi-ready.” This involves embracing the responsibilities that come with being *kaitiaki*, and accommodating the distinct worldview of rangatahi. The benefits are twofold; STEMM industries gain a competitive edge through diverse perspectives, and rangatahi find increased employability in STEMM fields.

The Summer Internship noho that occurred at the beginning of the programme facilitated this preparation by emphasising the following key aspects:

- **Whakawhaungatanga:** Interns were welcomed during formal pōwhiri, followed by kai and icebreaker activities, fostering connections with peers and mentors.
- **Mātauranga Māori:** Challenging perceptions, interns and mentors engaged in discussions about the protection and promotion of Mātauranga Māori.
- **Te Tiriti o Waitangi:** This session explored the significance of Te Tiriti o Waitangi in the STEMM context, aligning with the advancement of Māori aspirations.
- **Tuakana-Teina Mentoring:** Interns received personalised mentoring sessions with STEMM industry kaitiaki, establishing meaningful connections with their mentors.

Rangatahi who engaged in the various STEMM internships are now on the cusp of contributing to many exciting industry initiatives, ranging from āwheto (vegetable caterpillars) and rongoā Māori to microbial water quality and civil engineering. Their unique Māori worldview enriches STEMM industries, bringing fresh perspectives that illuminate new dimensions in problem-solving and innovation.

The long-awaited rise of *Te Urunga Tapū* is a momentous juncture for Pūhoro. In the next 2-3 years, an upsurge in STEMM graduates transitioning seamlessly into full-time employment is anticipated. This momentum is fuelled by the impactful contributions of the Summer Internship programme, which provides essential exposure to our adept STEMM rangatahi. Pūhoro are excited to witness 7 years of empowering rangatahi finally come to fruition, as we now move to fortify *Te Urunga Tapu* in preparation for a future-focused, Māori-led STEMM workforce in Aotearoa.

Internship Numbers

2019/2020	15 internships	6 partners
2020/2021	52 internships	16 partners
2021/2022	34 internships	17 partners
2022/2023	73 internships	35 partners

S9(2)(a)

Te Reo o Te Urunga Tapu

Internship host: Waikato University

Supervisor: [REDACTED]

Project: Digital Twinning for Brain Controlled Prosthesis

Using a collaborative Te Ao Māori and Western Science framework, my internship aimed to develop a virtual rehabilitation centre that allows the virtual testing of a prosthetic hand prior to its inception in the real world. I had the opportunity to delve into the world of digital twinning/virtual reality, then cross the interface into reality by 3D printing the digitally developed model of the hand, and implementing already existing autonomous frameworks to control it.

The primary focus of my project was to enhance the control of upper limb prostheses for Māori amputees. We named the project "Matakite", signifying the ability to see into the future, prophesy, foresee, and foretell. This name was chosen because the virtual training system we are still developing allows amputees to gain insight into the functioning of their future prostheses.

The most crucial lesson I learned during my internship was the significance of having dual perspectives, both as an engineer and as Māori. This fusion of perspectives has illuminated the unique vantage point I hold, which I believe can play a pivotal role in propelling Mātauranga Māori into recognition within the sphere of engineering in Aotearoa.

I've also come to appreciate the importance of thinking both creatively and critically during my time on this internship. This involves the ability to tackle complex problems and devise effective solutions, while also honing my technical skills in the process.

Finally, embracing my identity as Māori has allowed me to delve into the depth of Mātauranga Māori, enriching my understanding of indigenous knowledge and cultural practices. This has enabled me to approach tasks with a more person-centred approach, emphasising the importance of considering individual experiences and needs.

This fusion of perspectives, both as an engineer and as Māori, underscores the unique and multifaceted viewpoint I bring to my work. It positions me to bridge the gap between Western Science and Mātauranga Māori, contributing to the recognition and integration of indigenous knowledge within the Western Scientific framework. This, I believe, is a pivotal step towards a more inclusive and holistic approach to knowledge and problem-solving, with the potential to benefit both communities and advance our understanding of the world.

[REDACTED] has recently completed his

**Bachelor of Engineering (Hons)
– Mechanical and Biomedical Engineering
at Canterbury University.**

*Ko Ruahine te maunga
Ko Rangitikei te awa
Ko Rata te marae
Ko Ngāti Hauiti te iwi.*

*I tipu ake au i Te Papaioea
Kei Waikato ahau e noho ana.*

Ko [REDACTED] tōku ingoa.

S9(2)(a)

***"Thanks to Pūhoro I can traverse two worlds:
Te Ao Māori and Western Science."***

S9(2)(a)

Te Reo o Te Urunga Tapu

Internship host: Poipoia Limited
Supervisor: [REDACTED]
Project: Poipoia Kia Puawai

My internship supported the work Poipoia is doing in relation to delivering natural resource management and sustainability services through a kaitiakitanga ethos. Poipoia believes that in following and honouring the kōrero of our tīpuna, we can live in alignment with our taiao while still supporting the aspirations of our whānau. Established in 2016, Poipoia prides itself on supporting Māori practitioners to grow mātauranga and our capacity across multiple spaces reliant on our taiao.

My 2022-2023 internship was with Our Land and Water (OLW). I worked under [REDACTED] who assumes the role of Kaihāpai Māori. Part of [REDACTED] role within OLW is to reinforce the crucial importance of Te Ao Māori and Māori knowledge systems within the projects OLW fund and in achieving the OLW goal.

The OLW goal is to increase the primary sector production and productivity while maintaining and improving the country's land and water for future generations. I expressed an interest in freshwater science, so together [REDACTED] and I decided on a project to investigate the 2020 revisions to the National Policy Statement for Freshwater Management (NPS-FM) and the role of tangata whenua in freshwater monitoring programs around Aotearoa.

The internship was very enjoyable and I have learnt a lot of relevant freshwater law and process' that will be very useful as I move into my graduate role at the National Institute of Water and Atmospheric Research (NIWA). My work was very much related to Te Ao Māori and through my literature reviewing, I have become aware of resources that hapū and iwi can use when trying to gain more of a role in freshwater management with the council.

Likewise, there are great resources for councils (but could be used by Crown institutes also) on what successful partnership will look like which I can take with me as I move into full-time mahi (Te Mana o te Wai Training Programme for Regional Councils, 2022). I would recommend taking Pūhoro internships to all rangatahi because even if your project might not align exactly with what you want to do for work, you still learn amazing skills such as communication, researching and writing.

[REDACTED] has recently completed her

**Master of Environmenal Science
at Victoria University.**

[REDACTED] is now employed as an Environmental Science Researcher at the NIWA.

**Ko Awapūtahi te maunga
Ko Tāurekaitai te awa
Ko Ngāti Kahungunu te iwi
ko Ngāti Kere te hapū
Ko Rongomaraeroa te marae**

Ko [REDACTED] tōku ingoa.

He Hokinga Mahara

Our Events 2022-2023

WHĀNAU EXPO

During 2023, Pūhoro organised a series of 3 whānau expo across the Manawatū, Te Matau-a-Māui and Waikato regions. These expo serve as a valuable platform for Kaihautū to engage and connect with new Pūhoro rangatahi and their whānau, in an enjoyable setting that showcases various interactive STEMM workshops. A key feature of the whānau expo is the introduction to NCEA led by NZQA.

TERMLY WĀNANGA

Pūhoro delivered successfully, 19 wānanga events in Te Taitokerau, Tāmaki Makaurau, Waikato, Rotorua, Te Matau-a-Māui, Manawatū and Ōtautahi. Over 2100 rangatahi were exposed to 150 various STEMM workshops that related to the fields of digital technology, environmental science, robotics, food science, forensics, medical science, civil engineering, hydro-power and mātauranga Māori. These wānanga serve as dynamic hubs of learning, fostering an interactive and engaging environment where rangatahi delve into the realms of STEMM.

PŪRĀKAU-BASED WORKSHOPS

In an unprecedented collaboration, Pūhoro and Waikato-Tainui partnered to co-design five purākau-based STEMM workshops, specifically tailored to benefit uri within the Waikato-Tainui rohe. Through iwi-specific narratives, rangatahi got the opportunity to explore and connect with their heritage by using robotics, JavaScript programming, water-quality testing, augmented-reality and the science of electrical water-pumps to explain science phenomena and make it relative. The workshops were rolled out at Waikato wānanga and whānau expo, and served as a pathway to advance Waikato-Tainui's STEMM capabilities, ensuring a fusion of traditional knowledge and contemporary skills for the future.

YEAR 13 GRADUATION

In late 2022, Pūhoro held four graduation ceremonies for Year 13 rangatahi in Tāmaki Makaurau, Te Matau-a-Māui, Manawatū, and Ōtautahi. Accompanied by their whānau, graduates were honoured on stage, each receiving taonga as a symbol of their dedication to Te Urunga Tū and expressing their future aspirations as they transitioned into Te Urunga Pae and Te Urunga Tapū. A notable aspect of each ceremony was the presentation of slides showcasing the initial STEMM aspiration for each graduate at Year 11, providing a compelling comparison to their current aspirations, which in most cases, had evolved. In total, 363 rangatahi and their whānau attended the graduation ceremonies.

YEAR 12 & 13 CAMP

This year, NZDF organised two separate three-day wānanga at Ohakea and Devonport bases, hosting a total of 67 year 12 and 13 rangatahi from across the country. These wānanga aimed to assess rangatahi communication, problem-solving, leadership, and teamwork skills. The events featured hands-on experiences in various military trades, Q&A sessions with military personnel, exploration of aircraft like the Hercules, NH90, and A109, and mātauranga Māori sessions connected to the overall three-day program.

INTERNSHIP WHAKATAU

On Monday 21 December 2022, a total of 72 interns descended on to Te Wānanga o Raukawa in Ōtaki for a three-day noho, in preparation for the 2022-2023 Summer Internship programme. The noho started with a mihi whakatau to bring together Pūhoro interns, Pūhoro staff and internship supervisors. One of the main focuses of noho was two-pronged; to ensure rangatahi were "work-ready", but to also ensure that internship hosts were "rangatahi-ready". This notion of "tuakana-teina" (recipricol-relationships) was key to intern hosts' understanding that they were not just receiving a "student" but were instead receiving a taonga (special gift) who come with new ideas and a unique, Māori worldview.

PŌ WHAKANUI

Pō Whakanui marked the conclusion of the Pūhoro Summer Internship programme for 2022/2023. On February 2023, over 200 guests including intern scholars, whānau, friends, and industry partners gathered to celebrate the accomplishments of our Pūhoro interns over a 10-week period. A total of 73 Pūhoro rangatahi successfully completed their internships, with 60 of those interns travelling from all over Aotearoa to Palmerston North to proudly display their academic research posters. Throughout the night, interns and guests engaged in conversations about STEMM, and interns shared highlights and new learnings from their internship experiences. The Pō Whakanui programme included presentations from selected interns, and the night ended with an awards ceremony to celebrate some of the stand-out posters of the night.









S9(2)(a)

Te Reo o Āpōpō

Rangatahi insights are central to gauging the impact of our kaupapa.

Every year we collect vital feedback from rangatahi across the kaupapa to comprehend the impact Pūhoro is making on them. This is to understand which learnings resonate the most, and what aspects they would like to explore further.

Throughout the 2022-2023 period, we gathered rangatahi feedback from Kaihautū, as well as events such as wānanga and Year 12-13 camps. The feedback consistently reflects positive impacts on STEMM engagement, with the following themes emerging: enhancing rangatahi connections to their Māori identity; building a sense of belonging in STEMM with like-minded rangatahi; and exposure to tertiary programmes and career exposure. Presented here is a curated selection of rangatahi feedback from events held during the 2021-2022 period, offering a glimpse into the overarching sentiments expressed by rangatahi.

S9(2)(a)

“Pūhoro has definitely helped me academically. It’s given me a head start in all the subjects and helped me develop a deeper understanding of work in class. It also helps me keep traditions, protocols and tikanga of how Māori can be used in everyday situations.”

– Year 12 rangatahi

“My highlight is meeting new people and making new friends” – Year 12 rangatahi

“I learnt a bit more on Māori culture, like the reason why we take our shoes off before entering the marae.” – Year 13 rangatahi

“I liked learning about the different important aspects to do with jobs and I liked learning about it in a fun and creative way.” – Year 13 rangatahi

“Getting the robots to move with coding was very fun, I learnt a lot in this lesson, it was my favourite session.” – Year 11 rangatahi

“I’m glad that I can be a part of this programme because of the wide range of opportunities that Pūhoro offers for students like me.” – Year 11 rangatahi

“I really enjoyed the pH testing, it made me feel like a mad scientist and it was really cool to see the chemical reactions occurring.” – Year 11 rangatahi

“I made a PC and put it together. I enjoyed it because it was a new experience.” – Year 12 rangatahi

“I enjoyed furthering my knowledge about our tūpuna and our history.” – Year 11 rangatahi

“Everything was very interesting and I was able to obtain a deeper understanding on what opportunities are open for my years after school.” - Year 13 rangatahi

“It was super fun and I liked that the sessions were all super hands-on and not a whole lot of listening to them talk.” – Year 13 rangatahi

“This wananga was very fun and extremely interactive. it was probably one of the best I’ve ever attended.” - Year 13 rangatahi

“I enjoyed learning new things, getting outside of my comfort zone and learning more about STEMM.” – Year 11 rangatahi

“This was really fun; I enjoyed everything and made new friends in the end, and learned a lot of new things that’ll help achieve my goal in the future.” - Year 11 rangatahi

“It was good - everyone was warm welcoming and the workshops were straight to the point and made sense.” – Year 11 rangatahi

“I enjoyed the experiences and the oppurtunities that were given.” – Year 12 rangatahi

“Pūhoro inspired me to try harder to get into university” – Year 12 rangatahi

“I enjoyed all the things we learned and I enjoyed seeing friends I haven’t seen for ages and meeting new people.” – Year 11 rangatahi

“It was a great experience and made me feel very proud to be Māori.” – YR 11 rangatahi

“It was such a great and nice experience. Especially socialising - I’m not the type to socialise but I ended up socialising which was a nice experience.” – Year 11 rangatahi

“We built an electromagnet fishing rod to follow the story of Māui, which was super fun and encouraged perseverance.” – Year 12 rangatahi

“I really enjoyed this session because it made me feel like I wasn’t the only one that was too white to be Māori. It made me feel like I was in my culture and era.” – Year 11 rangatahi

TE AKA WHAI ORA - PŪHORO

Six-monthly Report

01 July – 31 December 2023



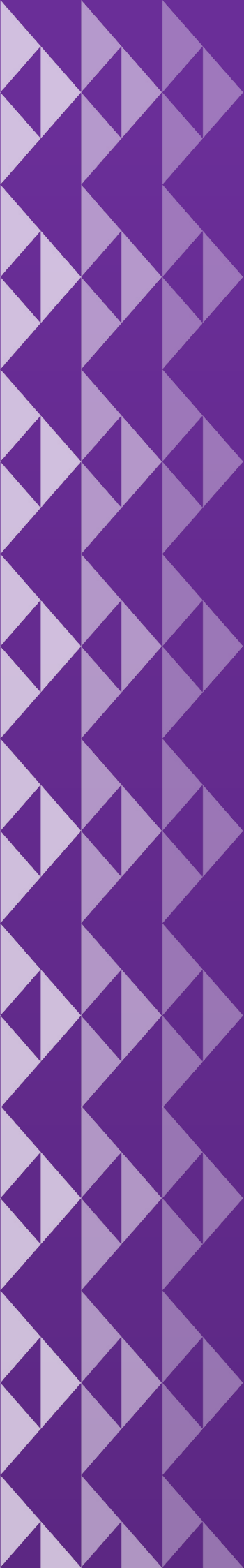


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Kemp Reweti – Manahautū: Pūhoro Chief Executive

Ngāti Parewahawaha, Ngāpuhi

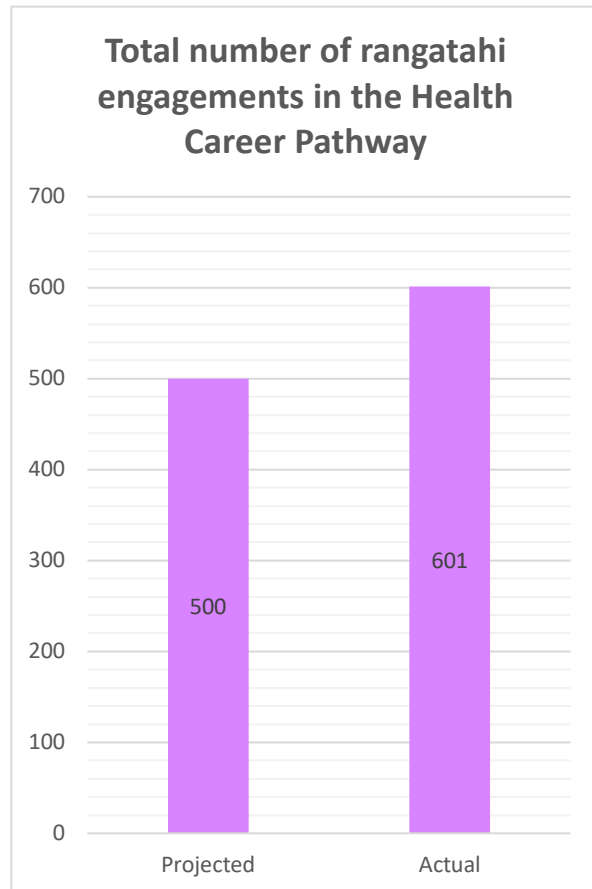
It is with pride and gratitude that I present this six-monthly report on behalf of the Pūhoro Charitable Trust. Since May last year our collaboration has been a catalyst for empowering rangatahi to engage and excel in the Health Sciences, specifically through the tailored Pūhoro/Te Aka Whai Ora Health Career Pathway. As we move into 2024, we do so with anticipation and excitement as we look to expand the Pūhoro kaupapa into the Wanganui and Kapiti regions, which will further bolster opportunities for rangatahi in those rohe to engage in health through our shared kaupapa.

Our significant partnership with Te Aka Whai Ora has yielded significant results for rangatahi Māori in the kaupapa. The success of our collaboration is exemplified by the enhancement of STEMM wānanga through health-focused workshops; rangatahi exposure to Māori leaders in Health; the active participation of Te Aka Whai Ora and key partners from Health industries in various Pūhoro events; and more specifically, the active involvement of Te Aka Whai Ora in the Pūhoro Summership programme for 2023-2024. These touchpoints have in earnest, given a much-needed boost to rangatahi interested in, and studying the Health Sciences and Health-related fields.

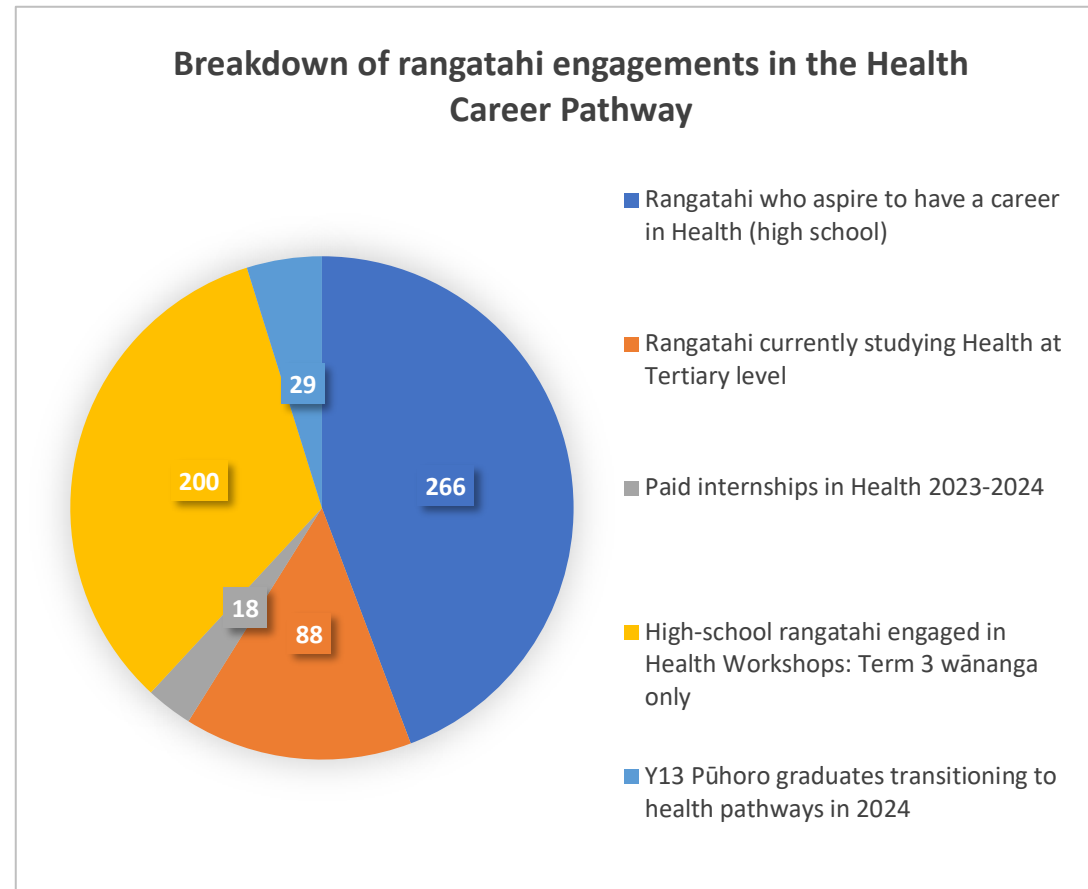
We want to extend our heartfelt gratitude to Te Aka Whai Ora for their commitment and support in our kaupapa. Your investment in our newly curated vision “Leading Māori STEMM success” is transforming the lives of countless rangatahi, nurturing their potential, and equipping them with the tools they need to thrive in the ever-evolving Health sector. The impact of our collaboration will resonate for years to come, and I look forward to working together as we move into 2024.

PŪHORO DASHBOARD SUMMARY

A 'dashboard' summary of key project information such as: rangatahi participation, engagement & progression rates throughout the Health Career Pathway.

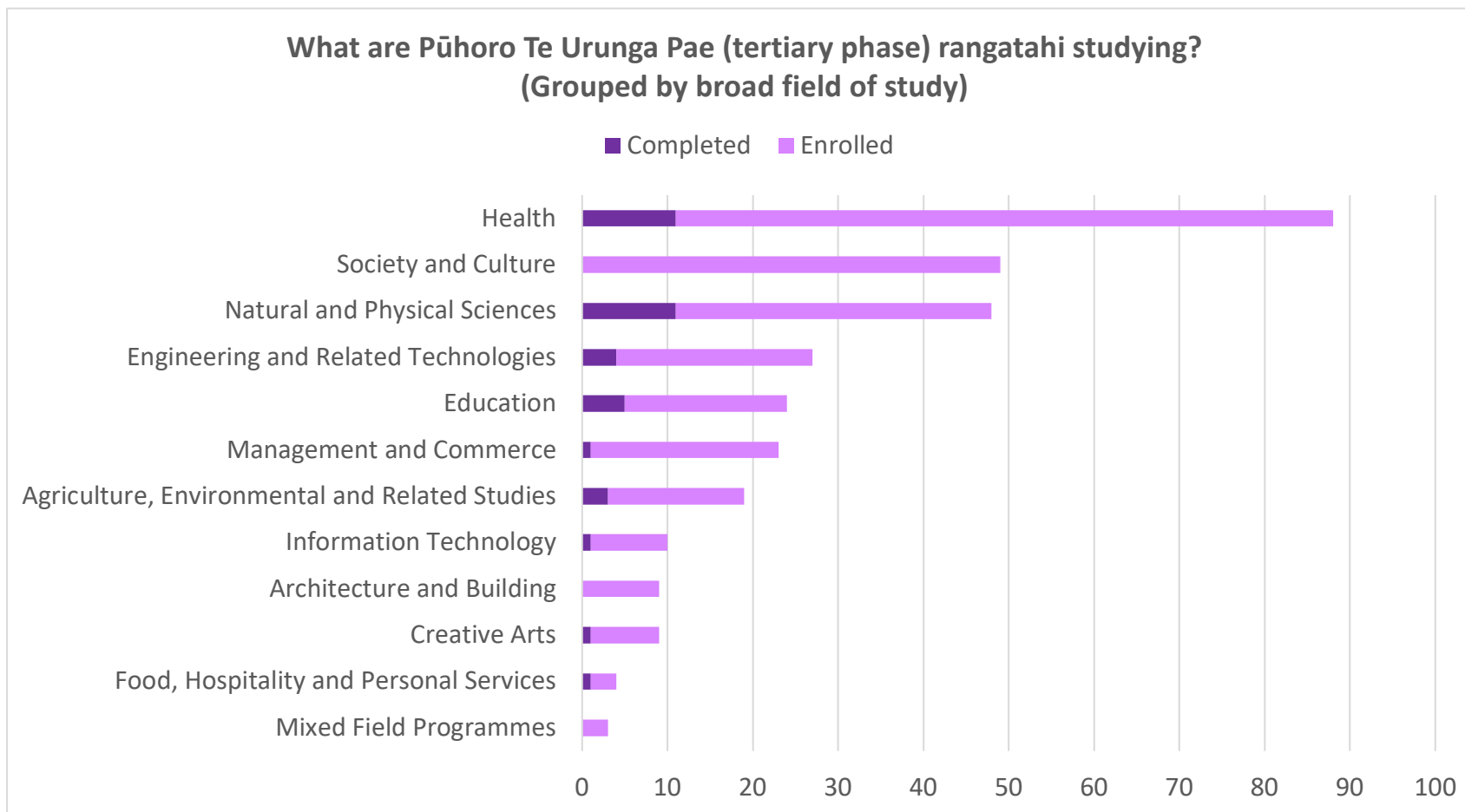


Above: A comparison of the projected target as per our partnership agreement, against current (Actual) statistics from 01 July to 31 December 2023.



Above: A further breakdown of the total number of rangatahi engagements throughout the Health Career Pathway. Of note is the growth potential as displayed via the number of rangatahi in the Pūhoro kaupapa who aspire to have a career in Health.

PŪHORO DASHBOARD SUMMARY CONT...



Above: A snapshot summary of broad fields of study currently undertaken, and completed by Pūhoro rangatahi at Tertiary level. The graph clearly indicates rangatahi preference for health-related fields of study. It is anticipated that the Te Aka Whai Ora-Pūhoro Health Career Pathway continuum will further augment the skew of data in favour of health, making for a promising future for the Aotearoa Health Workforce.

PŪHORO DASHBOARD SUMMARY BREAKDOWN

The 'Dashboard Summary' provides a quick snapshot of progress to date and can further be understood through the following explanations:

- From 01 July 2023 to 31 December 2023 a total of **601 rangatahi engagements** have occurred in the Pūhoro/Te Aka Whai Health Career Pathway.
- **266 of these engagements** are rangatahi from the Pūhoro Te Urunga Tū (secondary school) phase, who aspire to have a career in Health.
- **A further 200 Pūhoro rangatahi engaged in Health-focused workshops** at Term 3 Wānanga in 2023. A description of these workshops can be found on page 10 of this report.
- **88 Te Urunga Pae (Tertiary phase) rangatahi are studying in the field of Health.** This equates to one-third of the total number of Pūhoro rangatahi studying at tertiary level as portrayed in the graph on page 5 of this report.
- In 2023 **Pūhoro graduated 29 Year 13 rangatahi** from the Pūhoro Te Urunga Tū phase, who plan to transition to the study and work in the health sector in 2024.
- **18 Pūhoro rangatahi** achieved employment in health through the Pūhoro Internship programme that occurred over the 2023-2024 summer period.
- Pūhoro is projecting across the country, **in excess of 400 Year 11 rangatahi enrolments for 2024.** This number does not include projected numbers for the Horowhenua/Kapiti and Wanganui regions, where Pūhoro are launching the kaupapa in 2024.

PŪHORO ACHIEVEMENT PROGRESS

12(g) Achievements for the reporting period including: rangatahi details, demographics and wānanga feedback; Progress along the Health Career Pathway; and; the reporting of any cross-collaboration that has occurred to support delivery of the Project.

As per our agreement, the following update on our achievement progress is provided. As a recap, Pūhoro has a significant focus on delivering the project across three phases:

Health Career Pathway:

Phase 1: Te Urunga Tū (existing school partnerships)

Phase 2: Te Urunga Pae (Tertiary)

Phase 3: Te Urunga Tapu (Internships and Employment)

The achievements below illustrate the efforts Pūhoro and our key partners in Health have made to develop and implement our specialised Health Career Pathway, which aims to enhance Māori leadership and expertise in STEMM within New Zealand's health workforce.

TE AKA WHAI ORA/PŪHORO PARTNERSHIP LAUNCH



Above: 2023 Associate Minister of Health – Māori Health Peeni Henare and Pūhoro Manahautū CE Kemp Reweti, alongside dignitaries from Te Aka Whai Ora at the Pūhoro Term 3 Wānanga in Tāmaki Makaurau.

“The new Health Career Pathway will result in a pipeline of rangatahi who will become part of the future Māori health workforce.”

- Jade Sewell, Te Aka Whai Ora

During the Term 3 wānanga in Tāmaki Makaurau, Pūhoro and Te Aka Whai Ora celebrated the launch of an exciting and innovative partnership, earmarked by a substantial investment that aims to forge a Health Career Pathway for rangatahi Māori in the Pūhoro kaupapa.

Pūhoro had the privilege of an opening speech by Minister Henare, who addressed the importance of the Te Aka Whai Ora/Pūhoro partnership in transforming the success trajectory of rangatahi Māori in the field of Health. By aligning with the Health Workforce Plan, focusing on clear career pathways and the integration of mātauranga Māori within the Health Sciences, the Pūhoro Health Career Pathway has already begun making significant strides. Previous wānanga have already rolled out several health-

focused workshops, namely the *Surgeon* experience workshops, *Heart Health* workshops facilitated by Pūtahi Manawa and the *Phlebotomy workshops* run by Awanui Group.



Above: Minister Henare talks to rangatahi at the Pūhoro Term 3 Wānanga in Tāmaki Makaurau.

During their visit, the Minister and representatives of Te Aka Whai Ora were able to witness some of the health-focused workshops at Wānanga in Tāmaki Makaurau, which are designed to entice rangatahi into health fields by exposing them to health industry experts. A crucial aspect of some health workshops was the inclusion of *Tūākiri* (cultural identity) sessions, which provide a *wairua* focus to health from a holistic point of view. The inclusion of health science within the realm of mātauranga is what makes rangatahi in the Pūhoro kaupapa unique, giving them a necessary edge in a health workforce that requires innovative, solution-focused healers to remedy many of the major health challenges in Aotearoa.

Since the inception of this monumental partnership, Pūhoro and its key partners rolled out a total of **8 health-focused sessions**, that were **facilitated 22 times at Pūhoro Term 3 Wānanga across six regions**. The workshops are only the start of several that will be rolled out in 2024, and are a pivotal step towards enhancing Māori representation and success within the health workforce. A description of each workshop can be found on the following page.

TERM 3 WĀNANGA DELIVERY 2023

Pūhoro successfully delivered Term 3 wānanga across six regions. Pūhoro Wānanga provide opportunities for rangatahi in the programme to be exposed to the different STEMM workshops and plethora of opportunities that exist in the STEMM sector. More specifically, wānanga provides a crucial opportunity for rangatahi to engage in the Health Career Pathway, through exposure to several health-focused workshops. This section provides a concise overview of each health workshop conducted in Term 3, along with feedback from rangatahi. This feedback is essential for understanding their experiences and perspectives.

S9(2)(a)



Above: Term 3 Manawatū Wānanga 2023 held in Palmerston North.

SURGEONS | *Royal Australasian College of Surgeons*

In this STEMM workshop led by Māori surgeon Maxine Ronald (Ngāti Hine, Ngāti Wai), rangatahi delved into the pathway towards becoming a surgeon. The session provided a comprehensive understanding of the journey to becoming a doctor, exploring the required steps, duration, and financial aspects. What set this workshop apart was the invaluable perspective offered by Maxine, highlighting the history of Māori in medicine. Rangatahi gained insights into different surgical specialties, understanding the significance of each area and the protocols they follow. Maxine's presence exemplified the possibilities for Māori in the medical field, providing a motivating glimpse into potential career paths for rangatahi interested in pursuing medicine.

Rangatahi Feedback Snapshot

"Surgeon talk. I learned a lot about the history of Māori people in medicine. It was really cool to have someone come talk about their experiences."

Whangārei Boys' High School rangatahi

"So today we did a mātauranga Māori class with a surgery doctor and she was pretty cool she explained how to remove cancer and she told us where they do surgery and stuff and it was pretty cool."

Te Kura Kaupapa Māori o Te Rāwhiti Roa rangatahi

"We did the surgeon workshop I really enjoyed it because it was probably the closest thing to what i want to do."

Whangārei Girls' High School rangatahi

PHLEBOTOMOY | Awanui Group

For this workshop, rangatahi learned about phlebotomy and delved into the intricacies of blood extraction, acquiring valuable skills and insights. Awanui Group provided comprehensive information about potential career paths and study options to become a phlebotomist, emphasising the merits of on-the-job training. Notably, the session highlighted the pathway for Year 13 students to enter Awanui Group directly without the need for a tertiary qualification. Overall, the workshop exemplified how Awanui Group caters to the interests of those intrigued by these fields and proved to be a valuable learning experience for rangatahi.

Rangatahi Feedback Snapshot

"Learning how you can be a phlebotomist even if you don't get UE was good to know. Being able to do a medical career pathway and get paid as you qualify for a level 5 qualification and get to become a registered professional is awesome, too! The hands on blood draw activity really meant a lot to aspiring medical students!"

Kamo High School rangatahi

"I enjoyed phlebotomy with the blood test needles I learned how to get blood samples"

Tikipunga High School rangatahi

"I really enjoyed the blood injection, learning how to inject a needle in to a person, not a real person but a manikin."

TKKM o Te Rāwhiti Roa rangatahi

PŪTAHI MANAWA | S9(2)(a) and colleagues

For this session rangatahi discovered the significance of heart health, and actively participated in identifying various metrics used to assess a healthy heart. Their enthusiastic involvement was evident as they engaged in an echo scan where they were able to see a picture of a live heart. Rangatahi also engaged in physical activities aimed at raising their heart rates, allowing them to experiment with heart rate measurement equipment and listen to their own heartbeats. Alongside these activities, rangatahi delved into a captivating case study centred around a boy with an irregular heartbeat, and learned about the diverse array of equipment required to measure and diagnose heart conditions, gaining valuable insights into this field of study.

Rangatahi Feedback Snapshot

"We learnt about anatomy, I enjoyed finding my heart rate and looking at the ultra sound."
Palmerston North Girls' High School rangatahi

"The heart thingy was really fun I loved it my fav one it was really cool and exciting."
Avonside Girls' High School rangatahi

"Learned about the heart. Was very interesting and my favourite. We ran around and did star jumps to bring our heart rate up. We also looked at people's hearts."
Cashmere High School rangatahi

MAU RĀKAU | Matua S9(2)(a)

Matua S9(2)(a) led a captivating māu rakau workshop for rangatahi within Pūhoro, fostering an enriching experience. The session commenced with an exploration of the profound meaning and historical significance of māu rakau, providing tauira with a contextual understanding. The practical component of the workshop involved hands-on engagement with rākau, guiding tauira through a series of positions that enhanced their physical (tinana) spiritual (wairua) and mental agility (hinengaro). This interactive session was dynamic and engaging, creating an enriching experience for rangatahi.

Rangatahi Feedback Snapshot

"Mau rākau was pretty fun the first time I did that so I found it really fun."
Rosehill College rangatahi

"We did mau rākau first. It was my first time ever doing mau rākau and I learnt a lot to take away."
Alfriston College rangatahi

"Mau rākau. I enjoyed this one as it was physical and was really fun. I enjoyed the communication and team building."
Freyberg High School rangatahi

MEDTECH | S9(2)(a)

Medtech Limited provided a detailed exploration into the world of medical software, revealing its crucial role in modern New Zealand healthcare. Rangatahi delved into the diverse STEMM careers that use the Medtech software, gaining insights into various job roles in the healthcare ecosystem. The session not only educated participants about health software used by doctors but also allowed them to experience hands-on learning, where they got to use the Medtech app for simulated diagnostics. The workshop illuminated the intricate workings of New Zealand's healthcare systems and left an impression on rangatahi interested in the Health and Technology sector.

Rangatahi Feedback Snapshot

"We learnt about Medtech and got to play around with medical software. My highlight was getting to have a tutu on the computer and having an insight of how doctors use/work and how medical software works."

Sacred Heart College rangatahi

"I enjoyed using the computer and Medtech app and pretending to be a doctor and talking to patients."

Napier Girls' High School rangatahi

"We learned about Medtech and tried out their software. It was really interesting to hear about, and making our patient in the system was really fun."

Napier Girls' High School rangatahi

WHAT IS A MĀORI | Matua S9(2)(a)

This session is aimed at providing rangatahi with an understanding of what it truly means to be Māori. Rangatahi discussed their perceptions of the key elements that define what a Māori is, encompassing various aspects such as relevant kai, kapa haka and leadership, to low socio-economic status, alcohol and violence on the opposite spectrum. With the various perceptions written on the board, Matua S9(2)(a) discussed how these components have no relevance as to whether one is Māori or not. After a process of elimination, rangatahi came to the realisation that whakapapa is the only requirement to be Māori. This instilled a sense of upliftment and reassurance among many rangatahi, reaffirming their personal connection to their heritage, emphasising the significance of embracing their identity, and fostering a sense of pride in being Māori.

Rangatahi Feedback Snapshot

"The matua shared how we are never half Māori, we are 100% Māori. We talked about how our whakapapa is enough and how we should never be afraid to learn our reo even if we are disconnected from it."

Te Kāpehu Whetū rangatahi

"We talked about what makes a person Māori and we came to the conclusion that if u whakapapa to Māori ancestry you are Māori."

Kamo High School rangatahi

"We talked about what it is to be Māori. There was a boy who had a very different perspective on what it is to be a Māori and it was very different to what others had to say, but it was a very fun and exciting experience and meeting new people."

TKKM o Te Rāwhiti Roa rangatahi

FOOD SCIENCE | S9(2)(a) and colleagues

The sensory & consumer science session by Plant and Food Research explored the vibrant world of food chemistry. Rangatahi explored aroma profiling, honing their senses by discerning the scents of various fruits and vegetables. S9(2)(a) and the team also discussed fruit breeding targets in New Zealand, and rangatahi were challenged to design and pitch a new food product. Amidst the interactive learning, fun tasting exercises with honey water and an array of fruits and vegetables added a delightful touch to an interactive and enjoyable session. This workshop not only provided a

taste of the diverse aspects of food science but also nurtured the potential for rangatahi to contribute to the innovative landscape of Food Science in Aotearoa.

Rangatahi Feedback Snapshot

"I enjoyed eating the jelly beans, and also learning that the look of food can change your perspective on how it tastes."

Auckland Girls' Grammar School rangatahi

"The last activity was a sensory science and we ate, smelt, and felt things this was my favourite one because it was the most interactive."

Alfriston College rangatahi

"Tasting the different foods and distinguishing how the looks of food influence how we judge foods."

Edgewater College rangatahi

MARAMATAKA | Matua S9(2)(a)

Rangatahi delved into the intricacies of the moon phases, gaining insights into its significance from both Māori and contemporary perspectives. The session included a comprehensive exploration of different moon phases, emphasising their unique meanings to Māori. Rangatahi were guided through the maramataka, discovering how each phase holds distinct cultural importance. The workshop not only shed light on understanding the moon from a Te Ao Māori perspective, but also fostered a connection between these cultural teachings and the scientific knowledge of the moon's impact on seasons and cycles. The engagement in contrasting these viewpoints enriched rangatahi understanding, exemplifying the value of integrating Mātauranga and Science to empower our future leaders of STEM.

Rangatahi Feedback Snapshot

"I learned about the moon and time. It was interesting as. We learned the history of everything to do with that sort of stuff."

Palmerston North Boys' High School rangatahi

"I enjoyed learning new things. I only knew bits and pieces of the maramataka and got to get into it in more depth."

Auckland Girls' Grammar School rangatahi

"We learnt about the moon and the cycles. I enjoyed it because I learnt about the best time to go fishing."

Rosehill College rangatahi

2023 PŪHORO SUMMER INTERNSHIP LAUNCH

S9(2)(a)



Pictured above: 2023 Pūhoro interns at Te Pūtahi-a-Toi, Massey University

The internship programme was designed to give rangatahi Māori the opportunity to learn from leading STEM organisations, and for these organisations to learn from a unique, rangatahi Māori perspective.

On Wednesday 29th December 2023, a total of **56 interns** descended on to Te Pūtahi-a-Toi for a two-day noho, in preparation for the 2023-2024 summer internship programme. The noho started with a mihi whakatau (welcome) by Massey University to bring together Pūhoro interns, Pūhoro staff and internship supervisors.

Pūhoro is proud of its partnership with Te Aka Whai Ora, who were present at the launch in the form of Matua Fletcher Beazley. Pūhoro were fortunate to have Matua Fletcher share valuable advice to all interns as a member of the Pūhoro Summership *Industry Panel*.

S9(2)(a)



Above: Te Aka Whai Ora rangatira Fletcher Beazley (standing), speaking to interns as part of the Pūhoro Summership Industry Panel.

As part of our partnership Te Aka Whai Ora also supervised and co-funded 18 Pūhoro rangatahi for the 2023-2024 Pūhoro Summership programme.

S9(2)(a)



Right: Te Aka Whai Ora funded interns, getting to know their supervisors from Pūtahi Manawa at the 2023 Pūhoro Summer Intern Launch.

An integral aspect of this year's internship program was a deliberate adjustment to the number of internships offered. This strategic reduction was aimed at elevating and sustaining the quality of support provided to Pūhoro rangatahi. Notably satisfying was witnessing the growth of interns, who began their journey in *Te Urunga Tū* (Pūhoro

secondary-school phase) grow into resilient and capable young Māori. These individuals have seamlessly transitioned into *Te Urunga Pae* (Pūhoro tertiary phase) and are now actively contributing to meaningful experiences within STEM industries across Aotearoa.

“My family have a poor record with health - they haven’t had the best experiences. So being able to do some research and possibly find out that this new plant might have a good outcome in our whānau is what drew me to it (this internship).”

– *Te Aka Whai Ora funded intern, and aspiring doctor Makayla Kahi: interview with Te Karere: <https://www.youtube.com/watch?v=WxC7M2wDvYc>*

In 2022, the internship noho centered on cultivating Tuakana-Teina relationships between interns and supervisors, fostering a meaningful, mutually beneficial relationship in anticipation of the internship program. This year's workshops continued to emphasise these relationships, with the added benefit of learning from seasoned industry experts in STEM and past interns who generously shared their experiences with the current group.

The following programme was put together for the two-day summer internship noho:

Whakawhanaungatanga & Mentor Groups	Interns got to know each other through ice breaker activities, followed by an introduction to Pūhoro looking at its whakapapa from inception to the present.
Te Reo Workshop <i>Kaihautū Navarone Watson</i>	Learnt a Karakia – there are times when rangatahi will need to lead out hui within their organisations so part of this session was equipping rangatahi with the necessary skills to facilitate hui at industry level.
Summership Essentials <i>Kaihautū Seth Clements</i>	Making it clear to rangatahi the importance of their contractual obligations and being good examples in their respective organisations.

Intern panel Veteran interns: S9(2)(a) 	Interns had the valuable opportunity to engage with seasoned veterans of the Pūhoro summership initiative, each having completed a at least four internships. These experienced individuals shared their insights and learnings, providing valuable perspectives and wisdom to the new cohort of interns.
Are Māori opportunities unfair? S9(2)(a)	This session was a debate between interns that explored Māori scholarships, tertiary education and employment equities, discussing specifically whether opportunities for Māori are unfair compared to non-Māori.
Industry Panel S9(2)(a) 	An opportunity for rangatahi to exchange dialogue with Māori STEM industry experts. Matua S9(2)(a) from Te Aka Whai Ora was able to share his experiences and unique perspectives to rangatahi interested in a career in Health.

“We are pleased to have completed 176 summerships over the last five years which have ranged across the diversity of the STEMM continuum.”

– Pūhoro Manahautū CE Kemp Reweti

The valuable contributions of Te Aka Whai Ora will result in competent, young Māori who will explore career pathways within the Health Sector. Pūhoro looks forward to our ongoing relationship, and the opportunity to connect again through the summerships as we move into the 2024-2025 year.

Right: Te Aka Whai Ora co-funded interns S9(2)(a)
S9(2)(a) **listening**
intently to supervisors from the Health sector
at the Summer Internship launch.



TE AKA WHAI ORA CO-FUNDED INTERNS 2023-2024

One of the key success indicators of the Pūhoro Summership programme is the extent to which Pūhoro rangatahi are able to thrive as Māori employees within STEMM-related workplaces. The following highlights feature Te Aka Whai Ora co-funded interns and their internship journey. Each intern provides a brief summary of their project, with various interns providing additional information on their learnings from their experience and its contribution to Te Ao Māori.

S9(2)(a) (Ngāi Tūhoe, Ngāti Maniapoto,
Ngāti Raukawa)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

HOST: Te Whatu Ora

What are the benefits and impacts of after-hours Māori cultural support for whānau and non-staff?

S9(2)(a) is part of a wider group of interns who have undertaken various kaupapa Māori based projects in several areas of health: medicine, nursing, allied health and social services; in partnership with Te Whatu Ora - Te Pae Hauora o Ruahine o Tararua. The aim of these projects is to increase understanding in various aspects of health that affect Whānau Māori, so that the organisation can improve equity and access to services by leveraging voices and experiences of Whānau Māori.

S9(2)(a) (Kai Tahu, Ngāti Apa ki te Rā Tō)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Oral Health

HOST: Te Whatu Ora

Oral Health.

S9(2)(a) is part of a wider group of interns who have undertaken various kaupapa Māori based projects in several areas of health: medicine, nursing, allied health and social services; in partnership with Te Whatu Ora - Te Pae Hauora o Ruahine o Tararua. The aim of these projects is to increase understanding in various aspects of health that affect Whānau Māori, so that the organisation can improve equity and access to services by leveraging voices and experiences of Whānau Māori.

S9(2)(a) (Te Atiawa)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Health Sciences

HOST: Te Whatu Ora

Understanding Whānau Knowledge Around Housing Pathways.

Appropriate housing is a big issue and contributor towards health and wellbeing for whānau. There is a need to understand the different types of social housing available, criteria for access and the pros and cons of each option. My research will be used to create resource(s) that enable whānau self-determination with housing access.

S9(2)(a) (Waikato-Tainui)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Science, Bachelor of Medicine,
Bachelor of Surgery

HOST: Te Whatu Ora

Developing a kaupapa Māori pre-renal assessment framework.

S9(2)(a) is part of a wider group of interns who have undertaken various kaupapa Māori based projects in several areas of health: medicine, nursing, allied health and social services; in partnership with Te Whatu Ora - Te Pae Hauora o Ruahine o Tararua. The aim of these projects is to increase understanding in various aspects of health that affect Whānau Māori, so that the organisation can improve equity and access to services by leveraging voices and experiences of Whānau Māori.

S9(2)(a) (Ngāpuhi, Tainui)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of Surgery

HOST: Te Whatu Ora

Mahuri: How to improve processes for returning maru aitu, whēkau, body parts, foetus' and tūpāpaku.

S9(2)(a) is part of a wider group of interns who have undertaken various kaupapa Māori based projects in several areas of health: medicine, nursing, allied health and social services; in partnership with Te Whatu Ora - Te Pae Hauora o Ruahine o Tararua. The aim of these projects is to increase understanding in various aspects of health

that affect Whānau Māori, so that the organisation can improve equity and access to services by leveraging voices and experiences of Whānau Māori.

S9(2)(a) (Kai Tahu)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

HOST: Te Whatu Ora

What are the benefits and safety implications of Rongoā Māori for people with T1DM?

S9(2)(a) is part of a wider group of interns who have undertaken various kaupapa Māori based projects in several areas of health: medicine, nursing, allied health and social services; in partnership with Te Whatu Ora - Te Pae Hauora o Ruahine o Tararua. The aim of these projects is to increase understanding in various aspects of health that affect Whānau Māori, so that the organisation can improve equity and access to services by leveraging voices and experiences of Whānau Māori.

S9(2)(a) (Ngāpuhi)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Māori Health & Bachelor of Commerce

HOST: Hei Āhuru Mōwai

Āhuru ki te ūkaipō.

This summership project worked alongside the Hei Āhuru Mōwai Māori Cancer Leadership Operations Team to review

literature and survey network members to identify priorities for the work programmes of pae ārai puku (expert prevention, early diagnosis & screening rōpū), pae rangahau (expert research rōpū) and pae haumanu (expert treatment, clinical, service delivery rōpū) in order to develop standard tools for engagement with the expert network whānau.

S9(2)(a) (Kai Tahu, Ngāpuhi)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Science

HOST: University of Otago

The Contribution of Protein Synthesis to the Impairment of Memory Mechanisms.

This project explored the contribution of protein synthesis, with a particular focus on pro-brain-derived neurotrophic factor (proBDNF), to metaplasticity within the mouse hippocampus. Metaplasticity addresses how previous neural activity affects subsequent synaptic plasticity, a cornerstone of memory establishment. Utilising mice, the study aimed to uncover the contribution of protein synthesis to a form of metaplasticity that becomes aberrantly engaged in animal models of dementia. Excitatory synaptic transmission in hippocampal slices was activated in a way that induces metaplasticity, protein synthesis will be quantified, and immunohistochemistry was used to investigate proBDNF elevation. Through exploring memory's molecular mechanisms, this research examined mechanisms, which when disrupted, contributed to memory decline in conditions like Alzheimer's. This work enhanced our understanding of Alzheimer's disease mechanisms, potentially informing new therapeutic approaches in the future.

S9(2)(a)

S9(2)(a) (Ngāti Kahungunu)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Science

HOST: University of Otago

Science Communication: The Healthy Homes Initiative.

The three-year evaluation report of the Healthy Homes Initiative (HHI) provides information that is agreed by the organisations involved to be extremely useful to communicate with philanthropic funders. However, the report it is not widely used by the HHIs to communicate with potential funders. There is a need for a document which will synthesise the findings of the benefits of the HHI program, including both qualitative and quantitative evidence. The purpose of this document will be as a tool for providers to communicate on the proven impacts of the program which will be invaluable for communicating with potential philanthropic funders.

The aim of this studentship was to produce a document which synthesises the findings of the HHI programme and communicates effectively in lay language. This included a one-page infographic summarising key research, including the initial evaluation of the HHI, the three-year evaluation of the HHI on health impacts, and qualitative findings.

S9(2)(a)

S9(2)(a) (Ngāti Ranginui, Ngāti Awa,
Te Arawa, Tainui, Ngāpuhi)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Dental Surgery

HOST: Pūtahi Manawa

Equity-focused Discharge Planning for Heart Failure.

Disparities in outcomes for Māori and Pacific people with heart failure are stark, with significantly high hospitalisation, readmission and mortality rates. Heart failure is a chronic syndrome where successful management involves effective communication between patients/whānau and their healthcare providers, as well as coordinated care across providers and systems. While discharge planning is a crucial phase in the overall care of heart failure, there are opportunities to improve current practices. This investigation focused on discharge planning and the interface between hospital- level and community care for patients with heart failure, including programmes or interventions that specifically address equity for Māori and Pacific patients/whānau. The site for this summership project was Te Whatu Ora - Waikato.

S9(2)(a)

S9(2)(a) (Ngāti Haua, Ngāti Rangiwewehi)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of Surgery

HOST: University of Auckland

Gestational diabetes.

This project contributed to the aim of developing a co designed targeted framework that will significantly improve the GDM screening and post-partum follow up rates among marginalised communities.

S9(2)(a) (Ngāti Porou, Ngāti Raukawa, Ngāti Rākaipaaka)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of Surgery

HOST: Pūtahi Manawa

Mapping out inequities in surgery for Māori in Aotearoa.

Researchers assisted S9(2)(a) in writing an article summarising inequities in one of the nine surgical specialties. I

S9(2)(a)

S9(2)(a)

S9(2)(a) (Ngāti Kahungunu, Ngāti Kauwhata,
Ngāti Raukawa)

SUPERVISOR: S9(2)(a)

S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine

HOST: Pūtahi Manawa

A New Plant-based Treatment to Treat High Blood Pressure.

The project was designed to explore the potential of natural products for lowering blood pressure and improving its autonomic nervous system.

S9(2)(a) (Ngāi Tūhoe, Ngāti Kahungunu,
Ngāti Manawa, Ngāti Whare, Tuhourangi)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

HOST: Pūtahi Manawa

Kaupapa Māori methods in heart health research.

Heart disease continues to be a leading cause of death and disability in Aotearoa and is a major contributor to the difference in life expectancy across the country. Pūtahi Manawa - Healthy Hearts for Aotearoa New Zealand (HHANZ) is one of the newest Centres of Research Excellence (CoRE) hosted by Manaaki Manawa, Waipapa Taumata Rau, University of Auckland. Pūtahi Manawa is a national collaborative network of researchers, community members, and educators passionate about achieving equity in heart health outcomes for Māori and Pacific Peoples.

S9(2)(a)

(Ngāti Kahungunu, Ngāti

Rongomaiwahine)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of Surgery

HOST: Pūtahi Manawa

Cardiovascular Disease.

Cardiovascular disease (CVD) is the single biggest killer of women in New Zealand. Evidence strongly indicates that gestational diabetes (GDM, diabetes during pregnancy) contributes to the global diabetes epidemic. Yet, fundamental links between GDM and later adverse health outcomes remain unclear. Hyperactivity of the sympathetic nervous system (fight or flight response) is associated with cardiovascular and metabolic diseases in obesity, metabolic syndrome, and type 2 diabetes. In non-pregnant humans, insulin resistance, hyperglycaemia, and hyperinsulinemia can either lead to, and/or be caused by, sympathetic hyperactivity. The peripheral chemo reflex (the carotid bodies (CBs)) is an important regulator of blood glucose via modulation of sympathetic activity. Over-activation of CBs has a critical role in inducing insulin resistance through excessive sympathetic activation. Reducing CB activity via CB denervation (CBD) has been shown to be beneficial for cardio- metabolic health by reducing sympathetic activity and improving glucose homeostasis. Understanding how CB activity changes during pregnancy and how it could contribute to GDM in the mother and cardio-metabolic disease in her and her offspring would pave the path to both early detection of disease and novel prophylactic interventions. In this regard, the aim of this summer studentship is to characterise the molecular differences in carotid bodies and placental tissues between our pre-clinical rodent models of pregnancy and GDM.

S9(2)(a) (Ngā Tai, Ngāi Tūhoe, Ngāpuhi, Whakatōhea)

SUPERVISOR: S9(2)(a)

S9(2)(a)

UNDERGRADUATE: Bachelor of Science

HOST: University of Auckland

A New Plant-based Treatment to Treat High Blood Pressure.

The project was designed to explore the potential of natural products for lowering blood pressure and improving its autonomic nervous system.

S9(2)(a) (Ngāti Tūwharetoa, Ngāpuhi, Ngāi Tūhoe)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of Surgery

HOST: Pūtahi Manawa

Taniwha: Perpetuating Māori Health Inequities in Cardiothoracic Surgery.

Health inequities are differences in health outcomes that are unfair and unjust. This research poster expressed Māori health inequities in cardiothoracic surgery. This involved a literature review under the supervision of Tākuta Jamie Lee Rahiri to understand why health inequities continue to underline the importance of preventing these issues through understanding and adjusting the deficit framework overshadowing Māori health outcomes.

S9(2)(a) (Ngā Tai, Ngāi Tūhoe, Ngāpuhi,
Whakatōhea)

SUPERVISOR: S9(2)(a)

S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine & Bachelor of
Surgery

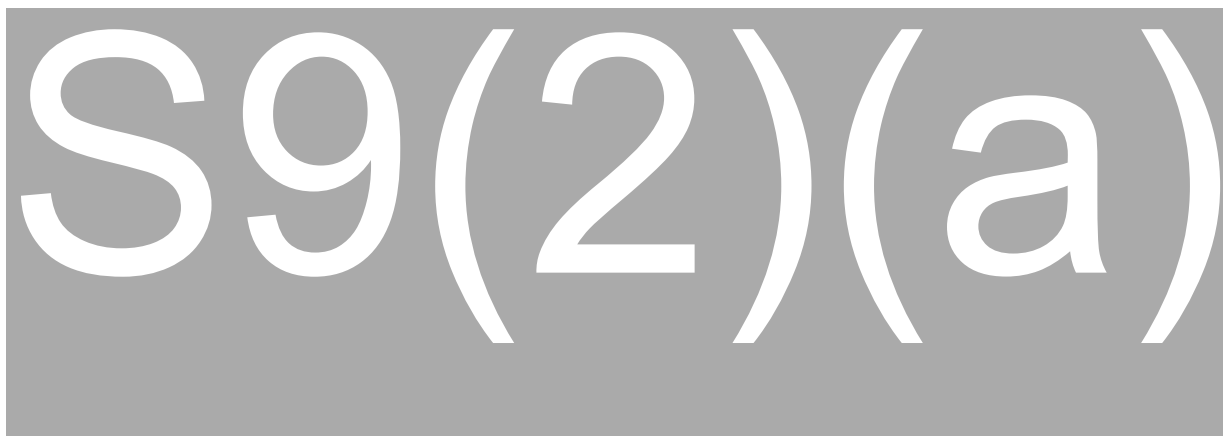
HOST: Pūtahi Manawa

Gutsy Moves: Shaping Bowel Health Equity in Te Tairāwhiti.

In Aotearoa New Zealand (AoNZ), bowel cancer incidence is similar between Māori and non Māori at any given age. However, the Māori population is much younger compared to non Māori in Aotearoa. This leads to a greater proportion of Māori bowel cancer occurring before the screening age. Te Tairāwhiti joined the National Bowel Screening Programme in 2020; at this point, the age for screening was 60 and over. This has since been adjusted to 50 and over to capture the younger Māori population being missed. The bowel screening is a test that can be done yourself at home. It involves collecting a stool sample and sending the tube off to the lab, which will then process the sample and send the results back to your doctor. Colonoscopies, however, remain the gold standard for colorectal cancer (CRC) investigation. For a colonoscopy to be successful, certain Key Performance Indicators (KPIs) must be attained. These KPIs are recommendations of the Endoscopy Guidance Group for New Zealand (EGGNZ) and include caecal intubation rate (CIR), colonoscopy withdrawal time (CWT), adenoma detection rate (ADR) and acceptably low colonoscopy complication rates. Gisborne Hospital is the only public provider of endoscopy procedures in all of Te Tairāwhiti, a population of 50,000, of which 53% are Māori and 65% live in areas of high deprivation. With this being said, some of the poorest health outcomes in AoNZ are prevalent in Te Tairāwhiti.

2023-2024 PŌ WHAKANUI: INTERNSHIP NIGHT OF CELEBRATION

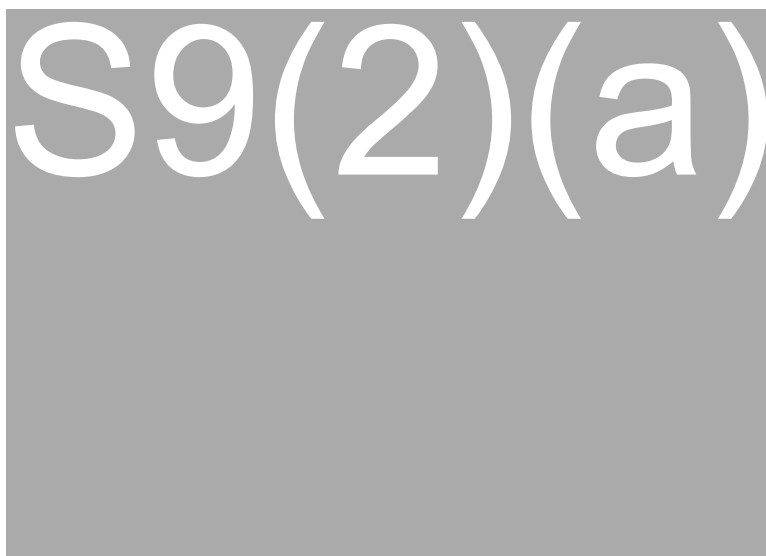
Pō Whakanui, on 14 February 2024 marked the culmination of the 2023-2024 summer internship programme. The event celebrated the significant achievements of our interns, and shone a spotlight on the hard work, dedication, and innovative contributions of our rangatahi.



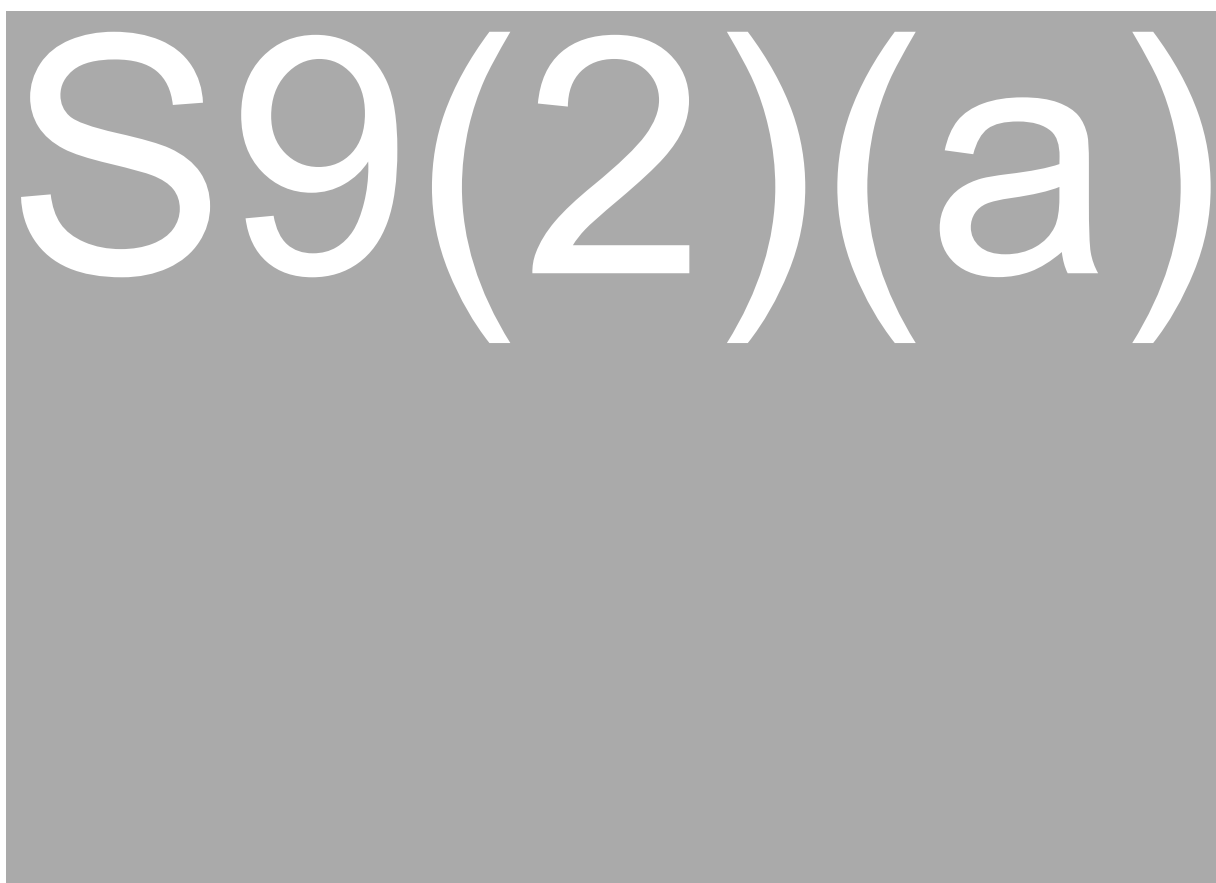
Above: Interns celebrating the conclusion of the Pūhoro Summer Internship programme for 2023-2024.

Pō Whakanui was characterised by a vibrant display of research posters, which provided a platform for our interns to articulate the outcomes of their projects, their journey of professional development, and the impact of their mahi within the realm of STEM. Whānau members, Pūhoro staff, internship supervisors, and representatives from various STEM industries were in attendance, bearing witness to the talent and potential of work-ready rangatahi, some of whom spoke on stage about their experiences as interns. One in particular, Te Aka Whai Ora co-funded intern **S9(2)(a)** spoke eloquently about her internship experience, focusing specifically on her research into Dahlia plant extract and its potential effects on treating high-blood pressure.

*Right: Te Aka Whai Ora co-funded intern **S9(2)(a)**, talking to attendees about her internship research at Pō Whakanui 2024.*



Te Aka Whai Ora can be proud of its 18 co-funded interns, who contributed to a third of the 56 internships completed in total. These exceptional rangatahi successfully completed their health-related internships, and through this experience showed a remarkable commitment towards advancing their careers in the health sector. Although 5 of the health-focused interns could not be at Pō Whakanui in person, their presence was well represented through the other Te Aka Whai ora co-funded interns present at the event.



Above: Interns funded by Te Aka Whai Ora, celebrating their success' at Pō Whakanui 2024.

One of the core themes of Pō Whakanui was the emphasis of mātauranga weaved throughout the various STEMM internships. Many of the Te Aka Whai ora interns worked with their supervisors to incorporate mātauranga into their research projects, whilst others relied on their own cultural knowledge to inform their project and intern experience. The resulting outcomes highlighted the importance of integrating Māori perspectives, values, and knowledge systems into the health workforce, to provide fresh approaches and solutions to today's societal challenges.

Pō Whakanui also served as a vital networking opportunity for our health-focused interns who had the privilege of being exposed to a variety of established professionals within the health sector. Supervisors and representatives from the health sector were given a first-hand look at the innovative projects undertaken by the Te Aka Whai Ora interns, enhancing the potential for job opportunities and further collaborations.

The success of the Pūhoro summer internship programme and the Pō Whakanui celebration is testament to the power of investment in rangatahi in STEMM, and Pūhoro are eternally grateful to Te Aka Whai Ora for their generous support and active participation in the Summership programme for 2023/2024. As we look ahead to the 2024/2025 year, we do so with anticipation and excitement as we continue to increase the opportunities available for rangatahi specialising in health through our kaupapa.

Below: Te Aka Whai Ora co-funded interns standing proudly next to their posters at Pō Whakanui 2024.

S9(2)(a)



S9(2)(a)



S9(2)(a)



S9(2)(a)



S9(2)(a)



S9(2)(a)

2023 PŪHORO YEAR 13 GRADUATION CEREMONIES

In a testament to the transformative impact of Pūhoro, the Year 13 graduation ceremonies unfolded in 2023 with notable highlights across Aotearoa. In the Waikato, the rohe held its first Year 13 graduation; Te Matau-a-Māui graduated a significant number of Year 13 rangatahi this year compared to last year; and the Manawatū graduation prize giving was hosted by a past Year 13 graduate of the Pūhoro *Te Urunga Tū* (secondary-school) phase. What stood out most prominently however, were the **twenty-nine (29) year 13 graduates** undertaking health-focused studies for 2024. Their commitment to health signify the flourishing of rangatahi Māori in hauora, underscoring the pivotal role of Te Aka Whai Ora in fostering success by supporting the Pūhoro Wānanga, as well as the *Te Urunga Tū* (secondary school) phase.

The following is a brief overview of the event for each rohe, with highlights of their year 13 graduates pursuing health studies.

Waikato Region

As a relatively new rohe, the Waikato region celebrated its first Year 13 graduation, signifying a remarkable achievement for Pūhoro. This ceremony marked the transition of Waikato's inaugural graduates into *Te Urunga Pae* (Tertiary Phase) and *Te Urunga Tapu* (industry phase) within their rohe. The event was attended by **9 proud Year 13 graduates** and their supportive whānau. Notably, the occasion garnered significant backing from external stakeholders, underlining the community's collective investment in the success of our rangatahi. A highlight of the ceremony was a presentation by the Pūhoro Te Urunga Pae team, providing valuable insights into tertiary life, and the extensive support available for the Year 13s as they embark on their journey post secondary-school.

S9(2)(a)

Te Matau-a-Māui region

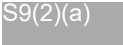
Building on the success of the previous year, Te Matau-a-Māui celebrated a substantial increase in Year 13 graduates, with **22 Year 13 rangatahi** crossing the stage—a significant milestone for Pūhoro in the rohe. The event commenced with a captivating highlight reel, showcasing the progress of all Year 13 rangatahi as they navigated through the Pūhoro kaupapa from Year 11. A notable aspect of the graduation was the substantial turnout from our kura in Wairoa, underscored by the invaluable support of their kaihautū, ensuring their meaningful participation in this inaugural event.

S9(2)(a)



Te Matau-a-Māui Health Graduates

S9(2)(a)



(Ngāi Tūhoe, Ngāti Manawa, Ngāti Pūkenga)

When I joined Pūhoro I wanted to be a Midwife.

In 2024 I'll commence a Bachelor of Medical Science at Otago University.

S9(2)(a)



S9(2)(a)

(Ngāti Kahungunu)

When I joined Pūhoro I wanted to be a Doctor.

In 2024 I'll commence studies towards a Bachelor of Nursing at Te Pukenga – EIT Hawke's Bay.

S9(2)(a)

S9(2)(a)

(Ngāti Rangiwewehi)

When I joined Pūhoro I wanted to be a Doctor.

In 2024 I'll commence studies towards a Bachelor of Nursing at Te Pukenga – EIT Hawke's Bay.

S9(2)(a)

S9(2)(a)

(Ngāti Kahungunu ki te Wairoa, Ngāti Wai, Te Aitanga-a-Māhaki, Te Whānau-a-Apanui)

When I joined Pūhoro I wanted to be a Psychologist.

In 2024 I'll commence studies towards a Bachelor of Psychology in Australia.

S9(2)(a)

S9(2)(a)

(Ngāpuhi)

When I joined Pūhoro I wanted to be an Art Therapist.

In 2024 I'll commence studies towards a Bachelor of Psychology at Victoria University.

Manawatū region

In the Manawatū region, a cohort of **22 Year 13 graduates** took the stage, capping off their Pūhoro journey with a memorable ceremony. The event was graced by a motivational speech from last year's Manawatū Year 13 MVP, S9(2)(a), adding an inspiring touch to the celebration. The graduates, supported by their families and the wider Pūhoro community, marked a significant milestone in their educational and personal growth. The ceremony served as a testament to the success and impact of Pūhoro in the Manawatū region, nurturing young talent and guiding them toward promising futures.

S9(2)(a)

Manawatū Health Graduates

S9(2)(a)

(Te Whānau-a-Apanui)

When I joined Pūhoro I wanted to be a Physiologist or an Electrician.

In 2024 I'll commence studies towards a Bachelor of Social Work at Te Wānanga o Aotearoa.

S9(2)(a)

(Ngāti Raukawa)

When I joined Pūhoro I wanted to work in Early Childhood or be a Social Worker.

In 2024 I'll commence studies towards a Bachelor of Social Work at Te Wānanga o Aotearoa.

S9(2)(a)

(Ngāti Raukawa, Tainui)

When I joined Pūhoro I wanted a career in Science, Health or Psychology.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

(Te Arawa)

When I joined Pūhoro I wanted a career in Medicine.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

S9(2)(a)

(Ngā Ruahine, Ngāti Ranginui)

When I joined Pūhoro I wanted a career in Mental Health.

In 2024 I'll be taking a gap year, and will return in 2025 to begin Bachelor of Health Science at Auckland University.

S9(2)(a)

S9(2)(a)

(Rongowhakaata, Rangitaane o Wairarapa, Ngāti Raukawa ki te Tonga, Ngāti Porou, Ngāti Kahungunu)

When I joined Pūhoro I wanted to be an Engineer or Pilot.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

S9(2)(a)

(Ngāti Porou, Ngāti Raukawa, Ngāti Tūwharetoa)

When I joined Pūhoro I wanted to be a Sport Scientist or Physio.

In 2024 I'll be taking a gap year, and will return in 2025 to study Māori Health or Sport Science.

S9(2)(a)

S9(2)(a)

(Te Aitanga-a-Māhaki, Te Whānau-a-Apanui)

When I joined Pūhoro I wanted a career in the Defence Force.

In 2024 I'll be taking a gap year, and will return in 2025 to join the New Zealand Police Force or study Oral Health.

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Ngāti Whakaue)

When I joined Pūhoro I wanted to be a Radiologist.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Ngāti Whakaue)

When I joined Pūhoro I wanted to be a Criminal Psychologist or Midwife.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

S9(2)(a)

(Kai Tahu)

When I joined Pūhoro I wanted to be a Forensic Psychologist.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

Tāmaki Makaurau region

The Tāmaki Makaurau Pūhoro Year 13 graduation ceremony marked a significant milestone for **37 rangatahi** who successfully completed their journey through *Te Urunga Tū (Pūhoro secondary school phase)* for 2023. The ceremony began with a mihi whakatau, welcoming both rangatahi and their whānau to the event and setting the tone for the night.

Motivational farewell speeches from Kaihautū and Manahautū Kemp Reweti inspired the graduates, emphasising the importance of their contributions to STEMM since they began their Pūhoro journeys in Year 11. The event's culmination featured the MVP rangatahi awards, highlighting outstanding achievements. The graduation ceremonies play a crucial role in recognizing the accomplishments of rangatahi, fostering a sense of achievement and motivation as they step into the post-secondary school phase of their STEMM journey.

S9(2)(a)



Tāmaki Makaurau Health Graduates

S9(2)(a)

(Ngāti Hauā, Ngāti Ranginui)

When I joined Pūhoro I wanted to work in the Medical Field.

In 2024 I'll commence studies towards a Bachelor of Arts (Māori) and a Bachelor of Health Science at the University of Auckland.

S9(2)(a)

S9(2)(a)

(Undisclosed)

When I joined Pūhoro I wanted to be a Nurse.

In 2024 I'll commence studies towards a Bachelor of Nursing.



S9(2)(a)

(Kai Tahu)

When I joined Pūhoro I wanted to be a surgeon.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University and study towards becoming a Cardiothoracic Surgeon.

S9(2)(a)

S9(2)(a)

(Ngāti Ruanui)

When I joined Pūhoro I wanted to be a Paediatrician or an Emergency Doctor.

In 2024 I'll commence studies towards a Bachelor of Health Science (Biomed) Paediatrics at the University of Auckland.

S9(2)(a)

S9(2)(a)

(Undisclosed)

When I joined Pūhoro I wanted to work in the IT industry.

In 2024 I'll enter the workforce and work towards joining the Royal New Zealand Airforce.

S9(2)(a)

S9(2)(a)

(Tainui)

When I joined Pūhoro I wanted to be a Nurse.

In 2024 I'll commence studies towards a Diploma in Paramedic Science, the work towards a Bachelor of Health Science at the Auckland University of Technology.

S9(2)(a)

S9(2)(a)

(Ngāti Maniapoto, Te Rarawa)

When I joined Pūhoro I wanted to be Physiotherapist or a Personal Trainer.

In 2024 I'll commence studies towards a Bachelor of Health Science (Physiotherapy).



S9(2)(a)

(Ngāpuhi, Ngāti Kahu)

When I joined Pūhoro I wanted to be a Dentist.

In 2024 I'll commence studies towards becoming a Chiropractor at the New Zealand College of Chiropractic.



S9(2)(a)

(Ngāpuhi, Tainui)

When I joined Pūhoro I wanted to be a Paediatrician.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University and work towards becoming a Paediatrician.

S9(2)(a)

S9(2)(a)

(Ngāti Porou)

When I joined Pūhoro I wanted to be an Entrepreneur.

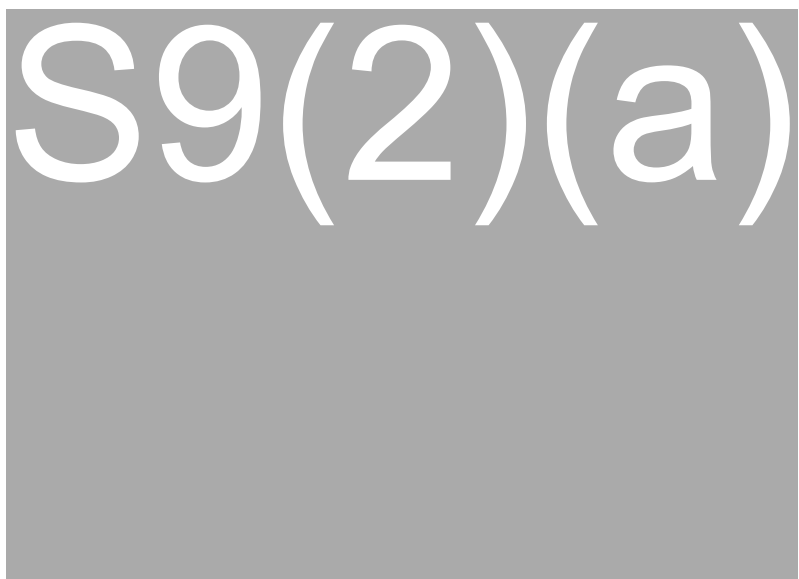
**In 2024 I'll commence studies towards a Bachelor of
Physiotherapy specialising in Sports.**



Ōtautahi region

18 Year 13 rangatahi celebrated their graduation in Ōtautahi for 2023, marking a pivotal moment as they transition into both the STEMM workforce and tertiary education. The night was filled with inspiration as S9(2)(a), a former Te Urunga Tū graduate and current Te Urunga Pae rangatahi, shared a compelling message encouraging fellow graduates to embrace their identity, and acknowledging the crucial role Pūhoro played in his educational journey. Kaihautū also created a collage capturing the three-year secondary school adventure of the Year 13 graduates with the Pūhoro kaupapa. Te Urunga Pae Kaihautū S9(2)(a) provided insights into the transition into the tertiary space, offering a glimpse into the ongoing support Pūhoro can provide. This ceremony not only celebrated accomplishments, but also illuminated the continued guidance and support available for rangatahi post-high school, reinforcing Pūhoro's commitment to nurturing excellence in STEMM.

Right: S9(2)(a),
**recipient of the Aupiki Ake award
(MVP) for the Ōtautahi region**



Ōtautahi Health Graduates

S9(2)(a)

(Ngāti Kuri)

When I joined Pūhoro I wanted to study Sports Science.

In 2024 I'll commence studies towards a Bachelor of Sports Science at the University of Canterbury.

S9(2)(a)

(Kai Tahu)

When I joined Pūhoro I wanted to become a University student.

In 2024 I'll commence studies towards a Bachelor of Health Science at Otago University.

S9(2)(a)

(Ngāti Tūwharetoa, Te Āti Haunui-a-Pāpārangī, Ngāti Uenuku,

When I joined Pūhoro I wanted to become a Nurse.

In 2024 I'll commence studies towards a Bachelor of Nursing at the Ara Institute of Canterbury.

S9(2)(a)

S9(2)(a)

S9(2)(a)

PROMOTIONAL & PLANNED ACTIVITIES: 01 HANUERE (JANUARY) – 30 HUNE (JUNE) 2024

Please find the following anticipated for Te Aka Whai Ora/Pūhoro six-monthly report due 30 September 2024. Any other relevant information that is not listed below, will also be provided.

- Full overview of health-focused workshops to be facilitated at Pūhoro Wānanga for Term 1 and Term 2 in 2024.
- An analysis of the *funding impact* as well as *key insights* that have been identified since the inception of our monumental partnership.
- The Pūhoro Events Team to continue to work together with Te Aka Whai Ora, as well as key partners in the health sector to confirm opportunities to present hands-on, health-focused workshops at termly wānanga.
- Pūhoro will continue to work with Te Aka Whai Ora to identify future opportunities for rangatahi pursuing studies and careers in health.
- Pūhoro has completed a variation to our agreement with Te Aka Whai Ora. This will see us further amplify before June our impact with rangatahi in the health sciences and health career pathway. We will add the additionality to our activities to our next report due in September.

He Waka Eke Noa – We're all in this together!





HEALTH NEW ZEALAND - TE WHATU ORA

Pūhoro STEMM Academy

Final Report

01 July 2023 – 30 June 2024





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FOREWORD OF THE MANAHAUTŪ



Kemp Reweti – Manahautū: Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

The Pūhoro Charitable Trust is pleased to report the successful completion of Year One as per our agreement with Te Aka Whai Ora the Māori Health Authority, which has resulted in our seamless transition to Health NZ – Te Whatu Ora for Year 2 of delivery. We are thrilled that our partnership and true collaboration has enhanced the development of the Māori health workforce through our collaborative, bespoke Health Careers Pathway, which has further uplifted the number of rangatahi extending their line of sight into and participating in the Health Careers sector.

Our partnership has enabled the means to develop rangatahi skills, provide STEMM tutorials, mentoring and health career pathway opportunities to rangatahi across Aotearoa in the Pūhoro programme. Our efforts have been critical in shoring up the pipeline of rangatahi, interested in and able to navigate towards higher education and a career in Health. In Year One, we have supported rangatahi with the critical tools needed to consider Health and its various pathways as a key career focus and work destination. With the diverse range of fields in Health there is a plethora of opportunity for our rangatahi, and our ability to collaborate with Health partners has enabled us to deliver on the objectives of our partnership.

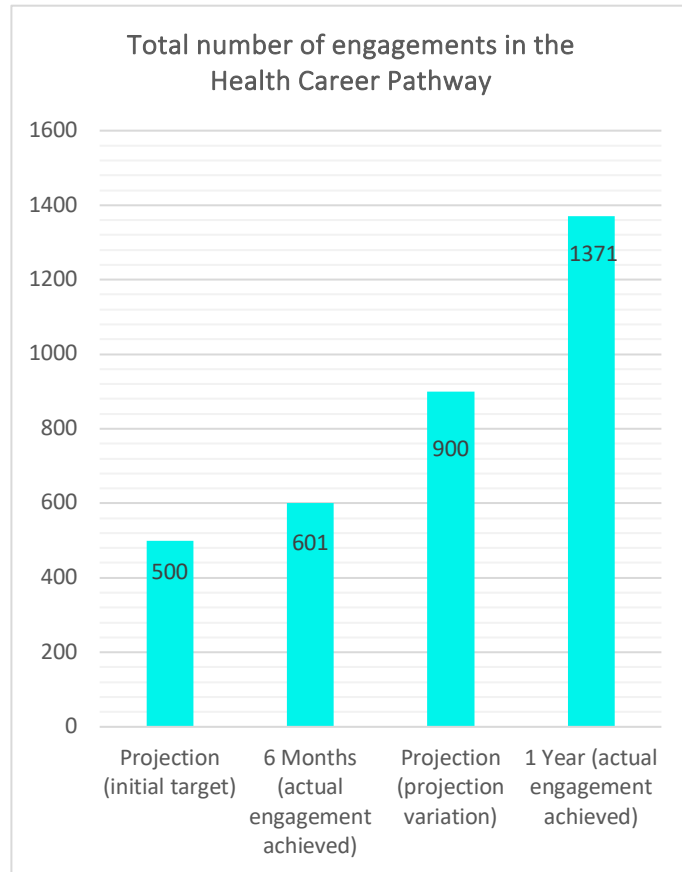
It is exciting to think that the Māori Health Workforce will in time be filled with specialised, culturally anchored professionals who will have the tools to advance hauora outcomes for our

A vertical teal-colored bar on the left side of the page, featuring a repeating geometric pattern of triangles and squares in various shades of teal.

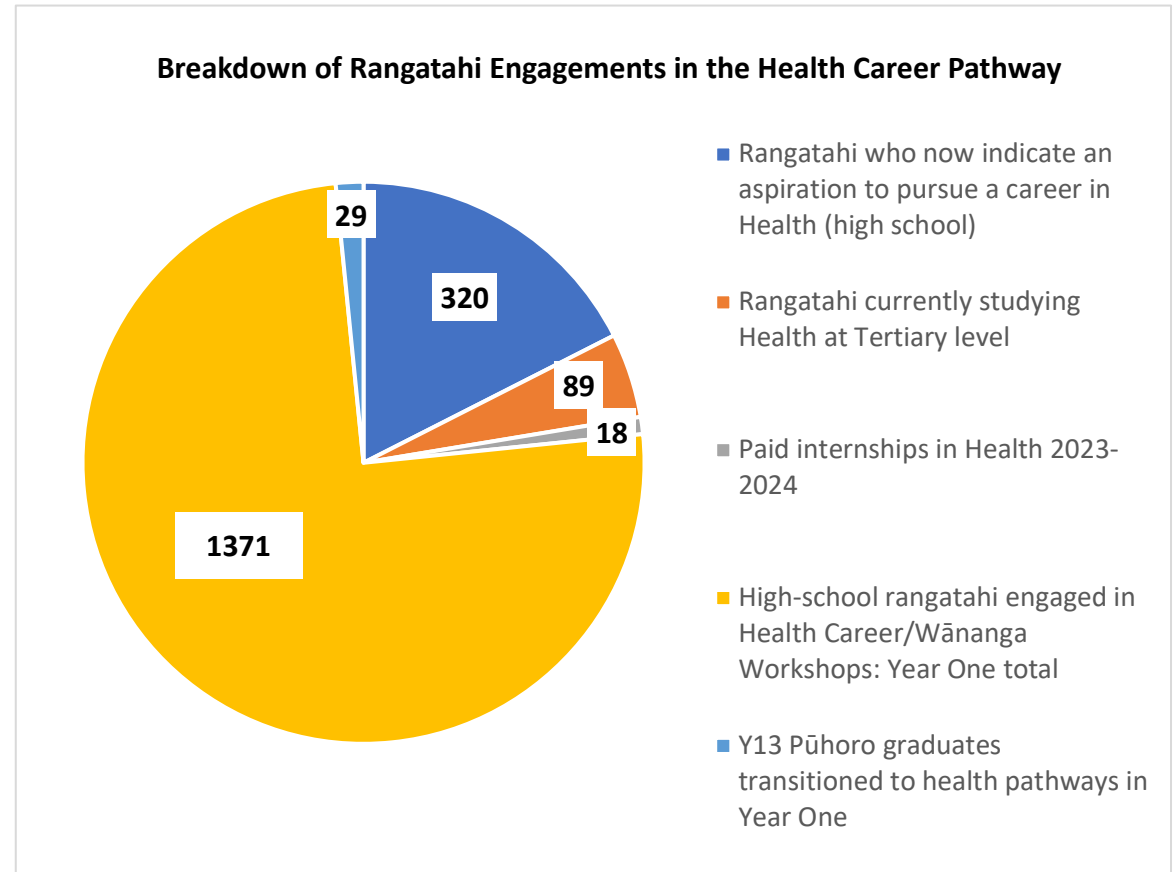
whānau, our marae, our hapū and our iwi. With Year one of our project now fulfilled, Pūhoro would like to express its gratitude to Te Aka Whai Ora for enabling us to deliver on our shared aspirations. And now with the seamless shift into Health NZ – Te Whatu Ora, we thank those in leadership for the opportunity to continue our work in earnest in the year ahead.

PŪHORO DASH SUMMARY

A 'dashboard' summary of key project information such as: rangatahi participation, engagement & progression rates throughout the Health Career Pathway.

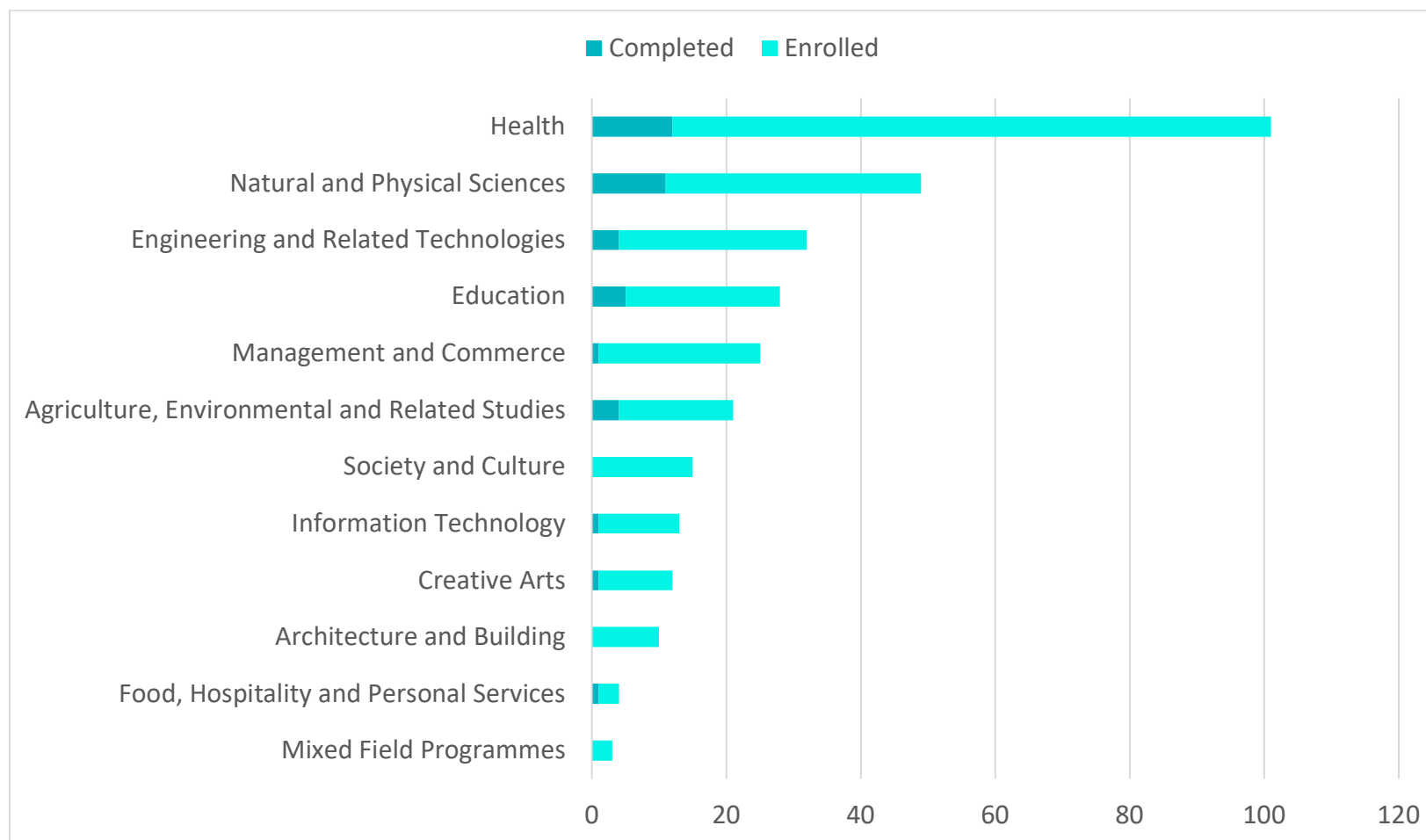


Above: A comparison of the projected targets, against our progressive statistics from 01 July 2023 to 30 June 2024.



Above: A further breakdown of the total number of rangatahi engagements throughout the Health Career Pathway. Of note is the growth potential as displayed via the number of rangatahi in the Pūhoro kaupapa who aspire to have a career in Health.

PŪHORO DASH SUMMARY CONTINUED



Above: A snapshot summary of broad fields of study currently undertaken, and completed by Pūhoro rangatahi at Tertiary level as of 05 August 2024. The graph clearly indicates rangatahi preference for health-related fields of study. It is anticipated that the Te Whatu Ora-Pūhoro Health Career Pathway continuum will further augment the skew of data in favour of health, making for a promising future for the Aotearoa Health Workforce.

PŪHORO DASHBOARD SUMMARY BREAKDOWN

The 'Dashboard Summary' provides a quick snapshot of progress completed over Year One and is further expanded below:

- From 01 July 2023 to 30 June 2024 a total of **1507 rangatahi engagements** have occurred in the Pūhoro Health Career Pathway. This includes attendances at Health Career Workshops and Wānanga as well as Health Career Events and Activities, including Health Career focused Internships.
- **1371 Pūhoro rangatahi engaged in Health-focused workshops/wānanga** and additional Health Career focused events. Separately, approximately 100 additional Year 10 rangatahi Māori engaged in the *Hauora Wānanga o ngā Rangatahi o Manawatū* event also featured in this report.
- **89 Te Urunga Pae (Tertiary phase) rangatahi are studying in the field of Health.** This equates to over one-third of the total number of Pūhoro rangatahi studying at tertiary level as portrayed in the graph on page 5 of this report.
- As per our report sent December 2023, **Pūhoro graduated 29 Year 13 rangatahi** from the Pūhoro Te Urunga Tū phase within Year One, who planned transition to study or work in the health sector in Year One.
- As per our previous report sent December 2023, **18 Pūhoro rangatahi** attained employment in health through the Pūhoro Internship programme that occurred over the 2023-2024 summer period in Year One.

PŪHORO ACHIEVEMENT PROGRESS

12(g) Achievements for the reporting period including: rangatahi details, demographics and wānanga feedback; Progress along the Health Career Pathway; and; the reporting of any cross-collaboration that has occurred to support delivery of the Project.

As per our agreement, the following update on our achievement progress is provided. As a recap, Pūhoro has a significant focus on delivering the project across three phases. This report builds on the six-monthly report submitted previously, thus providing a complete picture of the intensive engagement Pūhoro has delivered across Year One of the agreement with Te Aka Whai Ora and noting the transition now to Health NZ Te Whatu Ora:

Health Career Pathway:

Phase 1: Te Urunga Tū (Secondary School Health Career Education)

Phase 2: Te Urunga Pae (Tertiary Provision Health Pathway & Exposure)

Phase 3: Te Urunga Tapu (Employment Provision)

As we shift seamlessly into partnership with Health NZ Te Whatu Ora we look forward to the Year Two and continuing to build upon the work that has been completed in Year One.

PŪHORO STEMM DELIVERABLES YEAR ONE

Pūhoro have successfully transitioned to an agreement Health New Zealand – Te Whatu Ora. This seamless shift, ensures we can continue to serve our rangatahi who have a genuine interest in pursuing health as a potential career whilst at the same time system-enabling them to ensure they are equipped with the relevant educational attainment needed to progress into Health Careers.

To further increase our impact we held an **additional four (4)** hauora-related events over Year One and increased our reach within Pūhoro to an **additional 400 rangatahi**. Furthermore, since January to July 2024 Pūhoro have also completed delivery of **ten (10)** Wānanga:

- **Wednesday, 03 April 2024:** Term 1 Tāmaki Makaurau Health Wānanga for Year 12 & 13 in collaboration with Pūtahi Manawa, featuring sessions on neuroscience, medical and health sciences, and biomedical engineering.
- **Monday, 08 April 2024:** Term 1 Ōtautahi Hauora Wānanga for Year 13, focusing on the interconnectedness of Māori health and wellbeing with cultural identity.
- **Wednesday, 24 April 2024:** A 3-day Genomics Bootcamp in collaboration with ESR, boosting genomics skills and career prospects for rangatahi interested in genomics-related fields, attended by the Ministry of Health.
- **Wednesday, 26 June 2024:** Hauora Wānanga o ngā Rangatahi o Manawatū, a collaboration between Pūhoro STEMM Academy, Te Whatu Ora Māori Health Unit, Central Economic Development Agency, and Te Mahau|Te Tai Whenua (Ministry of Education), highlighting clinical and allied health career opportunities for Year 10 rangatahi Māori.

These events were crucial in strengthening rangatahi connection to the *Health Career Pathway*, providing rangatahi with opportunities to engage deeply with health sciences and fostering a strong connection to their Māoritanga. By supporting and inspiring our future Māori health professionals, we are ensuring a robust and culturally-responsive health sector for Aotearoa.

S9(2)(a)



Above: Pūhoro Year 12 & 13 rangatahi from Tāmaki Makaurau, standing in front of Ngā Kete Wānanga Marae in Ōtara for their Term 1 Health Wānanga.

The Term 1 Year 12 & 13 Health Wānanga was held on April 3, 2024, at Ngā Kete Wānanga Marae in Ōtara, Tāmaki Makaurau. Organised in collaboration with Pūtahi Manawa, the event was attended by **one-hundred and thirty-eight (138) rangatahi from fifteen (15) kura across the Tāmaki Makaurau region**. The purpose of the Health Wānanga was to showcase in part, the opportunities available to rangatahi at Tertiary level within the health sciences at the University of Auckland. More specifically, for the Year 13 cohort it gave them tangible options to consider as they look to pursue further study in health in 2025.

Supported by group leaders from *Te Urunga Pae* (Pūhoro tertiary-phase), rangatahi gained insights into the medical and health sciences, biomedical engineering and holistic health through five health-focused sessions led by esteemed faculty members from the University of Auckland:

1. **The faculty of Health and Medical Science-** Led by S9(2)(a)
2. **The faculty of Biomedical Engineering-** Led by S9(2)(a)
3. **Taukuki: Hapai te hauora-** Led by S9(2)(a)
4. **The faculty of Science (Neuroscience and Maramataka)-** Led by S9(2)(a).
S9(2)(a)
5. **University Preparation (SPIES)-** Led by S9(2)(a)

All five sessions had a focus on their specified area of expertise, with the purpose of enticing rangatahi into health-related disciplines as they look to choose their tertiary education provider for 2025.

Rangatahi Feedback

Feedback from rangatahi was collected through forms and written responses, which highlighting the following:

- **Neuroscience/Maramataka:** Rangatahi appreciated learning aspects of Neuroscience, its application and also different aspects of the Maramataka and its connection to hauora.
- **Biomedical Engineering:** Rangatahi found it informative and enjoyed the hands-on experience with ultrasound machines.
- **Taukuki Hāpai te Hauora:** The session was noted for its engaging content around Māori public health.
- **University Preparation (SPIES):** Informative information on University preparation.

Overall, feedback was positive, with rangatahi expressing that they gained new knowledge and ideas for their future studies in health. Below features personal responses from rangatahi at the event:

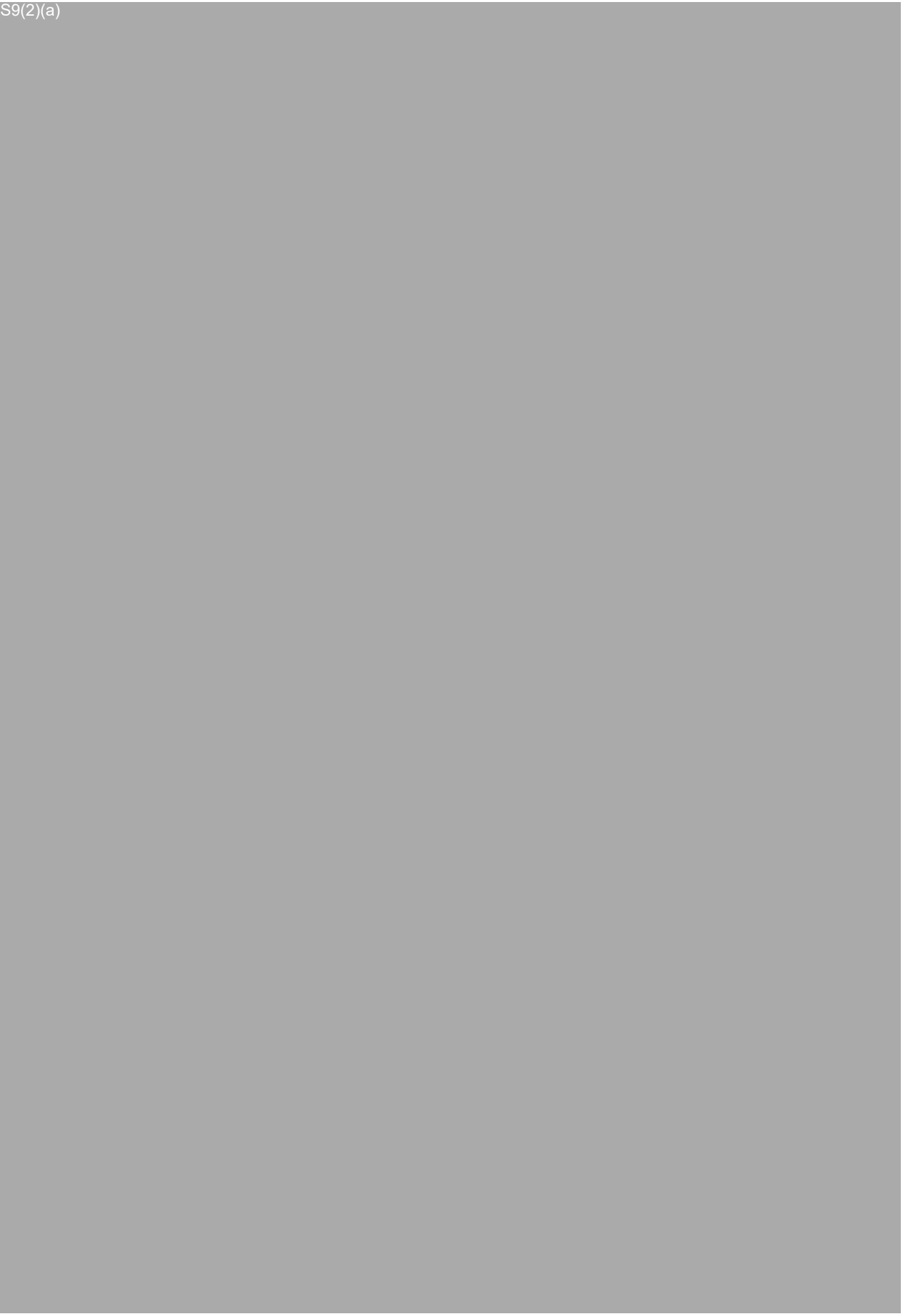
“I enjoyed this Wānanga very much, I learnt many new things, I’ve also gathered ideas that was given to me from fellow kaiako to think about for when I leave school and start my studies in university.”

“I enjoyed the biomedical engineering session, next time more choices like that should be included.”

“It was fun and all sessions were fun and engaging and I had a good time I don’t think anything needs to be improved”

“Was a great day and had a great time”

S9(2)(a)



TERM 1 HAUORA WĀNANGA 2024 | Ōtautahi

S9(2)(a)



Above: Pūhoro Year 12 & 13 rangatahi from Ōtautahi, standing in front of the International Antarctic Centre for their Term 1 Hauora Wānanga.

On Monday 08 April 2024, **nineteen (19) rangatahi** from kura across Ōtautahi participated in the Term 1 Year 13 Hauora Wānanga held at Te Puna Wānaka, and finished at the International Antarctic Centre. The primary objective of the Wānanga was to explore the interconnectedness of Mātauranga, health and the environment from a Te Ao Māori perspective. The rōpū travelled to the International Antarctic Centre for a day of engaging sessions and immersive experiences connected to Hauora.

The first session, led by Ōtautahi Kaihautū S9(2)(a), started with whakawhanaungatanga through a kēmu called *He Kupu Tuku Iho* to foster connections among the group. This was followed by a presentation on *Ngā Kete o Te Wānanga*, where S9(2)(a) shared the story of Tāne and his ascent of the twelve heavens, and explained the significance of each Kete within Te Ao Māori. The session also included a quick quiz to reinforce the kōrero and an exploration of how this knowledge is incorporated into initiatives like Te Aka Poutama and Tāwhaki. S9(2)(a) concluded the session with an introduction to

Te Whare Tapa Whā, a Māori health framework by Sir Mason Durie, linking the pūrākau to this holistic framework as a basis for a Māori model of Hauora centred.

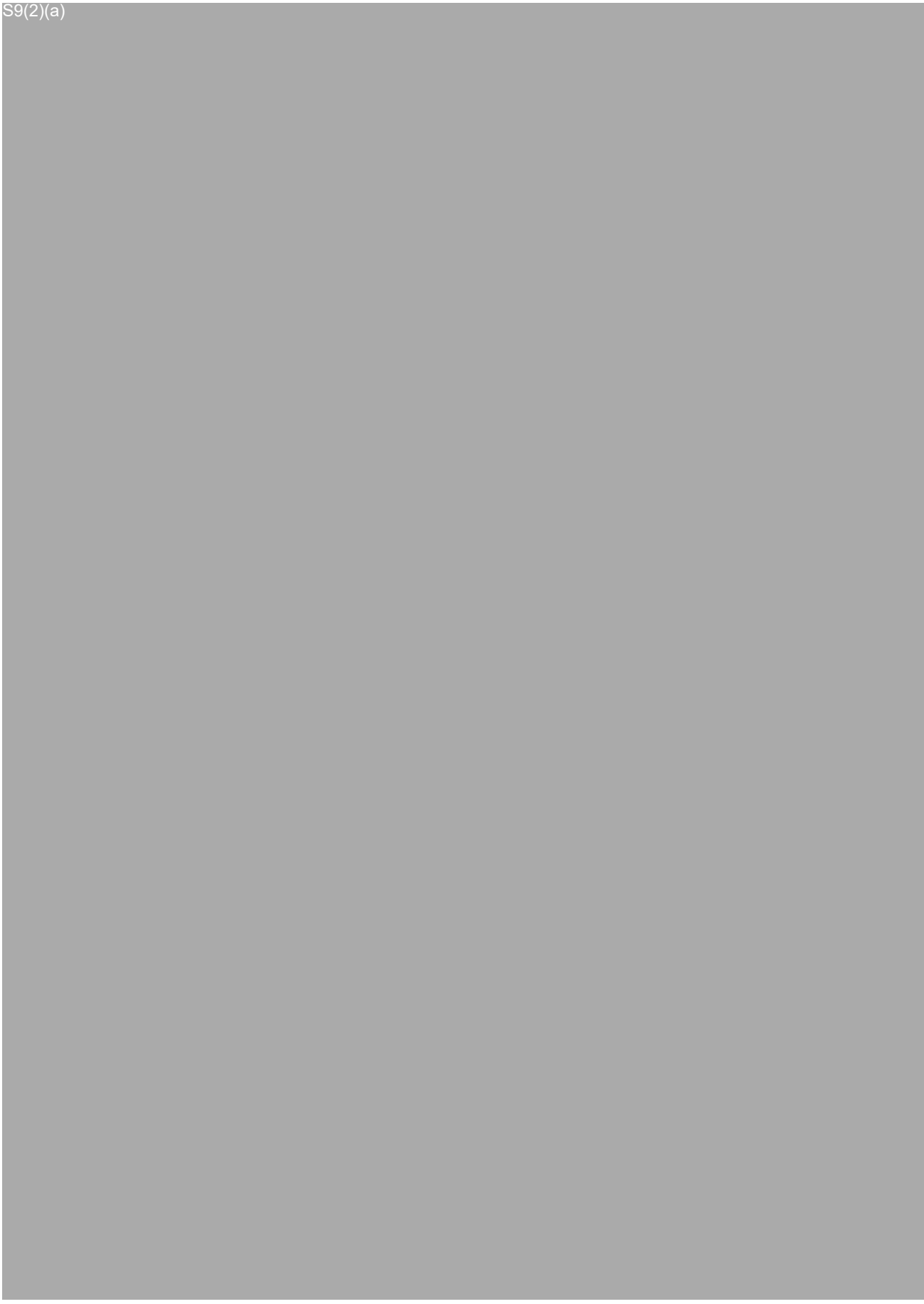
To complement this, a second session was led by Seth Clement on *Te Urunga Pae* (Pūhoro tertiary phase), focusing on the opportunities in hauora and life beyond high school. Seth's presentation encouraged rangatahi to envision their future in hauora-related careers and prepare accordingly.

S9(2)(a)

After these sessions, the group toured the International Antarctic Centre, to expand on their knowledge of Te Taiao (the environment) and its critical importance and connection to hauora. All in all, the Hauora Wānanga was a resounding success, meeting its objective of providing rangatahi with tangible experiences to gain a comprehensive and holistic understating of Hauora.

Term 1 Hauora Wānanga Photo Highlights

S9(2)(a)



2024 GENOMICS BOOTCAMP

S9(2)(a)

Above: Pūhoro rangatahi chosen to be part of the 3-day ESR Genomics Bootcamp 2024.

During the Term 1 holidays of 2024, **ten (10) rangatahi** from various regions across the country, including one from *Te Urunga Pae* and nine from *Te Urunga Tū*, attended a Genomics Bootcamp at the ESR Kenepuru Science Centre in Porirua. The bootcamp was specifically designed for rangatahi with a keen interest in genomics-related fields, and was an opportunity to delve deeply into career prospects and study areas within this scientific domain. Supported by Kaihautū S9(2)(a) S9(2)(a) and Mana Hautū S9(2)(a), rangatahi were selected based on their interests, intended career paths, and tertiary aspirations in areas linked to genomics.

The Genomics Bootcamp provided an invaluable opportunity for our rangatahi to gain hands-on experience in genomics, learn about DNA sequencing, data sovereignty, coding, and data analysis, and explore potential career paths in this field. The involvement of Oxford Nanopore and the support from ESR highlighted the commitment to creating more opportunities for Māori in Genomics-related fields.



Above: rangatahi packs supplied by Oxford Nanopore for rangatahi engaged in the Genomics Bootcamp.

S9(2)(a)

DAY 1



8:45am: Arrive at ESR Kenepuru



9:00am - 5:00pm : Whakawhānaungatanga; Ko Genomics tēnei (Introduction to Genomics and Sequencing DNA)



5:00pm - 8:00pm : Depart ESR to Hotel (Bay Plaza), Dinner and Chill time

The bootcamp began with a mihi whakatau from haukainga and leaders from ESR to welcome rangatahi and their Kaihautū. This was followed by an introductory presentation by ESR, setting the scene for the bootcamp and outlining the activities and expectations of the kaupapa. To start, angatahi were introduced to a *scenario* that would be investigated over the course of the bootcamp, involving four separate food health and safety events related to kaimoana contamination across Aotearoa. The purpose of the experiments to follow were to determine if the events were related, in order to take appropriate measures to prevent further contamination. After lunch, rangatahi began their first experiment in the lab, conducting initial research related to the *scenario*.



DAY 2



7:30am: Parakuihi | 8:15am Depart Hotel to ESR



9:00am - 5:00pm : Analysing a mock outbreak investigation, including a molecular biology lab & command line computing environment experience



5:00pm - 8:00pm : Depart ESR to Hotel, Dinner and Chill time

Rangatahi continued working in the laboratory, processing samples taken from the contamination events. This involved preparing DNA for sequencing by cleaning the samples and adding buffers and reagents to improve DNA quality. The samples were then placed into an Oxford Nanopore sequencing machine for further analysis. Following this, rangatahi practiced computer coding skills needed to analyse the sequence data upon completion.

S9(2)(a)

DAY 3



7:30am: Parakuihi | 8:15am Depart Hotel to ESR



9:00am - 3:00pm : Determining the outcome of our mock outbreak investigation; Poroporoaki



3:30pm : Depart ESR Kenepuru to travel home

The results from the laboratory experiments were completed, allowing rangatahi to analyse the data and investigate whether the four separate contamination events were linked. The ESR facilitators then provided an overview of the activities and addressed some of the questions posed at the beginning of the bootcamp. This was followed by poroaki to conclude the 3-day event.

2024 Genomics Bootcamp Photo Highlights

S9(2)(a)

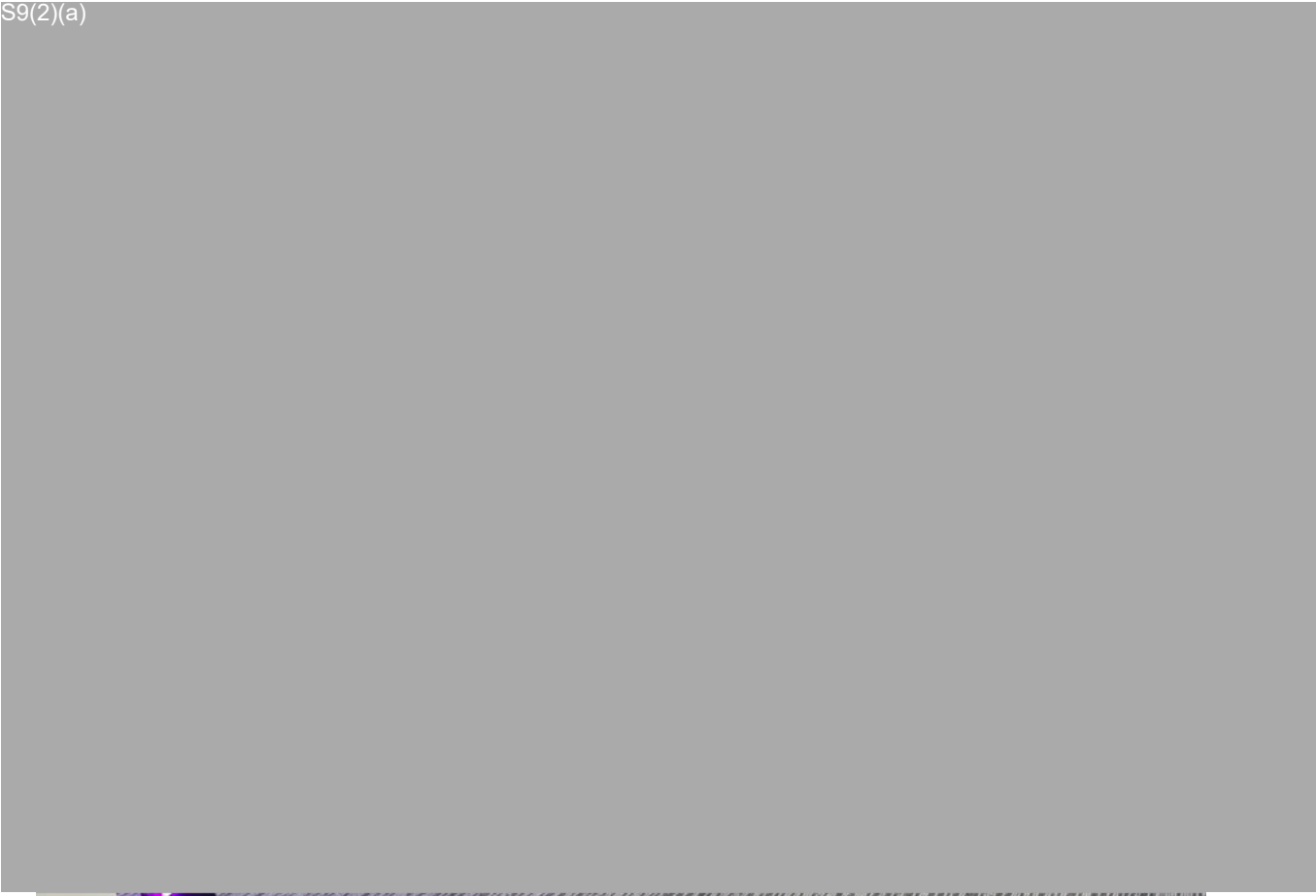
2024 Genomics Bootcamp Photo Highlights

S9(2)(a)



HAUORA WĀNANGA O NGĀ RANGATAHI O MANAWATŪ

S9(2)(a)



Above: Prospective Year 10 rangatahi engaged in the Hauora Wānanga at UCOL in Palmerston North.

On Wednesday 26 June, the *Hauora Wānanga o ngā Rangatahi o Manawatū* was held at Te Whaioranga UCOL in Palmerston North. This wānanga was hosted by the Ministry of Education in collaboration with Te Whatu Ora and Pūhoro and aimed to inspire Year 10 Māori rangatahi from kura across the rohe who have an interest in health careers and health areas of study. Pūhoro had multiple roles within the event, which included sharing health career journeys via a career panel and Pūhoro rangatahi supported rangatahi at the different health station workshops.

The event began with a mihi whakatau for over one-hundred (100) Year 10 rangatahi, setting the scene for the day. S9(2)(a), Te Whatu Ora Nurse Educator, and supervisor for rangatahi on our Pūhoro Summer Internship programme, planned the agenda for the day. This involved a comprehensive view of the healthcare ecosystem by following the healthcare journey of a person through different stages of life. This approach allowed rangatahi to explore diverse pathways into careers within the health sector, through an interactive and hands-on experience.

Throughout the day, rangatahi engaged in various workshops and scenarios, including medical imaging, emergency department simulations, speech language therapy and child development sessions. These practical experiences ensured that rangatahi did not merely hear about healthcare careers but experienced the roles first-hand, providing them with a "day in the life" perspective. This approach made the day memorable and impactful, helping rangatahi envision a future in healthcare.

Right: Previous Pūhoro Kaihautū and UCOL Lecturer S9(2)(a), taking rangatahi through a scenario involving Medical Imaging.

"Kātahi te kaupapa mīharo rawa atu ko tēnei! We deeply appreciate everyone who helped put this kaupapa together for our students. This opens avenues for our ākonga Māori in pathways they hadn't considered." – **Kaiaiko from Te Kura-ā-Iwi o Ngāti Kauwhata**

The event also included networking opportunities with professionals from Massey University, UCOL and local Māori healthcare teams. These interactions provided rangatahi with tangible next steps to further their education and career ambitions in health, creating clear and achievable goals. The focus was on ensuring that our rangatahi walked away with a sense of direction and purpose.

The Hauora Wānanga o ngā Rangatahi o Manawatū concluded with a careers panel, where Pūhoro Senior Advisor S9(2)(a) led rangatahi through discussions and shared insights about the various health careers. S9(2)(a) completed a degree in the sciences with a focus on Nutrition and he was able to highlight to rangatahi the importance of the *Health Career Pathway* in Pūhoro which advances STEM capabilities of rangatahi who aim or are interested in a career in health.

A highlight of the event was seeing Pūhoro rangatahi S9(2)(a) in action as one of the UCOL Facilitators for one of the nursing workshops. S9(2)(a) is a second-year Nursing student and was one of the Te Whatu Ora interns that were part of the Pūhoro Summer Internship programme in 2023-2024 as per the Pūhoro Report sent December 2023.

Right: Pūhoro rangatahi S9(2)(a), educating rangatahi during one of the workshop scenarios for the Hauora event.

The success of the *Hauora Wānanga o ngā*

Rangatahi o Manawatū is a testament to the importance of a collaborative approach. By bringing together educational institutions, healthcare providers, and community organisations, the event nurtured Māori potential and showcased the many possibilities within the health workforce. This wānanga laid a strong foundation for further engagement along the Health Career Pathway in the Pūhoro STEMM Academy.

S9(2)(a)

HEALTH CAREER WĀNANGA AND WORKSHOP DELIVERY 2023-2024

Pūhoro Wānanga provide opportunities for rangatahi in the programme to be exposed to the different STEMM workshops and plethora of opportunities that exist in the Health sector across Year One. To connect the first six-monthly report to this final report, a recap of key workshops and feedback at wānanga are provided to reiterate the suite of engagement for rangatahi in the programme provided and delivered by Pūhoro and Pūhoro partners. These Wānanga provided a crucial opportunity for rangatahi to engage in the *Health Career Pathway*, through exposure to a number of health career focused workshops and wānanga across Year One. Here Pūhoro rangatahi interact with leaders in

S9(2)(a)



different health disciplines and connect with their like-minded peers who share an interest in health. This exposure entices rangatahi to pursue health-related fields and encourages them to continue studying science subjects, preparing them for tertiary study and careers in the health workforce.

Above: Rangatahi at their first Pūhoro Wānanga in our newly launched Horowhenua region, Term 2 2024.

Combined across Year One Pūhoro successfully delivered **twenty-five (25) health-focused workshops to six-hundred and three (603) rangatahi across nine (9) regions**. This section provides a concise overview of each health career wānanga and workshop conducted during our Wānanga series, along with feedback from rangatahi and photo highlights across the regions delivered to. Rangatahi feedback is essential for understanding their experiences and perspectives in the pathway.

SURGEONS | *Royal Australasian College of Surgeons*

In this STEMM workshop led by Māori surgeons from the Royal Australasian College of Surgeons rangatahi delved into the pathway towards becoming a surgeon and also experienced high tech equipment and looked at processes around replacing the hip. The sessions also provided a comprehensive understanding of the journey to becoming a doctor and surgeon, exploring the required steps, duration, and financial aspects. Rangatahi gained insights into different surgical specialties, understanding the significance of each area and the protocols. Having surgeons present with our rangatahi exemplified the possibilities for Māori in the medical field, providing a motivating glimpse into potential career paths for rangatahi interested in pursuing medicine and some practical hands-on activities associated with aspects of this career pathway.

Rangatahi Feedback Snapshot

"Out of all of the workshops this was definitely my favourite, it was cool to see the different type of bone surgeries."

Edgewater College rangatahi

"Learnt about how surgeons perform orthopaedic surgery and did surgery like games. It was fun, I enjoyed it."

Tangaroa College rangatahi

"We did the surgeon workshop I really enjoyed it because it was probably the closest thing to what I want to do."

Whangārei Girls' High School rangatahi

PHLEBOTOMOY | *Awanui Group*

For this workshop, rangatahi learned about phlebotomy and delved into the intricacies of blood extraction, acquiring valuable skills and insights. Awanui Group provided comprehensive information about potential career paths and study options to become a phlebotomist, emphasising the merits of on-the-job training. Notably, the session highlighted the pathway for Year 13 students to enter Awanui Group directly without the need for a tertiary qualification. Overall, the workshop exemplified how Awanui Group caters to the interests of those intrigued by these fields and proved to be a valuable learning experience for rangatahi.

Rangatahi Feedback Snapshot

"It was a hands on project which I enjoyed learning and testing getting an experience on what phlebotomist do."

Tamaki College rangatahi

"Awanui laboratory, I loved the opportunity it has for my year level 13 a lot of advice a lot of positive feedback and energy."

Sir Edmund Hillary Collegiate rangatahi

"Phlebotomy - I liked this workshop, found it interesting to know that Awanui are the biggest lab tests place in New Zealand. My highlight was practicing drawing blood from the fake veins, I found it interesting to practice. I also learnt that it's a great option to go into right after school because they provide the training/courses."

Tuakau College rangatahi

PŪTAHI MANAWA | S9(2)(a) and Pūtahi Manawa colleagues

For these sessions rangatahi discovered the significance of heart health, and actively participated in identifying various metrics used to assess a healthy heart. Their enthusiastic involvement was evident as they engaged in an echo scans where they were able to see a picture of a live heart and understand more around how the heart functions. Rangatahi also engaged in physical activities aimed at raising their heart rates, allowing them to experiment with heart rate measurement equipment and listen to their own heartbeats. Alongside these activities, rangatahi delved into a captivating case study centred around a boy with an irregular heartbeat, and learned about the diverse array of equipment required to measure and diagnose heart conditions, gaining valuable insights into this field of study.

Rangatahi Feedback Snapshot

"I enjoyed the heart health workshop and learning about different health related fields I can go into using science."
Whanganui Girls' High School rangatahi

"It was cool looking at my blood pressure and seeing the bro's heart. It was pretty scary but it was all good. It helped me learn more about the heart."
Ruapehu College rangatahi

"Learned about the heart. Was very interesting and my favourite. We ran around and did star jumps to bring our heart rate up. We also looked at people's hearts."
Cashmere High School rangatahi

MAU RĀKAU | Matua S9(2)(a)

Matua S9(2)(a) led a māu rakau workshops for rangatahi within Pūhoro, fostering an enriching experience. The session commenced with an exploration of the profound meaning and historical significance of māu rakau, providing tauira with a contextual understanding. The practical component of the workshop involved hands-on engagement with rākau, guiding tauira through a series of positions that enhanced their physical (tinana) spiritual (wairua) and mental agility (hinengaro). This interactive session was dynamic and engaging, creating an enriching experience for rangatahi and connected to themes of physical health and well-being, co-ordination and mātauranga.

Rangatahi Feedback Snapshot

"Mau rākau was pretty fun the first time I did that so I found it really fun."
Rosehill College rangatahi

"We did mau rākau first. It was my first time ever doing mau rākau and I learnt a lot to take away."
Alfriston College rangatahi

"Mau rākau. I enjoyed this one as it was physical and was really fun. I enjoyed the communication and team building."
Freyberg High School rangatahi

Medtech Limited provided a detailed exploration into the world of medical software, revealing its crucial role in modern New Zealand healthcare. Rangatahi delved into the diverse STEM careers that use the Medtech software, gaining insights into various job roles in the healthcare ecosystem. The session not only educated participants about health software used by doctors but also allowed them to experience hands-on learning, where they got to use the Medtech application for simulated diagnostics. The workshop illuminated the intricate workings of New Zealand's healthcare systems and left an impression on rangatahi interested in the Health and Technology sector. Rangatahi, could create real-life scenarios and find ways to address the issues through the usage of the hands-on tech.

Rangatahi Feedback Snapshot

"Medtech workshop was very interesting. I liked learning about the system and potential career options in the field
Rotorua Girls' High School rangatahi

"The first thing we did was with MedTech. liked how we could make our own patients, and give them their own diseases. I also liked how we could see a side of healthcare that isn't about nursing or being a doctor."
Western Heights High School rangatahi

"We learned about Medtech and tried out their software. It was really interesting to hear about, and making our patient in the system was really fun."
Napier Girls' High School rangatahi

FOOD SCIENCE | S9(2)(a) and colleagues

The sensory & consumer science sessions by Plant and Food Research explored the vibrant world of food chemistry. Rangatahi explored aroma profiling, honing their senses by discerning the scents of various fruits and vegetables. Christina and the team also discussed fruit breeding targets in New Zealand, and rangatahi were challenged to design and pitch a new food product. Amidst the interactive learning, fun tasting exercises with honey water and an array of fruits and vegetables added a delightful touch to an interactive and enjoyable session. This workshop not only provided a taste of the diverse aspects of food science but also nurtured the potential for rangatahi to contribute to the innovative landscape of Food Science in Aotearoa.

Rangatahi Feedback Snapshot

"I enjoyed eating the jelly beans, and also learning that the look of food can change your perspective on how it tastes."
Auckland Girls' Grammar School rangatahi

"The last activity was a sensory science and we ate, smelt, and felt things this was my favourite one because it was the most interactive."
Alfriston College rangatahi

"Tasting the different foods and distinguishing how the looks of food influence how we judge foods."
Edgewater College rangatahi

Rangatahi delved into the intricacies of the moon phases, gaining insights into its significance from both Māori and contemporary perspectives. The session included a comprehensive exploration of different moon phases, emphasising their unique meanings to Māori. Rangatahi were guided through the maramataka, discovering how each phase holds distinct cultural importance. The workshop not only shed light on understanding the moon from a Te Ao Māori perspective, but also fostered a connection between these cultural teachings and the scientific knowledge of the moon's impact on seasons and cycles. The engagement in contrasting these viewpoints enriched rangatahi understanding, exemplifying the value of integrating Mātauranga and Science to empower our future leaders of STEM.

Rangatahi Feedback Snapshot

"I learned about the moon and time. It was interesting as. We learned the history of everything to do with that sort of stuff."

Palmerston North Boys' High School rangatahi

"I enjoyed learning new things. I only knew bits and pieces of the maramataka and got to get into it in more depth."

Auckland Girls' Grammar School rangatahi

"We learnt about the moon and the cycles. I enjoyed it because I learnt about the best time to go fishing."

Rosehill College rangatahi

REGIONAL WĀNANGA PHOTO HIGHLIGHTS

Te Tai Tokerau Wānanga

S9(2)(a)

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Auckland Central Wānanga

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South Auckland Wānanga

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Waikato Wānanga

S9(2)(a)



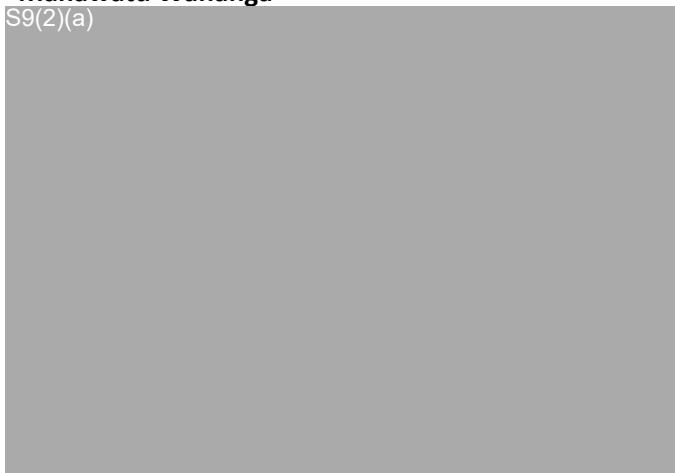
Rotorua Wānanga

S9(2)(a)



Manawatū Wānanga

S9(2)(a)



S9(2)(a)



Horowhenua Wānanga

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Whanganui Wānanga

S9(2)(a)



Ōtautahi Wānanga

S9(2)(a)



PŪHORO RANGATAHI CASE STUDIES

To highlight some individual impacts our work is having on rangatahi. The following case studies provide both a personal and educational insight into the journeys of two of our rangatahi, showcasing the influence of our kaupapa on their academic and professional development. Through the lens of their experiences, we can see the tangible outcomes of our efforts to uplift and grow the Māori health workforce, demonstrating the importance of kaupapa in achieving our shared goals.

The first case study focuses on S9(2)(a), a med-school student who began her journey with Pūhoro in 2017 as a S9(2)(a). Since then, S9(2)(a) has developed into a STEMM-competent, intelligent young Māori wahine and is now in her fourth year of a Bachelor of Medicine at the University of Auckland. S9(2)(a) shares her experiences with Pūhoro, detailing how the programme shaped her perspective on STEMM and helped her form a strong connection to her whakapapa. Her participation in multiple Pūhoro internships over the years has deepened her knowledge in Hauora Māori and opened doors for future employment and leadership roles.

The second case study focuses on Pūhoro rangatahi S9(2)(a), who joined Pūhoro in 2021 as a student from S9(2)(a). With the support of Hawke's Bay Kaihautū S9(2)(a), S9(2)(a) went on to study a Bachelor of Nursing at the Eastern Institute of Technology and is now in her final year of her undergraduate degree. S9(2)(a) was fortunate to be offered a Pūhoro internship for the 2023-2024 summer period, and has provided some critical feedback on her internship experience as part of her case study. Panitahi highlights the importance of being unapologetically Māori, the significance of whānau and hapū in care planning, and the necessity of understanding the unique roles of iwi and hapū in achieving quality health outcomes for their people.

The stories of S9(2)(a) highlight the transformative power of the *Health Career Pathway*, which fosters academic achievement in health-related subjects, strengthens cultural connection, and develops professional growth. As we continue our partnership together, we remain committed to uplifting and growing the Māori health workforce, ensuring a future where rangatahi can thrive and make substantial contributions to their whānau, hapū and iwi.

PŪHORO CASE STUDY 1: ASPIRING DOCTOR S9(2)(a)

S9(2)(a)



Above: Pūhoro rangatahi S9(2)(a), posing in her scrubs as a fourth year student in the Bachelor of Medicine programme at the University of Auckland.

Ko Ruahine te pae maunga

Ruahine is my mountain

Ko Ōroua te awa

Ōroua is my river

Ko Tainui te waka

Tainui is my waka

Ko Ngāti Kauwhata te iwi

Ngāti Kauwhata is my tribe

Ko Kauwhata te marae

Kauwhata is my marae

Nō Kawakawa ahau

I am from Feilding

Ko S9(2)(a) tōku ingoa

My name is S9(2)(a)

“I aim to become the kind of doctor that my whānau have always needed but never had.”

I grew up in a small town called Feilding in the Manawatū.

Although I grew up as an only child, I was fortunate to be surrounded by numerous cousins, aunts, and uncles. This not only instilled a strong sense of family values from a very young age but also nurtured my inclination to care for people. Since I was young, I've always had a mindset of giving everything a try. I think all these factors have contributed to my upbringing today.

In 2017, I was incredibly fortunate to embark on my journey with Pūhoro when I was year 11 at Feilding High School. At the beginning, I didn't excel academically, and I wasn't particularly passionate about anything, except for sports and science. With Pūhoro, I gained access to valuable resources; I received extra support for my science and math coursework through fortnightly tutorials and workshops at termly wānanga. Pūhoro also organised offsite tutorials for NCEA papers. Initially, I was hesitant to attend these tutorials, however our Kaihautū went above and beyond to break down these barriers. They graciously provided transportation, picking us up and dropping us off every week for these tutorials.

I am eternally grateful to the Kaihautū for investing their time in us tauira. Thanks to their dedication, I began to excel in my classes and developed a commitment to my academics in the NCEA Level 1-3 journey. Pūhoro offered unwavering support, without which I doubt I would have made it through high school. It wasn't just about academics; I also forged lifelong friendships through the wānanga experiences I attended.

The most significant gift Pūhoro has given me is the awareness that there are opportunities available for Māori tauira interested in pursuing STEMM, even though there may not be many individuals who resemble us in the STEMM field. Pūhoro played a pivotal role in helping me discover my purpose, which was to become a doctor.

As a university student I've had the privilege of participating in three Pūhoro internships thus far, all centred around my passion for Hauora Māori. These internships have not only allowed me to deepen my knowledge in Hauora Māori, but have also offered me a chance to explore specific specialties, helping me make informed decisions about potential career paths.

In relation to employment, I have been invited to return to some organisations to continue the work I did during my internships. I've also had the chance to contribute to the programme by taking on roles like Tutor Lead for the Pūhoro teina in the Tāmaki Makaurau region in 2022. These opportunities have not only provided me with financial support, but have also allowed me to acquire additional skills and establish connections with numerous individuals.

Pūhoro has also provided me with a profound connection to my culture. When I began my journey with Pūhoro, I didn't have a strong background in Te Ao Māori. I knew I was Māori, but I often felt like I didn't meet some undefined standard of being 'Māori enough'. My cultural exploration truly began when I had the privilege of participating in the Āmua Ao Houston trip. During a pivotal moment on that trip, we gathered in a circle, and many of us shared how we had struggled with not feeling Māori enough. Matua ^{S9(2)(a)} played a crucial role for me during this trip, as he made us all feel accepted and validated in our Māori identity. He emphasised that if we had whakapapa, we were Māori, and that perspective profoundly shifted my mindset, inspiring me to delve deeper into my cultural heritage.

Looking ahead, I look forward to a future where I find daily fulfilment in my work and have the opportunity to support, advocate for, and inspire as many taura, whānau and Māori as possible. My aspiration is to collaborate with, and serve my community, continuously acquiring new skills along the way.

“My family have a poor record with health - they haven't had the best experiences. So being able to do some research and possibly find out that this new plant might have a good outcome in our whānau is what drew me to it (this internship).”

– 2023 Pūhoro Summer Internship Launch - *Makayla's interview with Te Karere:*
<https://www.youtube.com/watch?v=WxC7M2wDvYc>

PŪHORO INTERNSHIP POSTER: $S_9(2)(a)$

$S_9(2)(a)$



PŪHORO CASE STUDY 2: HEALTH INTERN S9(2)(a)

S9(2)(a)



Above: Pūhoro intern and aspiring Nurse S9(2)(a), standing proudly next to her research poster at the Pūhoro Summer Internship Pō Whakanui 2024.

IWI: Ngāi Tūhoe, Ngāti Kahungunu, Ngāti Manawa, Ngāti Whare, Tuhourangi

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

HOST: Pūtahi Manawa

Kaupapa Māori methods in heart health research.

Heart disease continues to be a leading cause of death and disability in Aotearoa and is a major contributor to the difference in life expectancy across the country. Pūtahi Manawa - Healthy Hearts for Aotearoa New Zealand (HHANZ) is one of the newest Centres of Research Excellence (CoRE) hosted by Manaaki Manawa, Waipapa Taumata Rau, University of Auckland. Pūtahi Manawa is a national collaborative network of researchers, community members, and educators passionate about achieving equity in heart health outcomes for Māori and Pacific Peoples.

What were your primary daily tasks and responsibilities during your summership?

Wānanga, making connections with other interns, reading through articles supporting research project, academic review & protocol planning.

What are the three most valuable things you learnt or experienced during your internship? Please explain why you found each thing valuable.

Be as unapologetically Māori in every way! My tūpuna will have my back and the well being of my people are my reason why.

Did your summership project relate to Te Ao Māori?

Ae. Wānanga on Marae, whakawhanaungatanga and supporting Māori whānau

Could anything you learnt be used to benefit your whānau, hapū or iwi? If so, how?

Each iwi/ hapū is unique to their own role/area. Knowing this is important for care planning and the people being the guides as they are the ones who know what's best for their people.

What did your host organisation do to assist your transition into your summership?

Weekly zoom meetings, always helpful if needed extra support just had to reach out

Would you recommend Pūhoro summerships to other rangatahi? Why or why not?

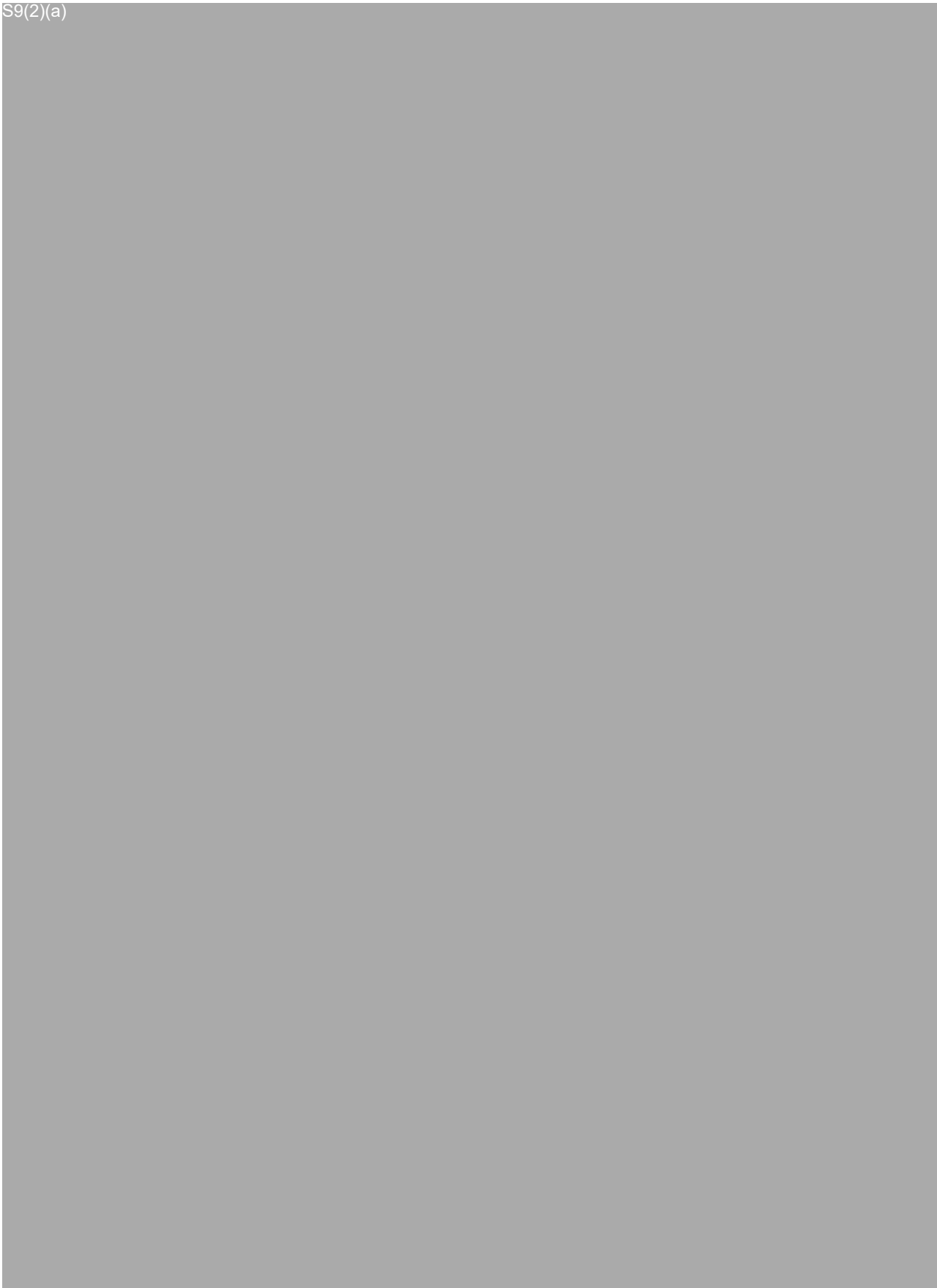
Absolutely!!!! It's just an awesome kaupapa and you get to meet with new people and learn so much. Gives you an extra motivation to your career path and reminded me of why I came into the Hauora space in the first place, for our people!

Do you see yourself pursuing a career in the field/subject you worked in during your summership? Why or why not?

Yes, it was my first time being exposed to a research project and doing literature reviews. I would love to pursue this area in the future as I saw first hand the benefits and importance of this for Te Ao Māori and Hauora in general. Ngā mihi for the awesome summer internship Puhoro whānau. Loved every moment! super grateful for the opportunity.

PŪHORO INTERNSHIP POSTER: $S_9(2)(a)$

$S_9(2)(a)$



CONCLUSION

Pūhoro has been able to exceed its delivery in the key objectives set as part of the agreement in Year One. We have been able to extend the line of sight for rangatahi in the programme, system-enable them to ensure they are on the correct academic path in the pursuit of health careers, and provide palpable opportunities to them within the Health Careers and Health Sciences area to ensure they are aware of the diversity and opportunity that is available throughout the Health Sector. Pūhoro have continued to act as a cultural anchor for rangatahi ensuring that their own identity as Māori is supported and uplifted throughout engagement in the different phases of the Pūhoro kaupapa as they pursue a health pathway. As we enter from July 2024, Year Two of delivery having successfully transitioned to an agreement with Health NZ – Te Whatu Ora, we look forward to the work and delivery of key objectives that are ahead as we continue to build the pipeline of rangatahi Māori in Health. Pūhoro ki te hoe!



HEALTH NEW ZEALAND - TE WHATU ORA

Pūhoro STEMM Academy

Year Two: Quarterly Report 1

01 July 2024 – 30 September 2024





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FOREWORD OF THE MANAHAUTŪ



Kemp Reweti – Manahautū: Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

As we reflect on our success' to date, Pūhoro are ecstatic at what this partnership has achieved in a short space of time. Over 2000 rangatahi have already engaged in our bespoke Health Career Pathway, and with excitement, we now enter our first quarter for Year Two as a Hauora Māori partner, to further build on the significant work completed in Year One.

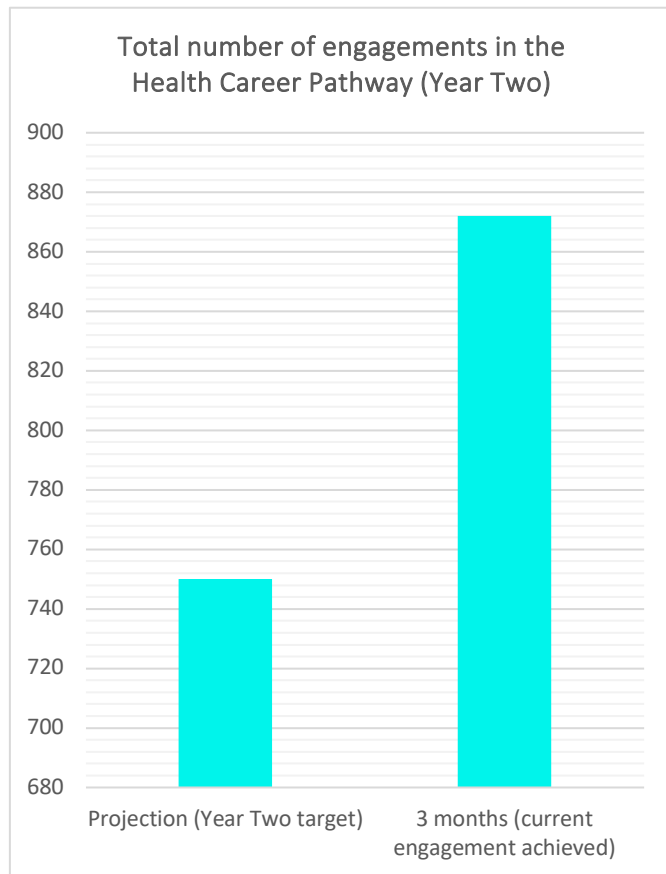
A key highlight of this quarter, was our suite of Termly Wānanga. Of particular note, was the Term 3 Pūhoro Wānanga held in Te Tai Tokerau, which focused entirely on delivering health workshops for rangatahi in the North. Due to the geographic isolation of Te Tai Tokerau, particularly in rural areas, rangatahi often have limited access to opportunities that can inspire and prepare them for future careers. Thus, the Wānanga provided these rangatahi with critical exposure to health career pathways, equipping them with the knowledge and experience needed to consider and pursue a future in the health sector for the betterment of their whānau and community.

With the Pūhoro Year 13 graduations and the Pūhoro Summer Internship programme on the horizon, I'm really looking forward to what Year Two brings for us as we move closer towards the end of 2024. Please accept this quarterly report as a tohu of our appreciation for our incredible partnership, one in which gives these amazing opportunities for rangatahi looking to pursue health-related career pathways.

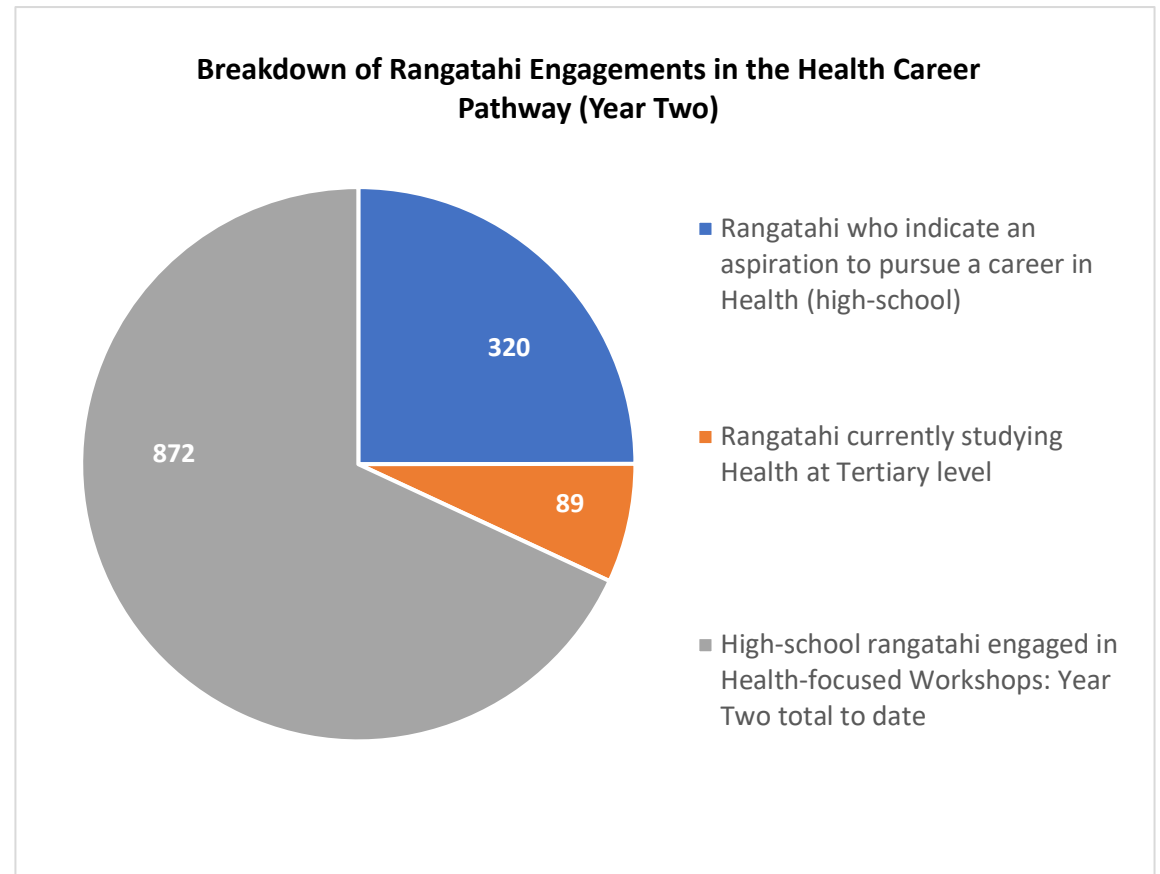
He Waka Eke Noa!

PŪHORO DASH SUMMARY

A 'dashboard' summary of key project information such as: rangatahi participation, engagement & progression rates throughout the Health Career Pathway.



Above: A comparison of the project target for Year Two, against our progressive statistics from 01 July to 30 September 2024.



Above: A further breakdown of the total number of rangatahi engagements throughout the Health Career Pathway for Year Two.

PŪHORO SUMMARY (YEAR TWO, QUARTER 1)

The 'Pūhoro Summary' provides a quick snapshot of progress completed over Year Two to date (Q1 – July – September) and is further expanded below:

- The projected target for Year Two is to engage a total of 750 rangatahi in the Health Career Pathway. For Quarter one, Pūhoro have successfully engaged a total of **eight-hundred and seventy-two (872) rangatahi**. These engagements are a result of our Health-focused workshops, which were delivered throughout our Term 3 Wānanga series that occurred across the country from 19 August – 27 September 2024.
- A total of **three-hundred and twenty (320) rangatahi** from the Pūhoro high-school phase have indicated an aspiration to pursue a career in health. As per our previous report, this number has rolled over to Year Two. It is anticipated that this number will change as we welcome a new cohort of Year 11 rangatahi across the country in 2025.
- **Eighty-nine (89) rangatahi** continue to pursue health-related studies within the Pūhoro tertiary phase. As above, this number will change as Year 13 rangatahi across the country prepare to transition to tertiary studies in 2025.
- Pūhoro have partnered with He Oranga Hauora to provide **four \$10,000 scholarships** to Pūhoro rangatahi from the tertiary phase of our kaupapa, with the hope of advancing Māori leadership in the data science and health sector. More information can be found on page 25 of this report.
- For the next quarterly report, it is anticipated that there will be at least **20 internships focused on the health sector**, through the Pūhoro Internship programme that begins on 20 November 2024.

PŪHORO HEALTH WORKSHOP DELIVERY

Pūhoro have been fortunate to start Year Two of our partnership successfully, through the delivery of *Hauora-focused workshops* during our Pūhoro Wānanga series for Term 3. The workshops allow rangatahi from the high school phase of our programme to be exposed to the vast spectrum of opportunities that exist within the Health sector, extending their line of sight early on in the piece so that they are able to confidently make plans to progress towards a career in health.

For Year Two, Pūhoro have successfully delivered **sixty-nine (69) health-focused workshops to 872 rangatahi across the ten (10) Pūhoro regions**. This section provides a concise overview of each health workshop conducted during our Wānanga series, along with critical feedback from rangatahi and photo highlights across all regions delivered to. Rangatahi feedback is essential for understanding their experiences and perspectives in the pathway and thus, Pūhoro have provided for Te Whatu Ora, a concise thematic analysis based on qualitative data, which highlights the impact these workshops have had on each of our rangatahi who engaged in the workshops.

Hauora-focused Workshops

	Name	Year(s)	No. delivered
1.	Medicine & Surgery	11	7
		12/13	2
2.	Healthy Hearts – Cardiovascular Health	11	12
3.	Medtech – Health Diagnostic Technologies	12/13	4
4.	Food Science - Nutrition	11	3
		12	4
5.	Food Science & Health – Sport & Exercise Science	11	2
		12	3
6.	What is a Māori? – Tūākiri / Identity & Mātauranga	11	22
7.	Oriori – Māori Hauora Practices & Mātauranga Dissemination	12	7
8.	Mau Rākau – Traditional Exercise Modality	12	1
		13	2
Total			69

HEALTH-FOCUSED WORKSHOPS

MEDICINE & SURGERY | *Royal Australasian College of Surgeons (RACS)*

RACS facilitated a workshop focused on surgery namely orthopaedic surgery, pathway progression, and the daily life of a doctor. Rangatahi engaged in practical activities such as repairing fake radius bones, plating and cutting bones, drilling pelvic bones, and using cameras for simulated surgeries on plastic lungs. The latter activity challenged rangatahi to remove particles (m&m's) lodged within the organ. These practical experiences were engaging for rangatahi, and provided insight into the work of surgeons. The practical workshops, and commentary by surgeons on their experiences also provided valuable insights into the various medical fields, and inspired rangatahi to consider medicine as a potential career pathway.

Rangatahi Feedback Snapshot

"We drilled some bones, and operated on some lungs. It was mean. My favourite one was the lungs."

Kamo High school rangatahi

"We explored the logistics of operating on a lung, orthopaedics and a fiddly exercise with a pair of pincers. Overall, a super eye-opening experience to the details of such jobs."

Whanganui Girls' High School rangatahi

"This session was demonstrating different parts of surgery and we got to ask questions. I enjoyed this because health is a field I am interested in so it was good to learn about some pathways I could pursue in the future."

Palmerston North Boys' High School rangatahi

HEALTHY HEARTS | *Pūtahi Manawa*

For this session rangatahi learned about the significance of heart health, and looked at identifying the anatomy and function of a healthy heart. As a second activity rangatahi were shown an echo scan where they were able to see a picture of a live heart. Rangatahi also engaged in a physical activity to assess grip strength, and were able to analyse data from a computer screen to compare their data against their peers. A highlight for many was the massage gun, which was used to cause involuntary movement; rangatahi enjoyed the challenge of trying to touch their nose with their eyes closed, as the gun tapped against specific tendons. Alongside these activities, rangatahi delved into a case study centred around a boy with an irregular heartbeat, and learned about the array of equipment required to measure and diagnose heart conditions. Although the session had several activities, rangatahi felt engaged the entire session, making for one of the most enjoyable sessions to date.

Rangatahi Feedback Snapshot

"I had heaps of fun! The leaders were really inclusive and good at talking to the students and getting them engaged. My highlight was learning about the nerves and using the massage gun."

Rosehill College rangatahi

"The stethoscope was probably my favourite out of this workshop, as I couldn't find my heartbeat. It was overall a very enjoyable experience."

Burnside High School rangatahi

"We learnt about the heart, like the atria and the ventricles. My highlight of the workshop was the staff and their humour, I enjoyed my time and it was fun. I learned a lot from you in this workshop and enjoyed the energy and jokes in this room."

Whangārei Girls' High School rangatahi

MEDTECH | Medtech Limited

Medtech Limited provided a detailed exploration into the world of medical software, revealing its crucial role in modern New Zealand healthcare. Rangatahi delved into the diverse STEM careers that use the Medtech software, gaining insights into various job roles in the healthcare ecosystem. The session not only educated rangatahi about health software used by doctors but also allowed them to experience hands-on learning, where they got to use the Medtech app for simulated diagnostics. Rangatahi report enjoyment in being able to view parts of the anatomy in 3D, enabling them to have a clear picture in their mind where each component within an organ is located. The workshop illuminated the technology utilised to store data for New Zealand's healthcare system, and left an impression on rangatahi interested in the Health and Technology sector.

Rangatahi Feedback Snapshot

"We did Medtech, and it was pretty cool looking at the human body and designing a person."

Ōtaki College rangatahi

"Medtech was really interesting I liked learning about what doctors have to do administration wise, and that was really cool."

Palmerston North Girls' High School rangatahi

"Medtech, I enjoyed the body map activity and like the fact that we had prizes for questions and I really enjoyed breaking down our anatomy."

Feilding High School rangatahi

FOOD SCIENCE (NUTRITION) | Fonterra

Fonterra offered rangatahi an interactive experience in food science with three activities. For the first activity, rangatahi explored career opportunities within Fonterra through a career quiz, gaining insights into the diverse roles beyond dairy production. Rangatahi enjoyed sensory food tasting for the second activity, sampling different types of milk and vanilla yogurt while learning about Fonterra's product quality control processes. The highlight for many however was the virtual reality (VR) experience, which provided an immersive look into Fonterra's technological innovations. Overall this

STEMM workshop was both engaging and informative, showcasing both the technical and practical aspects of the company.

Rangatahi Feedback Snapshot

"We looked at microorganism and prebiotic it's was fun to taste the yoghurts Hearing about jobs that I didn't know about before was cool."

Awatapu College rangatahi

"I liked the VR googles and want to explore more. The communication was great and there was plenty of kai for the entire whanau!"

Edgewater College rangatahi

"Fonterra was a comfortable space to learn, I got to know some more interesting things about the programme that I originally didn't even come to think about, and got to experience some virtual reality. I also learned about careers that I am now interested in. And I got to try some milk."

Waiuku College rangatahi

FOOD SCIENCE & HEALTH | *Plant & Food Research*

This session started with a presentation on Plant & Food Research, its role in Aotearoa's science sector, and the various STEMM career opportunities available. Following this, rangatahi engaged in four interactive workshops. The first involved a sensory exercise, where they taste-tested different juices to determine which were the sweetest or sourest, learning that sweetness doesn't always indicate high sugar content. This was proven through a machine that was used to measure the actual sugar content of each juice. During the second workshop, rangatahi learned to measure blood pressure, gaining insight into the equipment and interpreting blood pressure results. Next, rangatahi competed in pairs on a bike erg, measuring output during a 20-second sprint. The final workshop explored genetics, focusing on gene editing to enhance specific species. These hands-on activities gave rangatahi valuable insights into scientific concepts and their real-world applications, covering aspects of food science, genetics and health.

Rangatahi Feedback Snapshot

"We taste tested juice, talked about mutation, and cycled. I enjoyed this workshop because it was very interactive."

Palmerston North Girls' High School rangatahi

"Plant and food research was fun because we got to understand how things work on a biochemical level but then we also got to understand the technology that is used to evaluate food and drinks."

Awatapu College rangatahi

"In this workshop we learnt about food science. More specifically we learnt about citrus fruits such as kiwi fruit and we learnt how to measure for their dimensions. The ratio of the fruits and the sugar levels of each fruit. We tasted the flavoured water in attempt to guess what flavour they are. My favourite part was meeting new people and drinking something."

Rotorua Boy's High School rangatahi

WHAT IS A MĀORI? | *Pūhoro STEMM Academy*

The purpose of this session was to get rangatahi to think critically about what being Māori means to them. The workshop started with a timeline of key events within the history of Aotearoa and their subsequent effect on Māori. Rangatahi then discussed their perceptions of the key elements that define what a Māori is, encompassing various aspects such as relevant kai, kapa haka and leadership, to low socio-economic status, alcohol and violence on the opposite spectrum. With the various perceptions written on the board, Pūhoro kaimahi then challenged rangatahi to filter their perceptions down to key elements that truly define what a Māori is. After a process of elimination, rangatahi came to the realisation that whakapapa is the only requirement to be Māori. This instilled a sense of upliftment and reassurance among many rangatahi, reaffirming their personal connection to their heritage, emphasising the significance of embracing their identity, and fostering a sense of pride in being Māori.

Rangatahi Feedback Snapshot

"We learnt about what makes some a Māori. It was cool to learn about and makes you feel valid."

Western Heights High School rangatahi

"This activity made me see that no matter how plastic of a Māori some people consider themselves it doesn't matter because they'll always have whakapapa."

Rolleston College rangatahi

"I loved hearing about the history of Maori, I learned stuff I didn't know before."

Botany Downs Secondary College rangatahi

ORIORI | *Pūhoro STEMM Academy*

Rangatahi had the pleasure of learning the Pūhoro oriori to expand their knowledge of Pūhoro and their waiata repertoire. Written by Pūhoro kaimahi S9(2)(a), this composition was specifically tailored to resonate with Pūhoro rangatahi, by talking about the three stages rangatahi enter as they proceed through the Pūhoro programme from secondary school (Te Urunga Tū), to tertiary (Te Urunga Pae) through to the STEMM workforce (Te Urunga Tapu). The session delved into the *pūmotomoto* (the fontanelle) and how from a traditional sense, oriori was sung to the pūmotomoto of pēpi in a seamless transfer of ancestral knowledge (*whakapapa*). Rangatahi were fully engaged and responded positively to the workshop, being able to confidently perform the oriori after learning it. Most importantly, rangatahi now have a means to better connect to their taha Māori, enhancing their tūākiri, and thus their hauora.

Rangatahi Feedback Snapshot

"We learnt how oriori work and it was fun as to learn about the history of them and how they were used as messages to pass down knowledge through generations."

Napier Boys' High School rangatahi

"It was really cool learning about the meaning of all the words in the oriori and I enjoyed gaining knowledge from it."

Te Kura Kaupapa Māori o Te Ara Hou rangatahi

"We learnt the Pūhoro waiata and learnt what it was about and the meaning behind it, I enjoyed this workshop because I love singing."

Palmerston North Boys' High School rangatahi

MAU RĀKAU | Pūhoro STEMM Academy

For this workshop, rangatahi engaged in mau rākau, a traditional Māori art that involves the use of rākau (weapons) and is rooted deeply in whakapapa, tracing back to Tūmātauenga, the atua of war. The session began with an exploration of the historical and cultural significance of mau rākau, offering rangatahi an understanding of its place in Te Ao Māori. The practical component allowed them to physically engage with the rākau, learning movements that not only developed their physical prowess (tinana) but also enhanced mental agility (hinengaro) and spiritual connection (wairua). For rangatahi Māori pursuing STEMM, this workshop underscored the importance of mātauranga and hauora, two critical elements in the pursuit of holistic wellbeing.

Rangatahi Feedback Snapshot

"We did mau rākau - it was fun to learn to how fight and do cool moves with the sticks like Māori do on marae."

Cashmere High School rangatahi

"It was my favourite. I've never done mau rākau before - it was awesome I thoroughly enjoyed it."

Burnside High School rangatahi

"Learning rākau customs from the North Island: Whanganui and Taranaki. It was very fun to learn as I am from Whanganui."

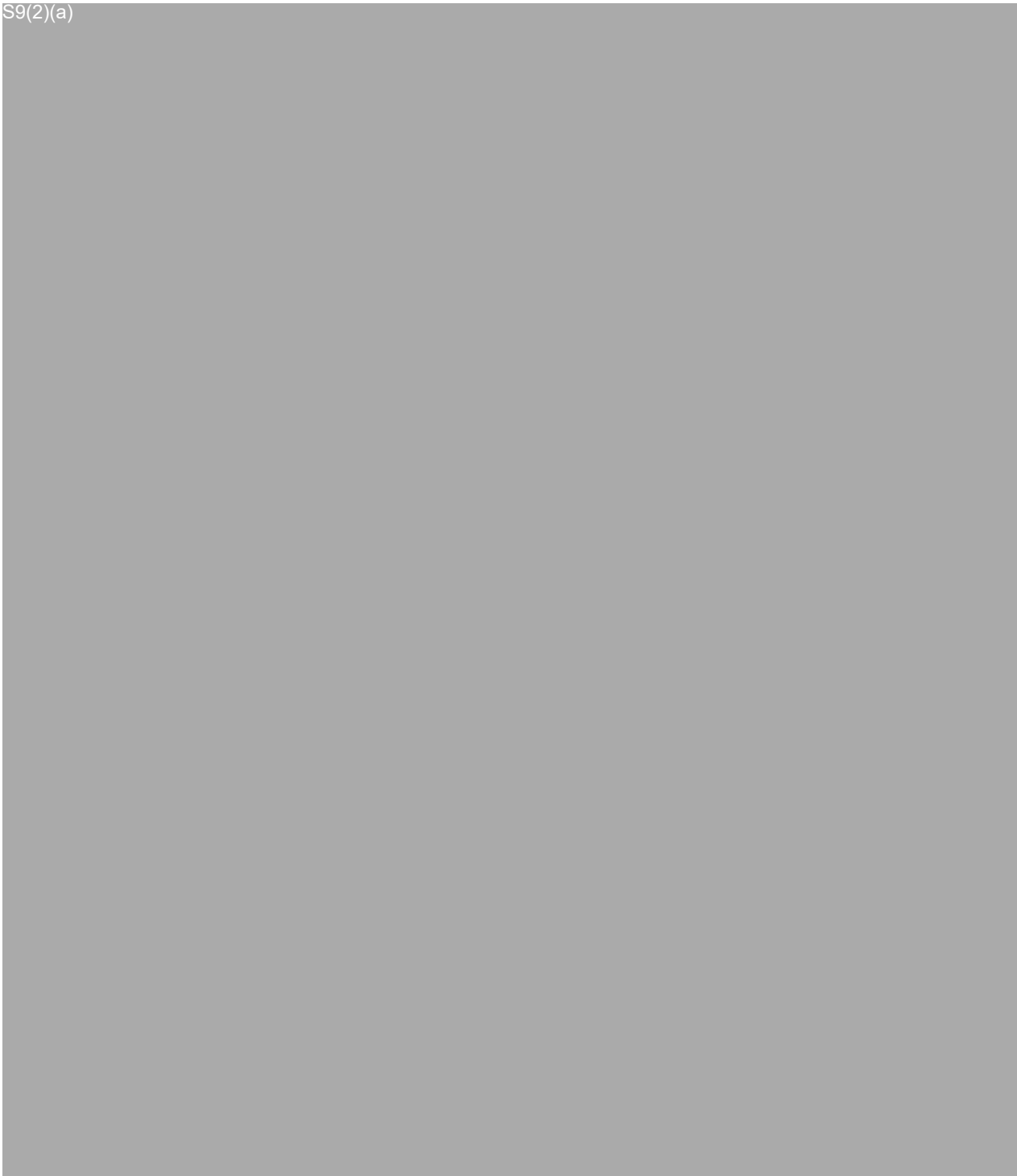
Shirley Boys' High School rangatahi

PHOTO HIGHLIGHTS

TERM 3 HOROWHENUA WĀNANGA | *Te Wānanga o Raukawa*

Monday 19 August 2024

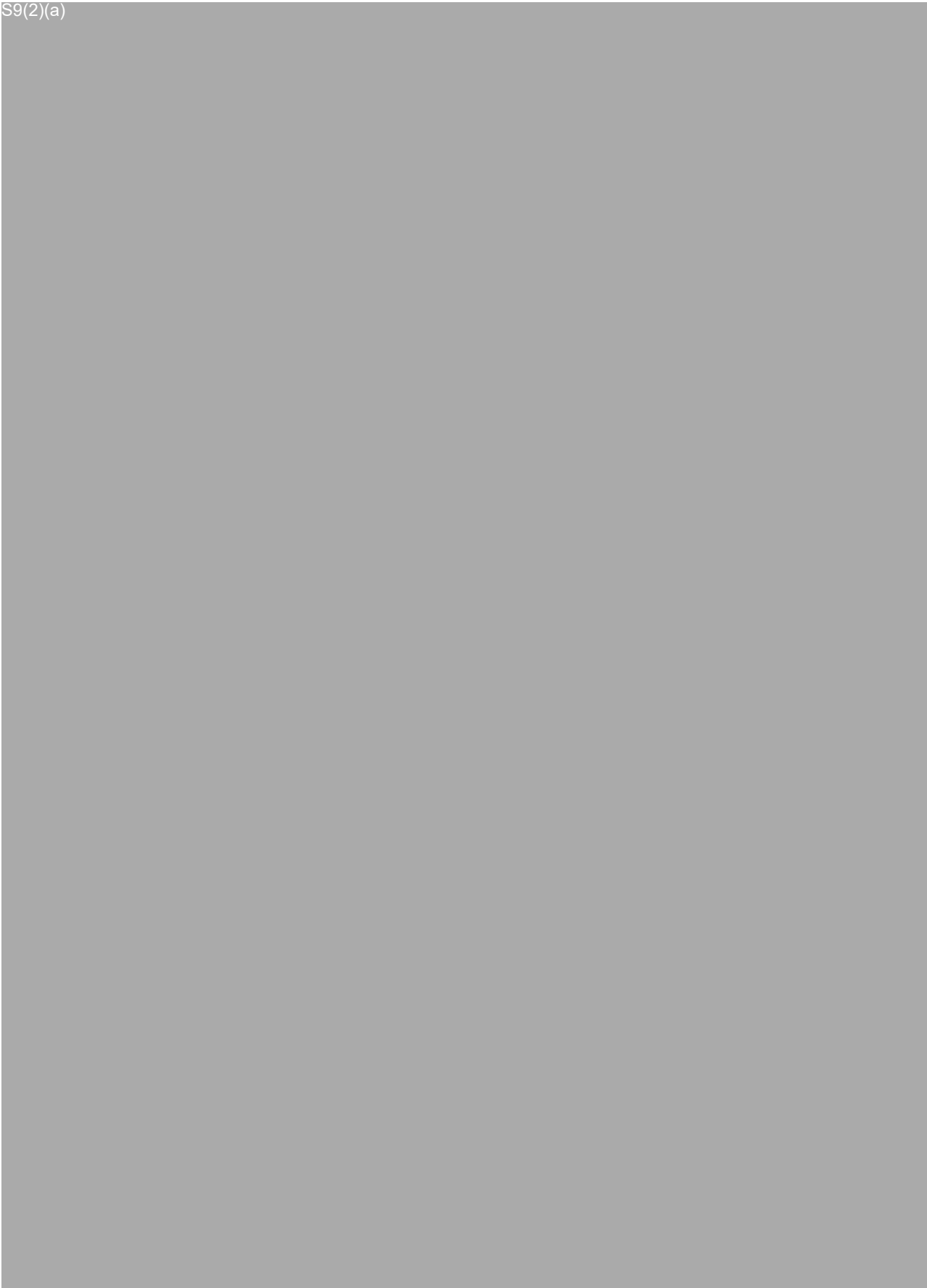
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TERM 3 TE MATAU-A-MĀUI WĀNANGA | *Hawke's Bay Racing*

Wednesday 21 August 2024

S9(2)(a)



TERM 3 WHANGANUI WĀNANGA | Whanganui Conference and Events Centre

Friday 23 August 2024

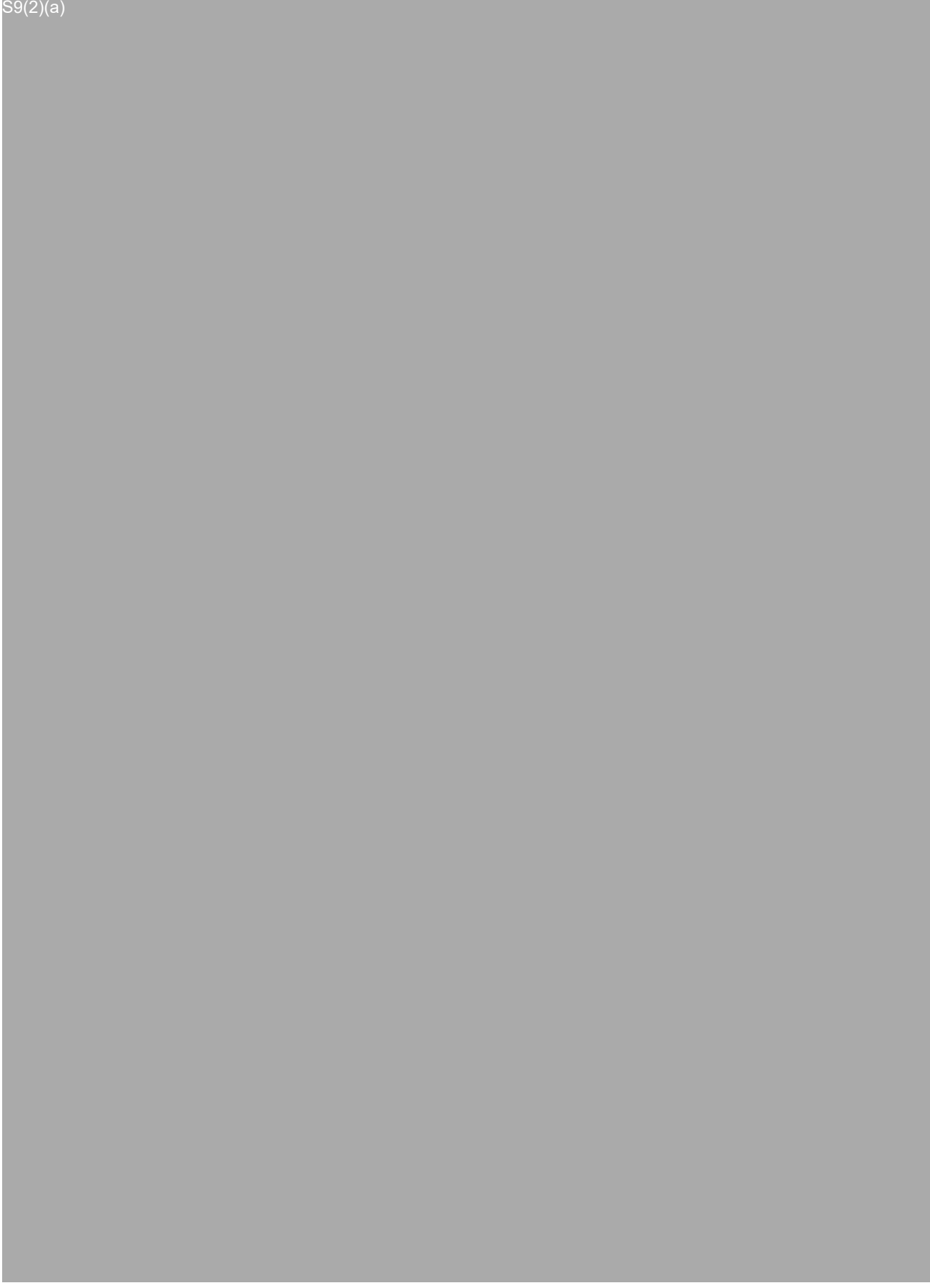
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TERM 3 MANAWATŪ WĀNANGA | *Awapuni Racecourse*

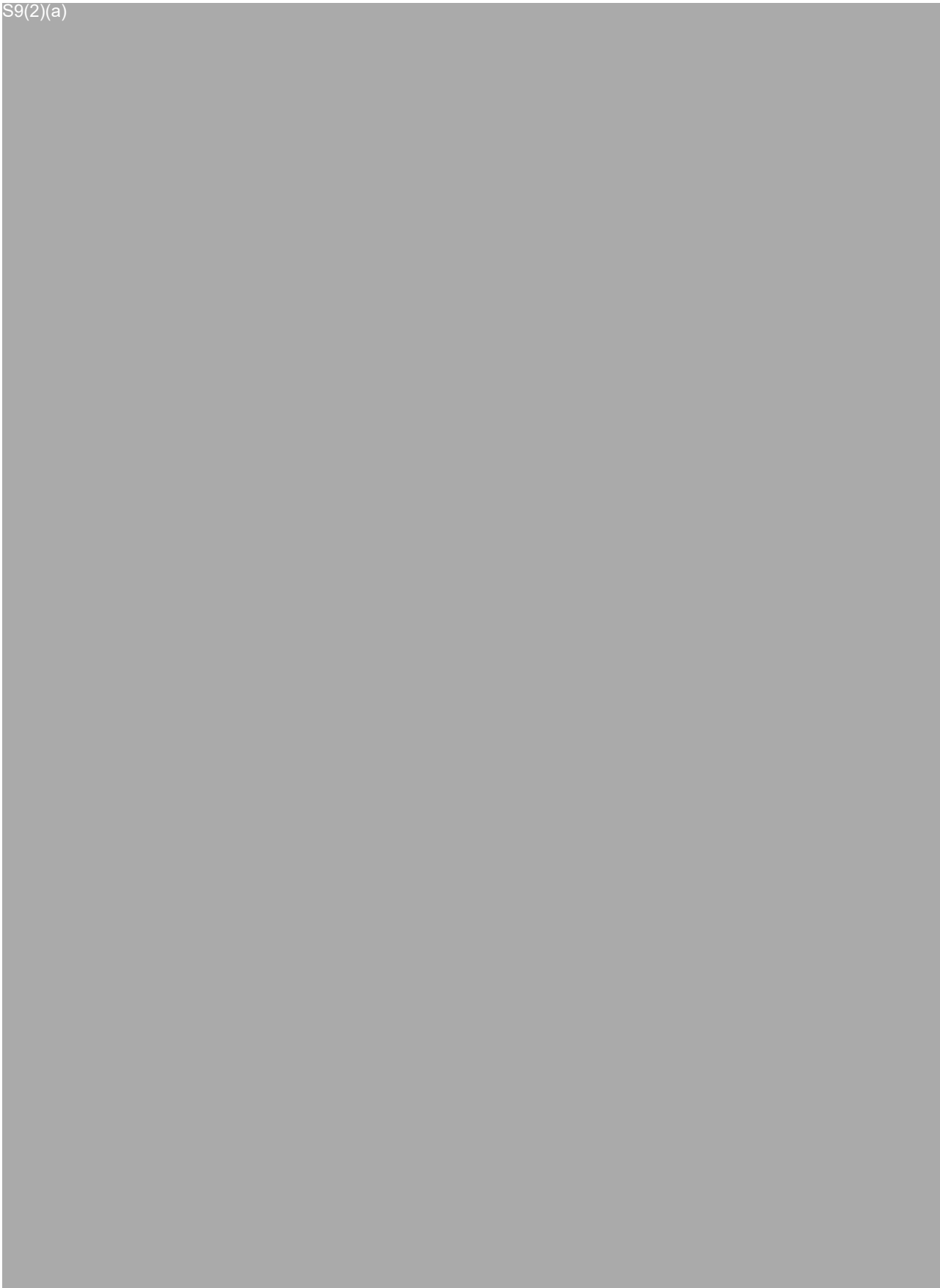
Tuesday 27 August 2024

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TERM 3 AUCKLAND WĀNANGA | AUT South Campus
Wednesday/Thursday 04-05 September 2024

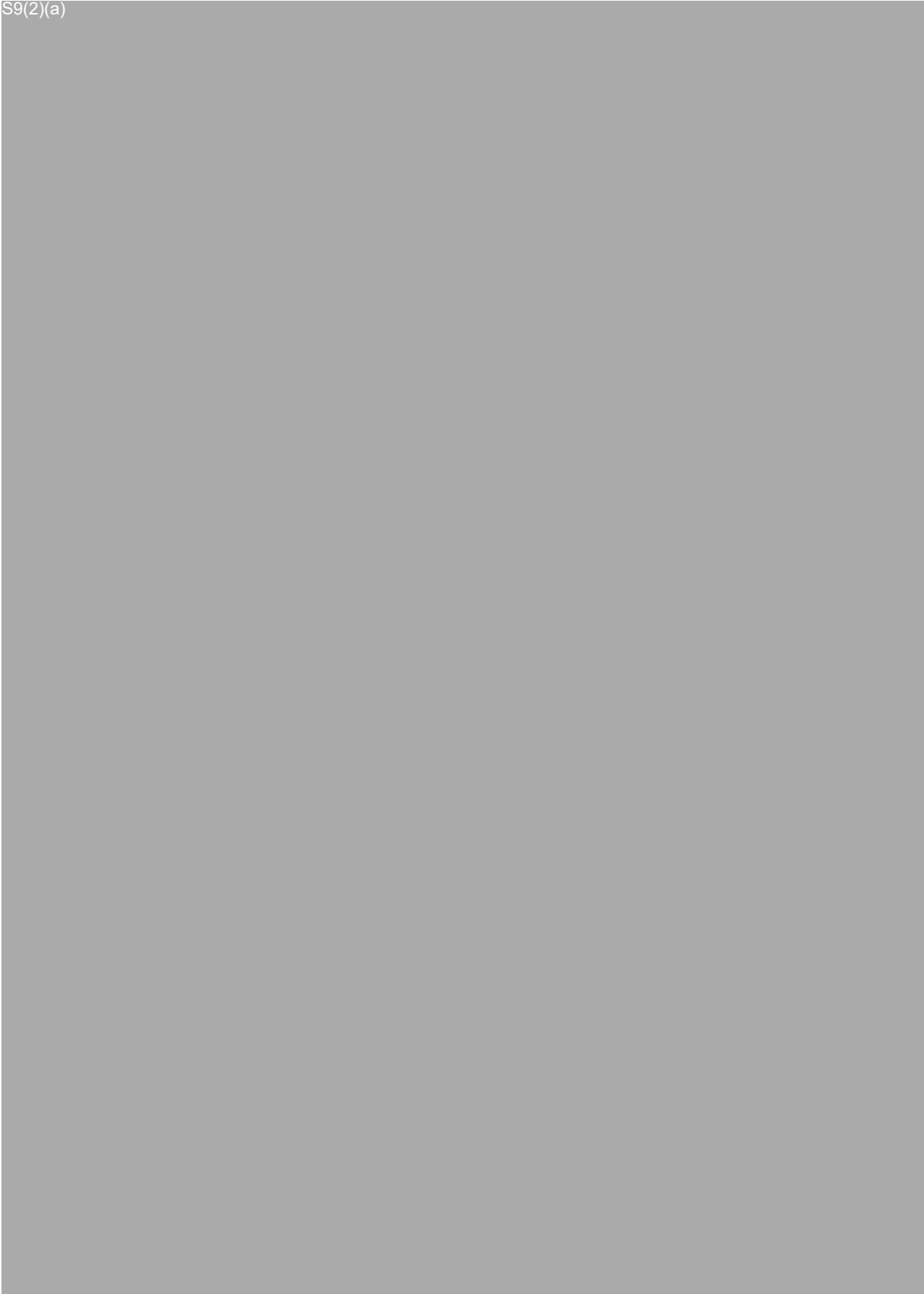
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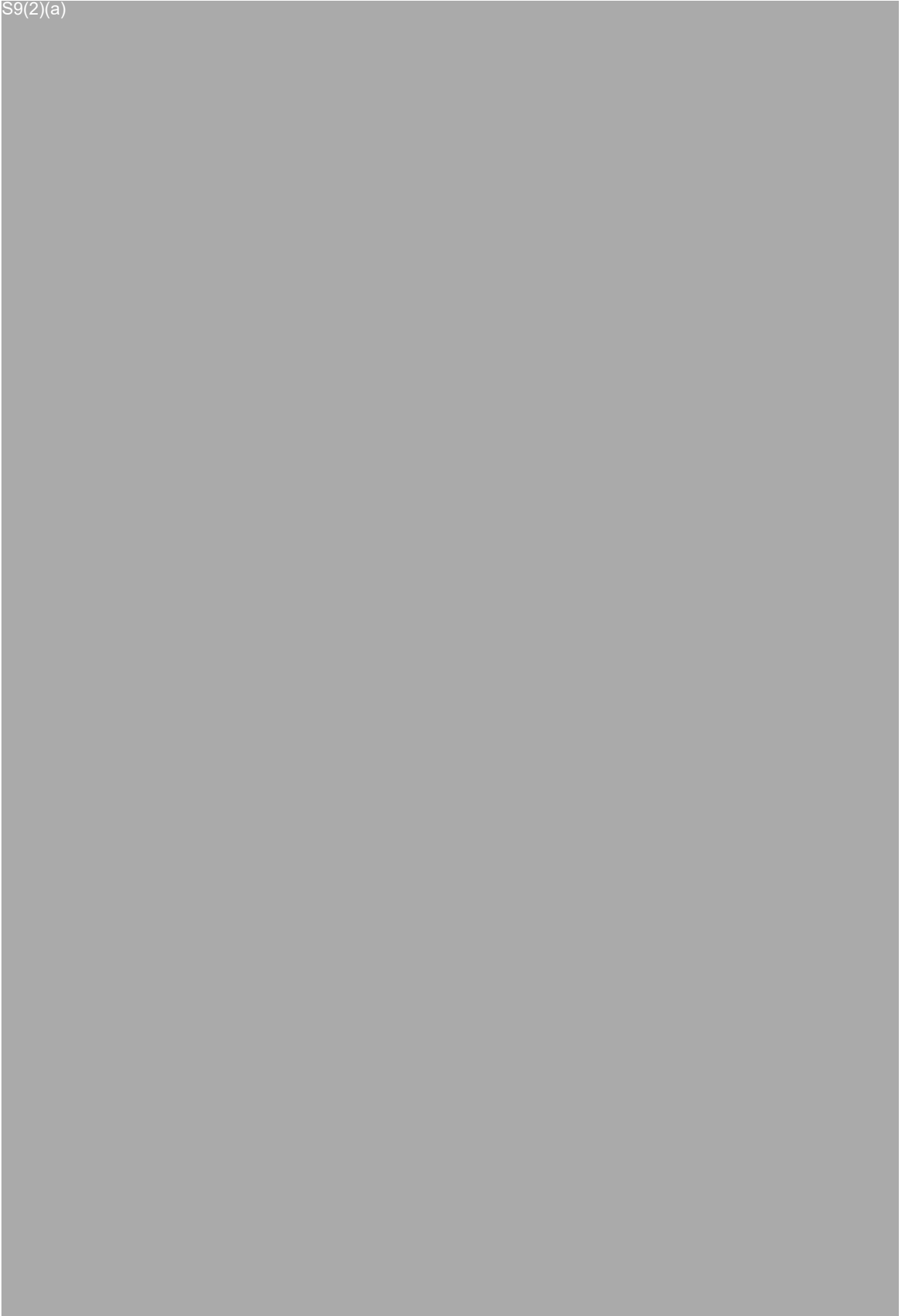
TERM 3 TE TAI TOKERAU WĀNANGA | *Semenoff Stadium*

Tuesday 24 September 2024

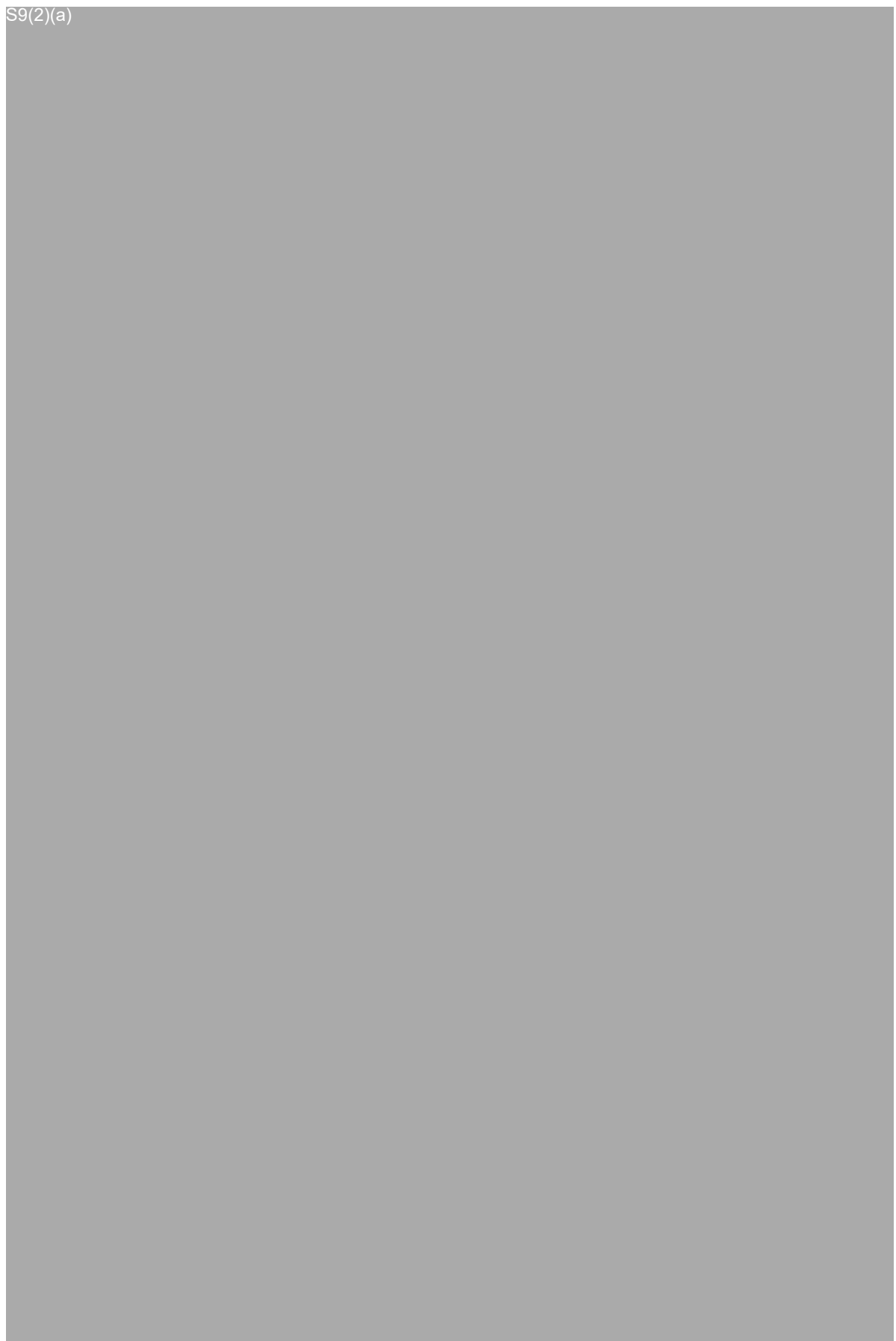
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S9(2)(a)



S9(2)(a)



TERM 3 ROTORUA WĀNANGA | *Toi Ohomai Institute of Technology*

Friday 27 September 2024

S9(2)(a)



HEALTH WORKSHOP DELIVERY: IMPACT

Following analysis of our qualitative feedback from rangatahi, the consensus is that the Term 3 Pūhoro Wānanga health workshops positively impacted rangatahi.. The following themes and learnings emerged from their workshop experiences:

EXPOSURE TO STEM INNOVATION AND CAREER PATHWAYS

KEY OBSERVATION |

Rangatahi enjoyed the *exposure* to the variety of *hauora-focused careers* that were presented to them and also enjoyed the opportunity to *create and innovate*, expressing the value of being able to learn by *doing and experiencing*.

KEY LEARNING |

Exposure to a wide variety of *hauora-focused activities and careers* allows rangatahi to be aware of the *possibilities* that exist within health, which in turn prompts them to be *curious* about, and *visualise* themselves, in *health pathways*.

MĀTAURANGA MĀORI AND TŪ-Ā-KIRI LEARNINGS

KEY OBSERVATION |

Rangatahi were quick to recognise *tū-ā-kiri* themes throughout a number of hauora workshops that reminded them of who they are and that their *identity as Māori* is to be *embraced*, celebrated and used as a *launching pad for a success*.

KEY LEARNING |

Rangatahi need regular reminders and teachings that confirm their *Māori identity* as an *inherently good* and a *valuable* part of who they are so they can remain *positively connected* with their identity and be proud to *succeed as Māori*. Having a strong connection to identity is closely linked to positive hauora outcomes for Māori.

TEAMWORK

KEY OBSERVATION |

During the hauora-focused sessions, rangatahi expressed enjoyment at ***being together*** and ***interacting*** with each other in teams. This allowed them to explore outside of their ***comfort zones*** and experience the ***whanaungatanga*** element of Pūhoro.

KEY LEARNING |

Rangatahi benefit from ***interaction*** with others and thrive in environments where they can meet ***new people***, work, and ***problem-solve*** together. This is a key element of Pūhoro Wānanga and an accurate predictor of ***workshop success***.

HEALTHIER LIVES SCHOLARSHIP RECIPIENTS

Pūhoro has partnered with He Oranga Hauora - Healthier Lives on a new scholarship targeted at rangatahi Māori studying data and related fields in connection with positive health outcomes.

He Oranga Hauora is a kaupapa as part of the National Science Challenges umbrella that aims to improve the prevention and treatment of cancer, cardiovascular disease, diabetes and obesity, and achieve equitable health outcomes in Aotearoa, New Zealand. The collaborative national research programme envisions a future in which Māori are research leaders in data science. With this scholarship, they aim to raise awareness about the importance of data science in health disciplines, to manaaki young Māori data scientists who have the potential to someday lead research in these fields, and to demonstrate the impact and viability of scholarships for Māori in data science.

This partnership also seeks to bring awareness to the indigenous data sovereignty movement and recognises the inherent rights and responsibilities indigenous people have over their data, particularly in how it relates to Māori data sovereignty in the health sector.

Pūhoro are thrilled to announce that four of our exceptional rangatahi from the tertiary phase of our kaupapa have been selected as recipients of this scholarship. Each of them bring expertise in fields ranging from statistics to engineering, showcasing the diverse skill sets that will drive this important mahi forward. With our support, these rangatahi will play a key role in contributing to the kaupapa by working at the intersection of health and data science, underscoring the importance of fostering Māori leadership in these fields.

In celebration of this achievement, Pūhoro will provide to Te Whatu Ora, a profile of each scholarship recipient as they proceed forward in their studies over the following months. This update will be provided during the next quarterly report, due 31 December 2024.

PROMOTIONAL & PLANNED ACTIVITIES: 01 OCTOBER – 31 DECEMBER 2024

In alignment with the key aspirations of our agreement, Pūhoro will provide an update of upcoming kaupapa during the next quarterly report due 31 December 2024. Any additional information will be provided as appropriate, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- An update of the Pūhoro Graduation Ceremonies, which begin on 15 October 2024. Here Pūhoro will endeavour to provide a comprehensive summary of Year 13 rangatahi who graduated across the country, and intend to pursue health-focused studies and careers in 2025.
- A summary of the Pūhoro internship whakatau, which signals the commencement of the internship programme over the 2024-2025 summer period. This will include a feature on each health intern, who they are and a brief project description.
- A brief profile will be provided of our four rangatahi who were successful recipients of the Healthier Lives scholarships for 2024.
- Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Graduations, internship whakatau and any other significant events that may occur in the next three months.
- Pūhoro to continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-career oriented pathways in 2025

As we move through the remainder of 2024, Pūhoro are grateful for the opportunities that have arisen for our rangatahi who have a keen interest in health. We look forward to what the second half of this year brings. May our rangatahi continue to amaze us with their resilience, commitment to STEM and their unique, Māori worldview.

He Waka Eke Noa!

HEALTH NEW ZEALAND - TE WHATU ORA

Pūhoro STEMM Academy

Year Two: Quarterly Report 2

01 October – 31 December 2024





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FOREWORD OF THE MANAHAUTŪ



Kemp Reweti – Manahautū: Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

As we move into what is to be another prosperous year in health studies for rangatahi Māori in Pūhoro, it is important that we reflect on and celebrate their successes as we look to round out the 2024 year in this Q2 report as per our agreement.

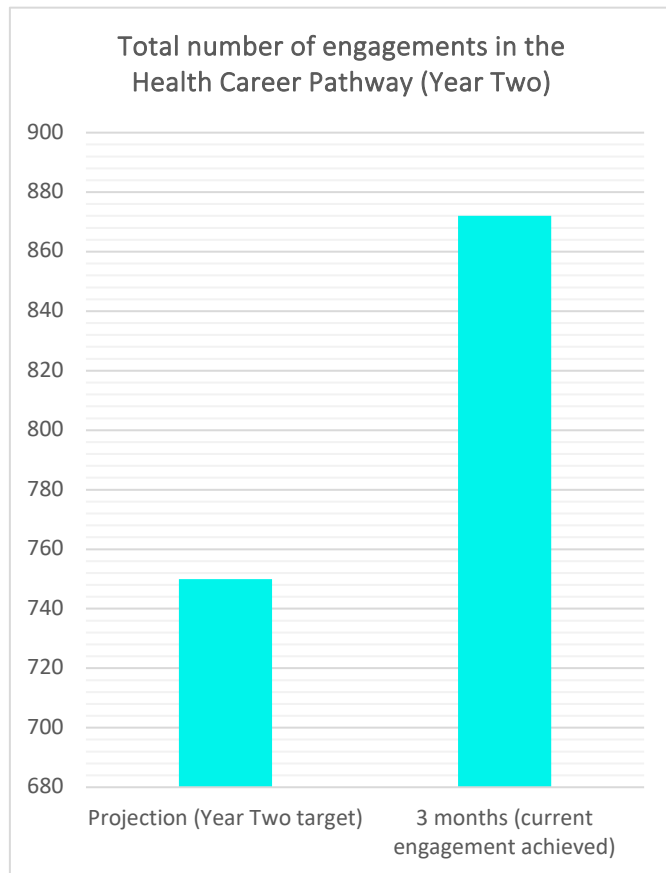
With the conclusion of Term 4 of the secondary school year, our rangatahi continued to pursue their aspirations in health, as detailed in this report. Thanks to the Pūhoro/Te Whatu Ora Health Career Pathway, our rangatahi were able to gain last quarter, first-hand experience in a variety of health-focused careers, advance their pathways through scholarships. None of this would have been possible without the dedication and support of our partners at Te Whatu Ora, Health New Zealand, whose actions exemplify their commitment to creating a diverse and inclusive future for the Aotearoa, New Zealand health workforce.

As we reflect on these milestones, it is crucial to acknowledge the collective commitment of Te Whatu Ora to the kaupapa, which has paved the way for a new generation of Māori health professionals. This partnership exemplifies the transformative potential of working together towards a shared vision of equity, inclusivity, and excellence in Māori Health.

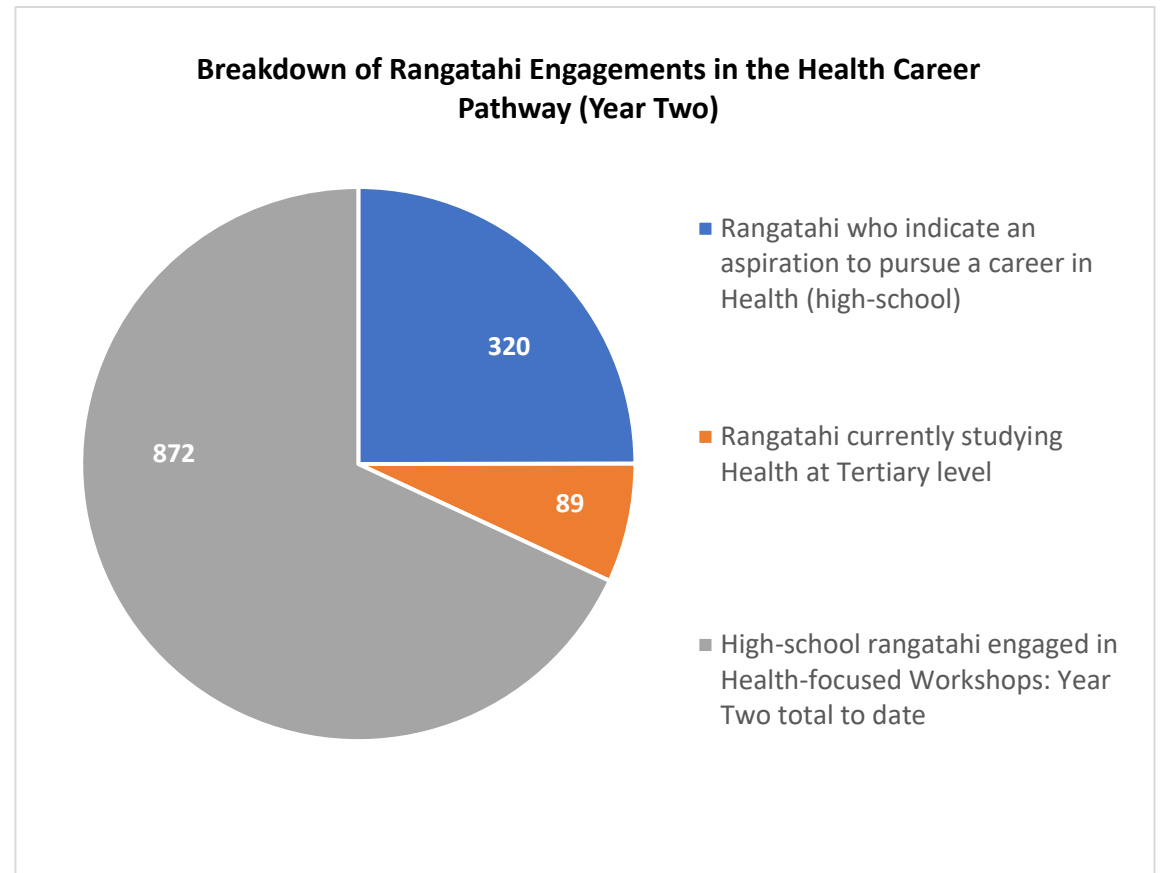
As reported below, our rangatahi continue to inspire us with their resilience and determination to excel in their chosen fields. Their success is not only a testament to their hard work but also a reminder of the importance of providing culturally-responsive pathways that honour their aspirations and Māoritanga. He Waka Eke Noa!.

PŪHORO DASH SUMMARY

A 'dashboard' summary of key project information such as: rangatahi participation, engagement & progression rates throughout the Health Career Pathway.



Above: A comparison of the project target for Year Two, against our progressive statistics from 01 October to 31 December 2024.



Above: A further breakdown of the total number of rangatahi engagements throughout the Health Career Pathway for Year Two.

PŪHORO SUMMARY (YEAR TWO, QUARTER TWO)

The 'Pūhoro Summary' provides a quick snapshot of progress completed over Year Two to date (Q2 – October – December) and is further expanded below:

- The projected target for Year Two is to engage a total of 750 rangatahi in the Health Career Pathway. To date, Pūhoro have successfully engaged a total of **eight-hundred and seventy-two (872) rangatahi**. As this quarterly report covers the end of 2024, this number has not changed since our previous report. However, the number of rangatahi engagements in health will increase again in our next quarterley report, as we prepare for another set of health-focused workshops at Pūhoro Wānanga in Term 2 for 2025.
- A total of **three-hundred and twenty (320) rangatahi** from the Pūhoro high-school phase have indicated an aspiration to pursue a career in health for 2024. As previously reported, It is anticipated that this number will change as we welcome a new cohort of Year 11 rangatahi across the country for 2025.
- **Eighty-nine (89) rangatahi** continue to pursue health-related studies within the Pūhoro tertiary phase for 2024. As above, this number will change as Year 13 rangatahi across the country prepare to transition to tertiary studies in February 2025.
- Pūhoro partnered with He Oranga Hauora to provide **four \$10,000 scholarships** to Pūhoro rangatahi from the tertiary phase of our kaupapa, with the hope of advancing Māori leadership in the data science and health sector. Please join us in celebrating the recipients of these scholarships, as they provide some unique insights into their lives and aspirations in STEMM on page 18 of this report.
- With the support of Te Whatu Ora, Pūhoro were able to provide **18 rangatahi with internships for the 2024-2025 summer period**. A description of each intern and their project can be found on page 11.
- In quarter one of Year Two, **15 Pūhoro rangatahi** were selected to participated in our health-tech and health career focused, STEMM excursion to Silicon Valley, USA as part of our Nōku te Ao kaupapa. Details of this trip, as given by our rangatahi themselves can be found on page 41 including the important activities they experienced as part of this kaupapa.

PŪHORO SUMMER INTERNSHIP NOHO

S9(2)(a)

The Pūhoro Summer Internship Programme noho took place from Wednesday, 20 November 2024, to Friday, 22 November 2024, at Te Pūtahi a Toi, Massey University in Palmerston North. The noho served as a preparatory event for **forty-nine (49)** rangatahi entering their three-month Pūhoro summer internships, with a focus on developing professional, cultural, and personal skills. Te Whatu Ora played a pivotal role in this programme by co-funding a significant number of internships focused on health-related fields. Your support has empowered our rangatahi to pursue meaningful contributions to Māori health and wellbeing, aligning with the kaupapa of building a culturally-responsive health workforce.

The noho included a diverse range of sessions to equip rangatahi with essential skills and knowledge for their internships. Below is a summary of the sessions delivered over the three days:

Session	Description
Pōwhiri and Noho Overview	Rangatahi, supervisors and STEMM partners were welcomed with a pōwhiri, followed by an introduction to the purpose and structure of the three-day noho.
Te Whakapapa o Pūhoro	An exploration of Pūhoro's history and kaupapa, emphasising the importance of STEMM careers for Māori.

Whanaungatanga Activities	Team-building exercises and whakawhanaungatanga sessions to foster connections among the interns, their supervisors, and partners.
Supporting Māori Interns	A workshop on how supervisors and partners can best support Pūhoro interns in their professional journeys.
Professionalism in the Workplace	Practical tips and discussions about workplace etiquette, communication, and building professional relationships.
Tuakiritanga Workshop	A workshop focused on pepeha, mihihihi, and the use of tools like the Native Land app to explore iwi territories.
Haerenga to Pūkaha	A hikoi whenua experience to Pūkaha National Wildlife Centre, integrating mātauranga Māori with environmental science.
Feedback and Debrief	Rangatahi provided feedback on the noho, shared their learnings, and prepared for their upcoming internships.

As per previous years, our internship noho have a transformative impact on both the interns and the STEMM organisations that host them. For our rangatahi, the noho prepares them for their internships and enhances their confidence, cultural identity, and professional readiness. They emerge as skilled, culturally-grounded individuals who are equipped to make meaningful contributions to their chosen STEMM fields. For our internship supervisors, the noho provides a unique opportunity to engage with and learn from rangatahi who bring a distinctive Māori worldview and skillset. These interns are able to demonstrate the value of integrating mātauranga Māori into STEMM industries, fostering innovation and inclusivity. Organisations gain insights on how to support and benefit from a workforce that values cultural-responsiveness and diversity, ultimately enriching their own capabilities and ensuring a more equitable and effective contribution to Aotearoa's STEMM sector.

S9(2)(a)



Pūhoro are grateful to Te Whatu Ora, who have significantly contributed to the success of the following rangatahi who are pursuing health-focused internships for the 2024-2025 summer period. With your support, Pūhoro have been able to offer **eighteen (18)** internships to our rangatahi studying health-focused subjects at tertiary level. Please join us in celebrating them as we highlight their projects for 2024-2025.

TE WHATU ORA HEALTH NEW ZEALAND INTERN PROFILES

Te Whatu Ora supported several health-focused interns through the Pūhoro Summer Internship programme. Below is a feature of our Te Whatu Ora interns and co-funded interns, highlighting their iwi affiliations, internship host, tertiary specialisation and a project description of their internships:

Encouraging Rangatahi into Oral Health Careers

S9(2)(a) will work with S9(2)(a) to identify ways that Te Pae Hauora o Ruahine o Tararua can encourage rangatahi Māori to pursue careers in oral health.

Host:
Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

Bachelor of Oral Health

Te Pae Hauora o Ruahine o Tararua Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

Host:
Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

Bachelor of Nursing

Navigating Life with Heart Disease: Sharing Stories of our Whānau

S9(2)(a) will work on a heart health rangahau, developing a training package for clinicians, health workers, and whānau using co-designed resources. These resources include heart health comic strips featuring characters that represent Māori heart health journeys, sharing real-life experiences to support whānau living with heart disease.

Host:
Pūtahi Manawa

S9(2)(a)

Reimagining Dissemination: Utilising Co-design and Kaupapa Māori to Create a Dissemination Outcome

S9(2)(a) will perform a literature review on western dissemination processes and use these insights to plan and execute methods for creating a dissemination resource with whānau. The internship involves working with the research team and co-design wānanga participants, using a kaupapa Māori approach to create a resource that prioritizes the lived experiences of whānau, such as a pamphlet, video, or waiata.

Host:
Pūtahi Manawa

S9(2)(a)

**Bachelor of Health Science
(Māori Health)**

Taiao to Tepu: Tāmariki Gardening Project

S9(2)(a) will work alongside her supervisor to develop the first phase of a research project aimed at supporting gardening and cooking programmes with tamariki. This initiative will foster practical skills and engagement with the environment through hands-on activities.

Host:
Pūtahi Manawa

S9(2)(a)

**Bachelor of Health Science
(Māori Health)**

Te Pae Hauora o Ruahine o Tararua Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

Host:

Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

Bachelor of Medicine

Environmental Pulse IRM

S9(2)(a) will explore resilience and cross-tolerance between physical and environmental stressors, with a focus on intracranial pressure as measured from the optic nerve sheath diameter. This internship offers opportunities to work on various projects, such as studying blood pressure responses to water immersion, the effects of heat and dehydration on fitness, and physiological and behavioural regulation in different populations.

Host:

Pūtahi Manawa

S9(2)(a)

Bachelor of Medicine &
Bachelor of Surgery

Carbohydrate Profiling of Plant-based Milk

S9(2)(a) will assist in profiling complex carbohydrates in a plant-based milk developed by the Riddet Institute. This internship involves conducting a literature review on plant seed polysaccharide mucilages, collaborating with researchers from Victoria University and the Riddet Institute, and writing a manuscript for future scientific publication.

Host:

Pūtahi Manawa

S9(2)(a)

Bachelor of Medicine and Surgery

Improving ED Experiences

S9(2)(a) will work in Pae Ora's Emergency Department (ED) to identify ways that Pae Ora can improve cultural responsiveness, patient experiences, and priority population access to ED services.

Host:

Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

Bachelor of Medicine and Surgery

Te Pae Hauora o Ruahine o Tararua Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

S9(2)(a)

Host:

Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

Bachelor of Nursing

Advanced Knowledge of Heart Health Complications in Diabetes

S9(2)(a) will explore how disturbances in cardiac fructose metabolism contribute to diabetic heart disease. This internship involves lab work on potential treatments for heart disease and compiling relevant literature to support the research team's studies.

Host:

Pūtahi Manawa

S9(2)(a)

Bachelor of Medicine and Surgery

Understanding Barriers for Māori and Pasifika Patients in Attending Clinic Appointments for Cardiac Ultrasound

S9(2)(a) will investigate the barriers for Māori patients attending cardiac ultrasound appointments and propose solutions to ensure culturally safe and timely care. This internship involves reviewing current resources and support systems, and writing a research proposal to collect pūrākau from whānau to better understand and address these barriers.

Host:
Pūtahi Manawa

S9(2)(a)

Bachelor of Medicine and Surgery

Te Pae Hauora o Ruahine o Tararua Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

Host:
Te Pae Hauora o Ruahine o Tararua | Midcentral

S9(2)(a)

**Bachelor of Science
(Psychology)**

Gestational Diabetes Literature Review

S9(2)(a) will build on the rangahau begun in the 2023/24 Pūhoro Internship, completing a literature review and developing a research protocol. The research will explore pūrākau from whānau who have experienced gestational diabetes.

Host:
Pūtahi Manawa

S9(2)(a)

Bachelor of Medicine and Surgery

Kete of Knowledge

S9(2)(a) will work alongside the Manawaora research team in Tauranga, reviewing current resources available to support Māori heart health, such as those from Toi Tangata, Heart Foundation, and Manawaora. The project also involves developing a wireframe for a whānau-facing app to support heart health.

Host:
Pūtahi Manawa

S9(2)(a)

**Bachelor of Biomedical Sciences
(Functional Human Biology)**

Te Pae Hauora o Ruahine o Taranaki Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

Host:
Te Pae Hauora o Ruahine o Taranaki | Midcentral

S9(2)(a)

**Masters in Science
(Psychology)**

Exploring Beliefs About Access and Barriers to Cardiovascular Disease (CVD) Screening and Management for Maori & Pasifika Aged 35- 65 in Northland

S9(2)(a) will support heart health events run by Te Whareora o Tikipunga in the Whangarei and wider Tai Tokerau communities, while also conducting an internal audit of CVD risk assessments at Te Whareora o Tikipunga.

Host:
Pūtahi Manawa

S9(2)(a)

Bachelor of Physiotherapy

Te Pae Hauora o Ruahine o Taranaki Internship

S9(2)(a) will do an internship at the Palmerston North regional hospital under the supervision of S9(2)(a)

S9(2)(a)

Host:

Te Pae Hauora o Ruahine o Taranaki | Midcentral

S9(2)(a)

Bachelor of Oral Health

HEALTHIER LIVES SCHOLARSHIP RECIPIENTS

As per our previous quarterly report to Te Whatu Ora, Pūhoro partnered with He Oranga Hauora - Healthier Lives to offer four scholarships to Pūhoro rangatahi studying data and related fields in connection with positive health outcomes. Pūhoro would like to congratulate the four scholarship recipients, whose interests cover *Information Systems and Software Development, Civil Engineering and Plant Genetics, Data Analytics, Data Analysis and Health Sciences, whakapapa and mātauranga preservation* as well as *product invention and development*. On Thursday 05 December, our recipients were fortunate to meet via Zoom with our Manahautū CE, Kemp Reweti, who was able to connect with our rangatahi, understand how Pūhoro can further support them in their individual development in Mātauranga Māori, and provide ways where Pūhoro can link them into our diverse network in STEMM. The hui was also a chance for Kemp to offer any mentoring and career development support he could impart which could be useful to our rangatahi.

S9(2)(a)



Pūhoro feel privileged to share with Te Whatu Ora below, some unique insights from our scholarship recipients. Here they share their upbringing, their experiences studying, their purpose and their aspirations.

S9(2)(a)

Nō hea koe / Pepehā

Ko Pukehina te marae

Ko Ngati Whakahemo te hapū

Ko Te Arawa te iwi

Ko Watene tōku matua

Ko Christina tōku whaea

Ko Whangaparaoa tōku kainga

Ko S9(2)(a) tōku Ingoa

S9(2)(a)

Where were you raised, and how has your upbringing contributed to you today?

I was raised in Whangaparaoa. I gratefully had two parents who cared and loved me. At times it was very difficult within our family dynamic, and they separated when I was 12. My older brother had run away at this point which left me feeling the responsibility to hold myself and everyone around me together. I felt I had to be strong for my whānau. I have always been the carer for my family and am very protective of my little brother due to our circumstances growing up. This has taught me resilience and perseverance for situations that may be very difficult to deal with but because I had no other option but to take responsibility and be there for my younger brother, I had to step up and be an adult while I was still pretty young. The school I went to was never a fancy high education school so when I decided to step out of the mould for my community and choose to do engineering as my career there were many people who said I wouldn't last through it. Thankfully I had a strong enough foundation of love and support from my close ones who encouraged me to go after my dreams which is how I ended up at university. Stepping into engineering and noting that probably 80% of my year group at university were already ahead of me in learning lit a fire in me to work extremely hard to catch up and try to be at that level. Because of the hardships I had faced in my earlier years of life it made me stronger for the challenges I would face today. If I hadn't learnt these harder lessons growing up, I wouldn't have been able to survive not only engineering but also so many life challenges and lessons over the past couple of years. It has made me mentally

tougher and shown me that I am not at my limit, and I have so much more room to grow further.

Tell us about your experience with your studies.

To say it has been a smooth ride would be a complete lie. It has been some of the hardest years of my life. The course for mechanical engineering at Auckland University is not for the weak. As well as balancing this year's project for biomedical and data research on unhealthy homes with a primary scope on Māori and Pasifika communities. It has been an absolute whirlwind...I love what I do and have such a keen passion where I want to gather and learn skills that can help me make a difference in my community in the future or in science for the Māori and Pacific communities.

Any advice or words of wisdom for Māori Rangatahi wanting to pursue careers in STEMM (Science, Technology, Engineering, Maths, Mātauranga Māori)?

There may be times where you might be the only Māori at the table for a discussion but don't take that as a negative use that as an opportunity to ensure that what is being decided on can have a positive effect on our communities. Stand up and be proud that you now have the great responsibility to use your voice as means of encouraging more Māori to step up for these opportunities and lead by example. Don't run from the challenge, use it as an opportunity to thrive. If you have been told by people you aren't good enough or you have been told that because of where you come from you won't ever get this opportunity etc. Don't listen forge your own path, step up and accept challenging opportunities as if you don't put your hat in the ring because others tell you not to then you will miss out on so many opportunities that could be waiting for someone just like you. Taking this leap of faith will then allow others to see you as an example and maybe think to themselves hey well if she can do that then maybe I can. Another piece of advice is to allow others to help you and walk that path with you because it takes a village so don't be afraid to ask for help from those you trust.

What does the future hold for you?

To be completely honest I don't entirely know yet exactly what I will be doing in the future. Although I trust myself in the case that I love engineering, I love science, and I want to find

ways to give back to the village that helped me get here. I want to inspire other young Māori women to acknowledge that they are good enough and they have the capabilities to go into careers in STEM. I know in my heart that I will find a way to do all of this but for now my sights are set on achieving the present-day goals of my degree and research.

S9(2)(a)

Nō hea koe / Pepehā

Ko S9(2)(a) tōku ingoa

I whānau mai ahau I Tāmaki Makaurau

Kei Tāmaki Makaurau hau e noho ana

He tauira ahau I Auckland University

Ki te taha o tōku whaea

Ko Mātātua te waka

Ko Matauri te moana

Ko Takou te awa

Ko Whakarara te maunga

Ko Te Tapui te marae

Ko Ngati Kura te hapū

Ko Ngapuhi te iwi

S9(2)(a)

Where were you raised, and how has your upbringing contributed to you today?

I was born and raised in Tāmaki Makaurau and have lived all over the city; Grey Lynne, Botany, the CBD, all the way out to Waiuku, and now I am in Ellerslie. I think all of this moving around has given me unique insight into the diversity of this amazing city. Each neighbourhood has its own culture and customs and being exposed to this diversity has shaped my outlook on life, developing my curiosity to how the world around us works. Having the opportunity to grow up surrounded by people from all

walks of life and countries taught me the value of keeping an open mind, being able and willing to see differing perspectives and question my own assumptions. This is likely why I was drawn to the sciences where these attributes are integral to asking questions and testing hypotheses.

Tell us about your experience with your studies.

University is a rollercoaster, filled with ups and downs, and my experience is no different. Studying engineering was incredibly challenging, it took a lot of persistence and effort to get through it. I put this down to being young and unsure of what I wanted to do in life. But that is what university is for, to explore your interests and meet people who can introduce you to new ideas that may intrigue you enough to pursue further. This is what helped lead me to a degree in science; I found genetics fascinating and I wanted to know as much as possible. This interest in genetics made studying easier compared to engineering, and I am having a much more enjoyable time now. So much so that I am now doing postgrad and have picked up data science to go along with it, as this is also a new found interest that I would never knew I had if it were not through the people I met along the way.

Any advice or words of wisdom for Māori Rangatahi wanting to pursue careers in STEMM (Science, Technology, Engineering, Maths, Mātauranga Māori)?

University is hard. But you can definitely do it, and do it well. Asking for help is the best way to make studying easier, too, as the whole point of academia is to ask questions and push yourself outside of your comfort zone.

What does the future hold for you?

I am excited for the future; there is a lot of amazing work being done in STEMM around Aotearoa, and I excited to be a part of the changes that are coming, driven by advances and discoveries being made. For me, I hope to be using my science and stats background to improve the health of our people and our land.

S9(2)(a)

S9(2)(a) is pursuing a Bachelor of Information Sciences, specialising in Software Engineering with a minor in Mathematics. Beyond his academic achievements, he leads as the Head Tutor at the Pūhoro STEMM Academy, where he is passionate about empowering rangatahi Māori to reach their full potential. Eager to expand his expertise, S9(2)(a) is excited about an upcoming collaboration with Horizon Council on a software development project, where he will apply his skills in a dynamic, real-world environment.

S9(2)(a)

S9(2)(a)

Nō hea koe / Pepehā

Ko Tainui te waka

Ko Hōkio te awa

Ko Ngāti Raukawa te iwi

Ko Ngāti Pare Raukawa te hapū

Ko Ngātōkōwaru te marae

Ko Thompson tōku whānau

Ko Jasmine Thompson Cooper tōku māmā

Ko Rentyn Cooper tōku pāpā

Ko S9(2)(a) tōku ingoa

S9(2)(a)

Where were you raised, and how has your upbringing contributed to you today?

I was born and initially raised in Palmerston north, where my early year foundations were laid. We then moved to Dannevirke where I spent most of my developmental years. Each location and my connection to the land contributed uniquely to the person I am today, but it was in Hawke's Bay where I truly came into my own. In Waipukurau, I completed high school, a period marked by massive personal growth and achievement. There, I took on leadership roles such as head girl, which taught me a lot about responsibility, teamwork, and leadership. Balancing academics with work, and extracurricular activities challenged me to further develop my organisational and interpersonal skills, which have been invaluable in my journey. I was raised in a close-knit family where our values of whānau, manaakitanga (generosity and hospitality), and kaitakitanga (guardianship and connection to the environment) were deeply integrated in my upbringing. These values have significantly shaped

who I am today. Growing up, the importance of community support, respect, and responsibility was reinforced.

My experiences in each community, along with the values instilled in me by my family has equipped me with the resilience, leadership skills, and a sense of responsibility that will continue to guide me in all my endeavours.

Tell us about your experience with your studies.

My experience through tertiary education has been a transformative and significant experience. As the first in my family to attend further study, I approached this with both excitement and responsibility to make my family proud. It was not just about my personal goals; it was about setting an example for future generations in my family.

Balancing my studies with working full time has presented its own set of challenges, it requires a high level of discipline and time management. There have been late nights, self-doubt but my drive overcomes these problems and has taught me resilience and perseverance and I know that my work will pay off. Striving for excellence in all that I do is a driving force in my academic journey. Each challenge fuels my determination to succeed and strengthens my commitment to my studies. These experiences have shaped my approach to learning and personal development, instilling a relentless pursuit of excellence in everything I do in from the workplace, personal life, and to the classroom.

Through all of it, the support of my family and the lessons I have learned from all adversities has been pivotal in shaping my path. Studying has broadened my horizons and reinforces my belief in the power of hard work and determination and to give my current and future whānau of my own, the life I want them to have and look up to.

Any advice or words of wisdom for Māori Rangatahi wanting to pursue careers in STEMM (Science, Technology, Engineering, Maths, Mātauranga Māori)?

Being resilient and persistent is essential to help overcome challenges along the way. Setbacks are a part of the journey but are essential for personal development and learning opportunities. Giving back to the community: how can you utilise your skills and knowledge to benefit your own community. Your community plays a big part in shaping you as a person and I believe it is important to give back to it; whether it be through programs, mentorship, staying grounded and balanced: Pursuing a career

in STEMM has the potential to be demanding, maintaining a balance between professional goals and personal well-being is essential. Stay connected to your whānau, culture, and community.

What does the future hold for you?

As I look ahead, I see a sea of opportunities shaped by advances in research and data analysis. It will play a critical role in leading and supporting initiatives. I hope to be contributing to ground-breaking research across various areas. I will develop a deeper understanding of contexts, cultures, and individual needs which will help me gather and integrate more information. With my dedication to my studies I will achieve significant milestones, like advancing to leadership roles. I hope to find myself in a position where I can make a meaningful impact in my community and drive change in my industry. I see significant professional success while still nurturing fulfilling and supportive relationships- balancing these two aspects will lead to a well-rounded and rewarding future.

PŪHORO HEALTH GRADUATES 2024

The Te Urunga Tū (secondary school) phase of the Pūhoro kaupapa plays a significant role in enticing our rangatahi towards future STEMM pathways and careers. Moreover, this phase is a crucial time to capture rangatahi, who often change their aspirations as they progress through the Pūhoro kaupapa. As seen below, many of our Year 13 graduates who intend on specialising in health at tertiary level in 2025 did not wish to aspire for a career in health as a Year 11 student. This highlights the immense value of our Kaihautū and their outstanding mahi, guiding and supporting our rangatahi over three years to refine their goals and shape their future through the kaupapa.

In 2024, Pūhoro are proud to announce that **twenty-six (26)** of our Year 13s will be pursuing health-related study at tertiary level in 2025. Their commitment to pursue health-related study and careers signifies the crucial support given by Te Whatu Ora, in fostering success through our kaupapa in the secondary-school phase. The following is a celebration of each Year 13 graduate within the regions, highlighting their initial aspirations as a Year 11 rangatahi, and their eventual aspirations as a Year 13 rangatahi in health.

Waikato Region

Waikato successfully celebrated their second Pūhoro Year 13 graduation, with almost triple the amount of Year 13 graduates in comparison to the previous year. Twenty-four Year 13s crossed the stage, the majority of which intend to transition to tertiary studies for 2025. Pūhoro are proud of the following two graduates, who intend to focus their studies on health for this year.

Waikato Health Graduates

S9(2)(a) (Waikato Region Year 13 MVP)

(Te Arawa, Te Ātiawa)

When I joined Pūhoro I wanted to be a Doctor.

In 2025 I will study First Year Health Science at the University of Otago.

S9(2)(a)

(Ngāti Māhanga, Ngāti Porou)

When I joined Pūhoro I was unsure of my career path.

In 2025 I will study Midwifery at WINTEC.

S9(2)(a)

Te Matau-a-Māui region

S9(2)(a)



Pūhoro were proud to graduate eighteen Year 13s in Te Matau-a-Māui this year, as they look to transition into Tertiary studies and the STEMM workforce in 2025. The event was facilitated by Kaihautū Lead S9(2)(a) who was able to shed light on their journey through Pūhoro, commenting on their initial aspirations, and how these had changed progressively as they navigated through the Pūhoro kaupapa over three years. Pūhoro are proud of the following Year 13 graduates from the Te Matau-a-Māui region, who intend to study health-related subjects for 2025.

Te Matau-a-Māui Health Graduates

S9(2)(a)

(Ngāti Kahungunu ki Heretaunga)

When I joined Pūhoro I wanted to become a Doctor.

In 2025 I will study a Bachelor of Health Science at the University of Otago.

S9(2)(a)

(Ngāpuhi, Ngāti Kahungunu, Ngāti Porou, Ngāti Pukenga, Ngāti Ruanui, Ngāti Whakaue, Tapuika, Tūhourangi)

When I joined Pūhoro I wanted to join the Armed Forces.

In 2025 I will study a Bachelor of Health Science at the University of Otago or the University of Auckland.

S9(2)(a)

(Kāi Tahu)

When I joined Pūhoro I wanted to be a Paramedic.

In 2025 I will study a Bachelor of Health Nursing at the Eastern Institute of Technology or WINTEC.

S9(2)(a)

S9(2)(a)

(Te Atiawa)

When I joined Pūhoro I wanted to be a Surgeon or Nurse.

In 2025 I will study a Bachelor of Nursing or Bachelor of Teaching.

S9(2)(a)

Manawatū region

2024 was a successful year for the Manawatū region, with forty-eight Year 13 graduates crossing the stage. This is over double the amount of last year's graduates, a testament to the mahi of our Kaihautū who have worked tirelessly with our rangatahi and their kura. Please join us in congratulating the following nine Year 13s, who intend to pursue health-focused studies in 2025.

S9(2)(a)

S9(2)(a)

Manawatū Health Graduates

S9(2)(a)

(Ngāti Porou, Tapuika, Te Arawa)

When I joined Pūhoro I wanted to be a Lawyer or an Accountant.

In 2025 I will commence studies towards a Bachelor of Psychology at Victoria University.

S9(2)(a)

(Ngāti Apa, Ngāti Kahungunu, Te Whānau-a-Apanui)

When I joined Pūhoro I wanted to be a Diagnostic Radiologist.

In 2025 I will study a Bachelor of Health Science at the University of Auckland.

S9(2)(a)

(Ngāti Kahungunu)

When I joined Pūhoro I was unsure about what I wanted to do.

In 2025 I will study a Bachelor of Biomedical Science at the University of Otago.

S9(2)(a)

S9(2)(a)

S9(2)(a))

(Kāi Tahu)

When I joined Pūhoro I was unsure about what I wanted to do.

In 2025 I will study a Bachelor of Health Science at the University of Otago.

S9(2)(a)

(Ngāti Porou, Ngāti Pukenga)

When I joined Pūhoro I was interested in the Medical Industry.

In 2025 I will study a Bachelor of Science with a major in Human Nutrition at the University of Otago.

S9(2)(a)

(Ngāi Tūhoe)

When I joined Pūhoro I wanted to be a Technology Scientist or Marine Biologist.

In 2025 I will study a Bachelor of Midwifery at Otago Polytechnic.

S9(2)(a)

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Ngāti Raukawa, Te Ati Haunui-ā-Pāpārangi)

When I joined Pūhoro I wanted to be rich.

In 2025 I will study a Health Sciences Foundation programme at the University of Otago.

S9(2)(a)

(Ngāi Tūhoe, Ngāti Kahungunu, Ngāti Raukawa, Te Whānau-a-Apanui)

When I joined Pūhoro I wanted to be a Designer.

In 2025 I will study a Foundation programme to prepare for Dermatology studies at the University of Auckland.

S9(2)(a)

(Ngāti Pāhauwera)

When I joined Pūhoro I wanted to be an NBA Basketball player.

In 2025 I will study a Bachelor of Sport and Exercise at Massey University.

S9(2)(a)



Tāmaki Makaurau region

S9(2)(a)



Tāmaki Makaurau graduated a total of twenty-six Year 13s in what was an inspiring and promising event. Of particular note was the Tāmaki Makaurau MVP S9(2)(a), who intends to pursue Health-related studies in 2025. S9(2)(a) was fortunate to be selected in 2024 to attend a leadership camp at the U.S Space and Rocket Centre in the USA with five other Pūhoro rangatahi from across the motu, where they represented the kaupapa well and were able to take out several of the leadership awards at the event.

The following features our Year 13 graduates from Tāmaki Makaurau, who intend to focus their studies on health in 2025.

Tāmaki Makaurau Health Graduates

S9(2)(a)

(Ngāpuhi, Te Aupouri)

When I joined Pūhoro I was unsure of my career pathway.

In 2025 I will study a Bachelor of Social Work.

S9(2)(a)

(Kāi Tahu)

When I joined Pūhoro I wanted to be a Doctor or Surgeon.

In 2025 I will study a Bachelor of Health Science at the University of Otago.

S9(2)(a)

(Ngāpuhi, Tainui, Waikato)

When I joined Pūhoro I wanted to be a Doctor.

In 2025 I will study a Bachelor of Health Science at the University of Otago.

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Te Rarawa)

When I joined Pūhoro I was unsure of my career pathway.

In 2025 I will study a Bachelor of Health at Te Whare Wānanga o Waikato or Physiotherapy at the Auckland University of Technology.

S9(2)(a)

(Kāi Tahu, Ngāi Te Rangi)

When I joined Pūhoro I was unsure of a career pathway.

In 2025 I will study a Bachelor of Nursing at Massey University.

S9(2)(a)

(Ngāi Tūhoe, Ngāpuhi, Tainui)

When I joined Pūhoro I wanted to be a Neuroscientist or Doctor.

In 2025 I will study a Bachelor of Biomedical Science at the University of Auckland.

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Ngāti Porou, Tainui)

When I joined Pūhoro I wanted to be a Mechanic or Engineer in the New Zealand Defence Force.

In 2025 I will be undertaking tertiary studies in the Health Sector.

S9(2)(a)

Ōtautahi region

The Ōtautahi region had another significant number of graduates, with sixteen Year 13s crossing the stage for 2024. Pūhoro would like to congratulate the following graduates, who intend on focusing their studies on health for 2025.

Ōtautahi Health Graduates

S9(2)(a)

(Rangitāne)

When I joined Pūhoro I wanted to be a Sports Superstar.

In 2025 I will study a Bachelor of Sport, Recreation and Exercise at the New Zealand Institute of Sport.

S9(2)(a)

S9(2)(a)

(Ngāpuhi, Ngāti Kuri)

When I joined Pūhoro I wanted to study Medicine.

In 2025 I will study a Bachelor of Science, specialising in Biomedical Science at the University of Auckland.

S9(2)(a)

(Ngāi Tūhoe, Ngāti Tūwharetoa, Ngāti Whātua, Te Whānau-a-Apanui)

When I joined Pūhoro I wanted to be a Kaiako Māori.

In 2025 I will study a Bachelor of Social Work at the University of Canterbury.

S9(2)(a)

(Kāi Tahu)

When I joined Pūhoro I wanted to be a Sports Psychologist.

In 2025 I will study Sports Psychology at the University of Canterbury.

S9(2)(a)

S9(2)(a)

NŌKU TE AO 2025: SILICON VALLEY, USA

S9(2)(a)



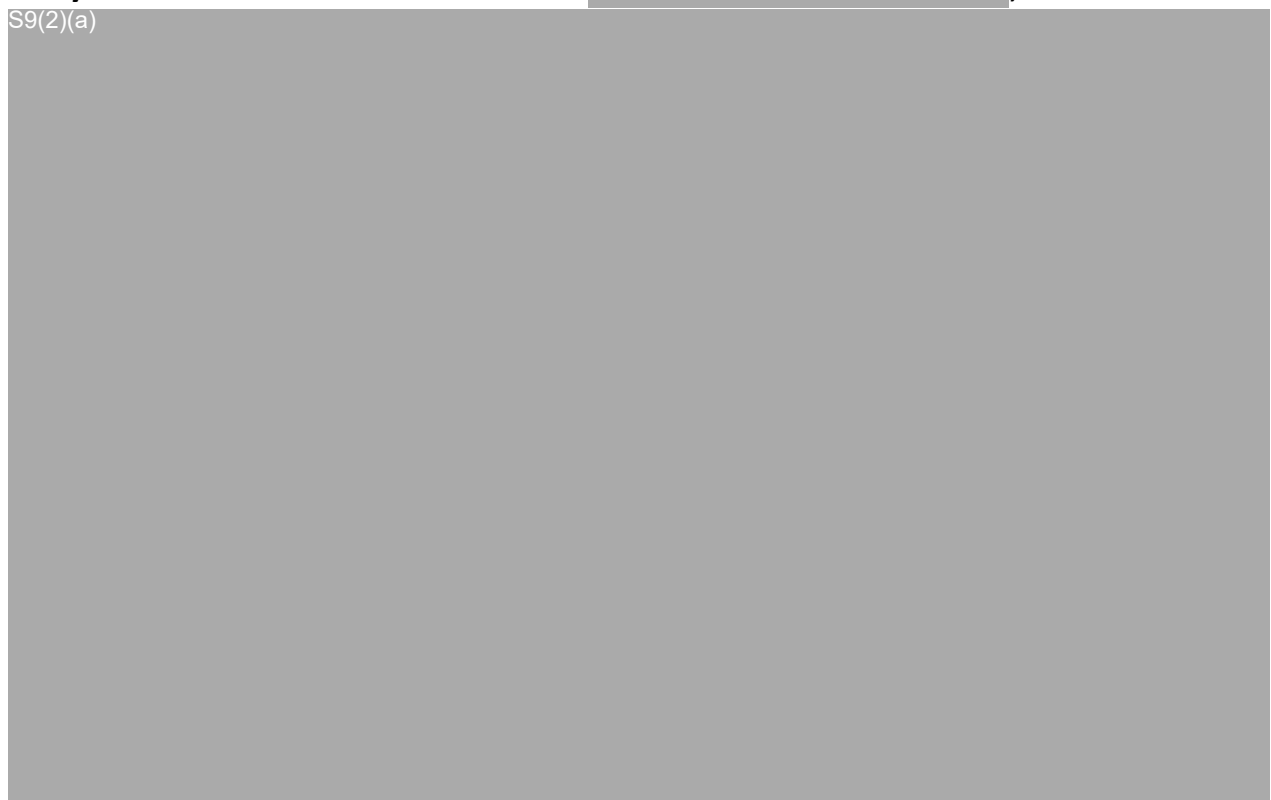
Nōku Te Ao is a transformative initiative by Pūhoro designed to expand the horizons of our rangatahi through international experiences. To date, Pūhoro has sent rangatahi to Hawai'i, Houston (USA), Taiwan & Singapore, where they were able to experience STEM in other countries alongside other indigenous communities. In 2024 we decided to focus an international excursion on Health Tech, and Health Careers with selection criteria reflecting students desire to pursue these avenues of study and career. Nōku te Ao enabled our rangatahi to once again engage in STEM opportunities abroad, as **15 Pūhoro rangatahi** were selected from across the motu to participate in the programme. The haerenga to Silicon Valley, USA, was an opportunity to explore health-focused STEM pathways and engage in reciprocal learning with the Ohlone people, the indigenous peoples of the San Francisco Bay area. The journey served to inspire our rangatahi to pursue STEMM careers with an enriched understanding of indigenous knowledge and a deep appreciation for the value of Tuakiritanga (identity) in global STEMM contexts.

This year, Pūhoro challenged our rangatahi to record the haerenga as they experienced it in real-time. Below features a daily diary of the trip by our rangatahi, which provides Te Whatu Ora some unique insights into their experience from a rangatahi perspective.

NŌKU TE AO 2025: RANGATAHI DIARY

Day 1: Arrival on 01 December 2024 S9(2)(a))

S9(2)(a)



“After a minor flight delay, we arrived safely in San Francisco! The 12-hour flight went smoothly, and everyone managed well despite the long journey. Customs was surprisingly easy and our rangatahi were amazing! Once settled, we dropped our bags at the Airbnb and headed out to explore. Our first stop was Mussel Rock Park, a significant tūtohu whenua for the local iwi taketake. Here we practiced our waiata, showing the preparation put in for this trip. A photo looking out to the Pacific Ocean reflected our haka’s sentiment—whakanuia te onamata, tokihi ki tua o te anamata—a reminder to honour the past as we boldly move toward the future. A meaningful and memorable first day that laid a strong foundation for the days ahead. Mauri ora!”

Day 2: Exploration (S9(2)(a))

S9(2)(a)

"Today was an incredible day of exploring San Francisco! We started with visits to iconic landmarks, including the Golden Gate Bridge, the Palace of Fine Arts, Lombard St, and the Bruce Lee Mural in Chinatown. Each stop offered unique experiences, blending beauty, history, and culture. Adjusting to intense traffic the day ended with the blue group cooking delicious nachos and reflecting on our experiences. Despite challenges, the rangatahi remained positive and engaged. Tomorrow's first stop: Google!"

S9(2)(a)

Day 2 Continued: STEM in Action (S9(2)(a))

S9(2)(a)

"Our first full day in STEM was incredible! Some of us started the day with a jog, while others rested for the activities ahead. At Google, we learned about the company's history, innovative projects, and employee wellbeing practices. We enjoyed kai at their cafe before a fun bike ride around campus. In the afternoon, we visited the California Academy of Sciences, exploring exhibits on wildlife, sea life, and earthquakes. Highlights included an earthquake simulator and interactive displays"

S9(2)(a)



Day 4: Indigenous Exchange (S9(2)(a))

S9(2)(a)

"Today was a day of cultural connection with the Ohlone people. After a two-hour journey, we reached Heron Shadow, the whenua of the Cultural Conservatory group. Redbird welcomed us with a ceremony and shared their practices of kai sovereignty and cultural preservation. We contributed through planting trees and preparing the land for winter. The exchange was emotional and enriching, as we found parallels between their struggles and our own. To conclude, we gifted taonga and performed waiata and haka. Our perspectives are broadened, and our hearts are full."

S9(2)(a)

Day 5: Stanford University (S9(2)(a))

S9(2)(a)

On this day, our rangatahi were privileged to visit, and tour the Stanford University Campus. Here they were able to experience a variety of STEM-focused tertiary pathways, as well as some of the beautiful architectural buildings and resources on campus. More importantly, our rangatahi were able to meet with the Stanford American Indigenous Medical Students (SAIMS) on campus, who advocate for the unique health needs and interests of Native American and Alaska Native communities. Like Pūhoro, they are committed to strengthening the pipeline of Native students pursuing careers in medicine and STEM. S9(2)(a)

S9(2)(a)

Day 6: Berkeley Science Institution (S9(2)(a))

S9(2)(a)

"Today was Day 6 of the 24' haerenga and we had the incredible privilege of visiting the prestigious University Of California, Berkeley Science Institutions. We were blessed with an amazing sunrise to start off this even more amazing day. The day was packed with unforgettable experiences, ranging from immersive lab tours to insightful presentations to even meet and greets with Berkeley's amazing staff members. We had the opportunity to learn about Berkeley's groundbreaking contributions. From learning how Berkeley scientists contributed to the discovery of new elements on the Periodic Table, to breakthroughs in treatments for metastatic melanoma, to insights on nanotechnology and the story behind Abraham Lincoln's imprint on the US penny. There was so much to take in! We spent the day fully immersed in everything the institutions had to offer and walked away with an abundance of fascinating new insights Here is a sneak peek of what today looked like for us:"

S9(2)(a)

Day 6: Final Day of STEM and Reflection (S9(2)(a))

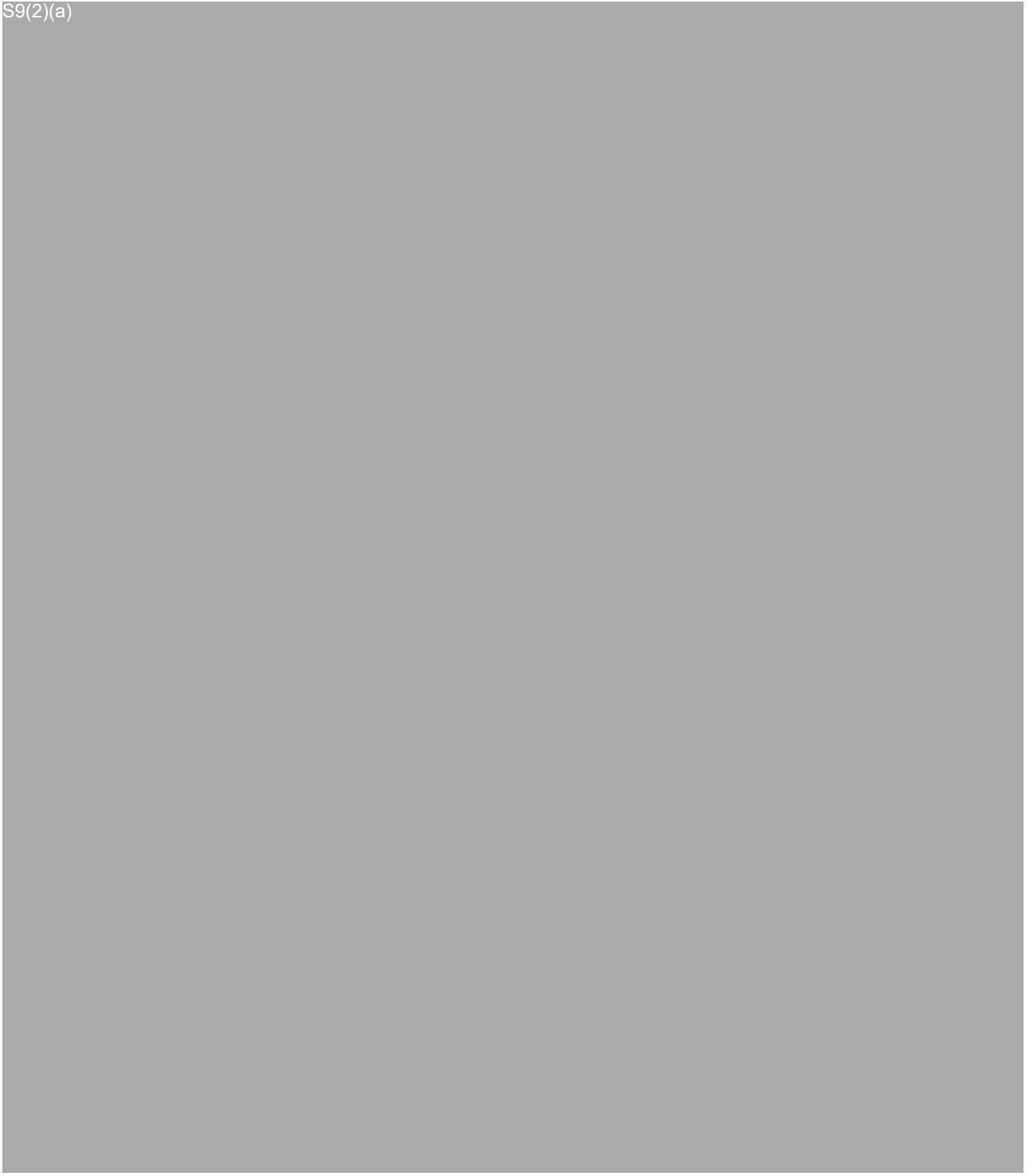
S9(2)(a)

"Our last full day was packed with memorable moments. We visited Salesforce and there at Salesforce, we learned about their health-focused initiatives and how they use data to drive positive impact. S9(2)(a) shared wisdom on mindfulness and embracing our journeys. At the Exploratorium, we engaged with playful, science-based exhibits that sparked curiosity. Reflecting on the trip, the rangatahi expressed gratitude and determination to carry forward what they learned. This experience has been life-changing, and we are all excited for what's to come."

S9(2)(a)

The Nōku Te Ao trip to Silicon Valley provided our rangatahi with invaluable experiences that have inspired them to pursue STEMM pathways with renewed vigour. The engagement with the Ohlone people highlighted the importance of indigenous knowledge systems in addressing global challenges. Visits to world-class institutions and companies underscored the significance of health-focused STEMM initiatives and the potential for rangatahi to lead in these spaces. With strengthened tuakiritanga and an expanded worldview, our rangatahi are poised to become leaders in STEMM fields, bringing unique perspectives and solutions to the forefront.

S9(2)(a)



PROMOTIONAL & PLANNED ACTIVITIES: 01 JANUARY – 31 MARCH 2025

In alignment with the key aspirations of our agreement, Pūhoro will provide further updates of upcoming kaupapa during the next quarterly report due 15 April 2025. Any additional information will be provided as appropriate, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- A comprehensive overview of the Pūhoro Term 2 Wānanga suite, which will include a focus specifically on any health-focused workshops presented. These Wānanga workshops will further boost the number of rangatahi engaged in the Pūhoro/Te Whatu Ora Health Career Pathway for Year Two.
- Pūhoro is working with Te Whatu Ora to develop some profiles of Pūhoro rangatahi engaging in internships and the positive outcomes these are having.
- A summary of the Pūhoro internship Pō Whakanui (night of celebration), which signals the end of the Pūhoro internship programme 2024/2025. This will include a feature on each health intern and their research poster, which they will display at the event.
- Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Wānanga, any other significant events that may occur in the next three months.
- Pūhoro to continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-career oriented pathways in 2025.

Pūhoro are incredibly grateful for the many opportunities in health that have arisen for our rangatahi, because of the genuine support of our partners from Te Whatu Ora. May we continue to build on our incredible relationship, as we look to navigate the year ahead alongside our rangatahi, who will be our future leaders of Health Careers in Aotearoa.

He Waka Eke Noa!

Internship Report

Te Whatu Ora - Health New Zealand

Aperira 2025

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Foreword

Kemp Reweti

Manahautū | Pūhoro Chief Executive
Ngāti Parewahawaha, Ngāpuhi

It is with pride and gratitude that I present this report on behalf of Pūhoro Charitable Trust. For the last two years our collaboration, originally with Te Aka Whai Ora the Māori Health Authority which has now transferred to Te Whatu Ora – Health New Zealand, has been a catalyst for empowering rangatahi to engage and excel in the health sector and sciences.

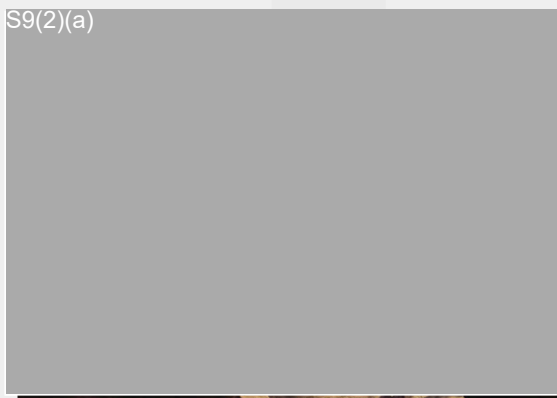
The Pūhoro internship programme is a key annual milestone for Pūhoro. During internships, rangatahi are given access to myriad opportunities; opportunities to rub shoulders with STEMM leaders, to gain essential skills while participating in meaningful work, to create lasting friendships and strengthen their Māori identity, and to showcase to industry the benefit of having a unique, Māori worldview. Te Whatu Ora - Health New Zealand can be proud that, in collaboration with Pūhoro, they are empowering the next thought-pioneers of tomorrow's ever-evolving STEMM landscape.

We want to extend our gratitude to Te Whatu Ora for their commitment and support of our kaupapa. Your contributions to our vision of “Leading Māori STEMM success” is transforming the lives of rangatahi, nurturing their potential, and equipping them with the tools they need to thrive in the ever-evolving health sector. The impact of our collaboration will resonate for years to come.

2024 Internship Launch

Pūhoro's internship programme has been designed to give rangatahi Māori the opportunity to learn from leading STEMM professionals while bolstering host organisations with young, vibrant taura Māori. This internship season, we facilitated 23 health internships in collaboration numerous partners (see box below).

S9(2)(a)



On Wednesday 20th November 2024, a total of 34 interns met at Te Pūtahi-a-Toi, Massey University, for a three-day preparatory noho. The noho started with a pōwhiri (welcome) led by kaimahi at Massey University, which brought together Pūhoro interns, staff and internship partners.

As in previous years, this year's noho centered on cultivating peer-to-peer relationships between interns, and, in cases where supervisors were able to attend, intern - supervisor relationships. See the following page for a summary of the programme.

2024-25 Internship Health Partners

Malaghan Institute of Medical Research; Pūtahi Manawa; Manawa Ora Integrated Health & Research; The Heart Foundation; Te Whare Ora o Tikipunga; Te Whatu Ora Waitemata; The University of Auckland; The University of Otago; Te Pae Hauora o Ruahine o Tararua | Midcentral; The Centre for Bioparticle Applications; Massey University

S9(2)(a)



2024 Noho Programme

SESSION	DESCRIPTION
Whanaungatanga & Mentor Groups	Interns got to know each other through icebreaker activities, and were given the whakapapa of Pūhoro from inception to the present.
How you can best support Māori interns	Pūhoro kairangahau S9(2)(a) facilitated a session centering on the pūrākau of Tāne and the three kete of knowledge. In this session, participants listened to and acted out the pūrākau before considering what lessons can be learnt from it and applied to their research and internships.
Amazing Reihi	Interns and Pūhoro mentors participated in an amazing race, which had participants running across campus, completing challenges, and getting to know one another.
Professionalism in the Workplace	Pūhoro mentors S9(2)(a) and S9(2)(a) facilitated a session on professionalism in the workplace, aimed at emphasising the importance of interns' contractual obligations and being good examples in their respective organisations.
Tūākiritanga	The Pūhoro mātauranga Māori team facilitated a workshop in which interns deepened their knowledge regarding pepeha and mihimihi, with the aim of equipping them to be confident advocates of te ao Māori in their workplaces.
Pūkaha	Interns and Pūhoro mentors went on an excursion to Pūkaha Wildlife Centre. The purpose of the trip was to expose interns to the taonga that is te taiao, and to remind them of the importance of kaitiakitanga in their work.
Feedback Wānanga	Interns participated in a facilitated feedback wānanga, during which they were encouraged to openly share feedback on the internship programme. The feedback is already being used to inform future iterations of the programme.

2025 Pō Whakanui

On Pēpuere 12th 2025 we celebrated the achievements of our interns at Pō Whakanui. It was a evening of fascinating kōrero, both on stage and off, and an inspiring show of what rangatahi Māori are capable of. Each intern produced an A0 poster for the evening, and three interns gave kōrero on-stage describing their summer mahi and research. One kaikōrero, S9(2)(a), spoke about her health-related research regarding bioparticle applications for root canals.

A particular highlight of Pō Whakanui was the improved poster quality. This year, Pūhoro provided extra guidance on how to design high quality posters, and it was clear that the interns took the advice and in many cases went beyond what was suggested. Two health interns won awards for their posters.

S9(2)(a) won the Best Poster Design award for her poster *Mobile App Solution for Māori Heart Health?*, and S9(2)(a) won the Māoritanga Award for her poster *Enhancing a Collective Understanding to Support Whānau in Times of Loss*.

S9(2)(a)

S9(2)(a)

In addition to showcasing interns' work, Pō Whakanui is also a great networking opportunity. At Pō Whakanui our health interns had the opportunity to kōrero with a number of professionals within the health sector, and those professionals were given a first-hand look at the innovative projects undertaken by the interns.

The success of the Pūhoro internship programme continues to demonstrate the value of investing in rangatahi Māori within STEM. We at Pūhoro are incredibly grateful to Te Whatu Ora - Health New Zealand for your generous support and active participation, and we look forward to our continued collaboration.

Health Interns 2024-25

The following profiles feature Pūhoro's health interns and provide summaries of their projects and links to their posters.

S9(2)(a)

S9(2)(a)

Te Atiawa, Ngāruahine, Taranaki

Bachelor of Medicine and Bachelor of Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and the University of Auckland

Advanced knowledge of heart health complications in diabetes

S9(2)(a) study explored how disturbances in cardiac fructose metabolism can cause diabetic heart disease. S9(2)(a) joined a team of 6 researchers for the summer, with whom she did lab work to ascertain whether novel treatments cure heart disease, and compiled literature to address important questions for these studies.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāpuhi

Bachelor of Physiotherapy

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and Te Whare Ora o Tikipunga

Exploring beliefs about access/barriers to CVD screening and management for Māori & Pasifika aged 35-65 in Northland

In this project, S9(2)(a) worked within the Whangārei and wider Tai Tokerau communities supporting heart health events being run by Te Whareora o Tikipunga. Alongside this mahi, S9(2)(a) did an internal audit of CVD risk assessments undertaken at Te Whareora o Tikipunga.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kahungunu, Ngāti Raukawa, Tainui

Bachelor of Medicine and Bachelor of Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and Te Whatu Ora Waitemata

Understanding the barriers for Māori & Pasifika patients in attending clinic appointments for Cardiac Ultrasound

S9(2)(a) investigated the barriers for Māori patients attending their cardiac ultrasound appointments, and presented considered solutions to these barriers to ensure patients receive culturally safe and timely care, thereby improving equity of access and outcomes.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Waikato Tainui

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa, Manawa Ora Integrated Health & Research, and The Heart Foundation

Kete of knowledge

S9(2)(a) worked alongside the Manawaora research team in Tauranga to co-design solutions to support heart health in the community. This involved reviewing current resources available to support Māori heart health such as those from Toi Tangata, Heart Foundation & Manawaora, and developing a wire frame for a whānau facing app to support heart health.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Waikato Tainui, Ngati Maniapoto

Bachelor of Health Sciences and Bachelor of Commerce

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and The University of Otago

Taiao to tepu - Tāmariki Gardening Project

S9(2)(a) worked alongside her supervisor to develop the first phase of a research project aimed at supporting gardening and cooking programmes with tamariki. The project aims to foster practical skills and engagement with the environment through hands-on activities.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Maru (Taranaki)

Bachelor of Medicine & Bachelor of Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and The University of Otago

Environmental pulse IRM

S9(2)(a) project explored resilience and cross-tolerance between physical and environmental stressors, with a focus on intracranial pressure as measured from the optic nerve sheath diameter.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kahungunu, Rongomaiwahine, Rākaipaka

Bachelor of Medicine and Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and the University of Auckland

Completion of literature review on gestational diabetes

In this project, S9(2)(a) continued the rangahau he had begun in the 2023-24 internship season. This involved completing a literature review and developing a research protocol. S9(2)(a) research explored pūrākau from whānau who have experienced gestational diabetes.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Haua, Ngāti Rangiwewehi

Bachelor of Medicine and Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa, Manawa Ora Integrated Health & Research, and the Heart Foundation

Sharing the stories of our whānau – Navigating life with heart disease

During her internship, S9(2)(a) developed a training package for clinicians, health workers, and whānau using co-designed resources. These resources included heart health comic strips featuring characters that represent Māori heart health journeys, sharing real-life experiences to support whānau living with heart disease.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kahungunu ki Heretaunga, Ngāti Tuwharetoa

Bachelor of Health Science (Māori Health)

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa and the University of Auckland

Reimagining Dissemination - Utilising co-design and kaupapa Māori to create a dissemination outcome

In her project, S9(2)(a) performed a literature review on Western dissemination processes and used these insights to plan and execute methods for creating a dissemination resource with whānau.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāpuhi, Ngāti Awa, Ngāti Ranginui, Tainui, Te Arawa

Bachelor of Dental Surgery

Supervised by S9(2)(a)

Hosted by Pūtahi Manawa, the University of Otago, and the University of Auckland

A whānau educational resource for periodontal health and heart health

In her project, S9(2)(a) developed a short comic to educate whānau on the link between periodontal and heart health. She did this by reviewing current research and evaluating existing community resources in Aotearoa.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kahungunu

Bachelor of Science (Microbiology)

Supervised by S9(2)(a)

Hosted by the Malaghan Institute of Medical Research

Developing immune cell therapies for blood cancers

S9(2)(a) researched CAR T-cell therapy for multiple myeloma, focusing on techniques such as cell culture, flow cytometry, and tumour cell killing assays. The research Ihaia participated in aims to develop equitable cancer therapies, incorporating tikanga and te ao Māori perspectives in both laboratory and clinical practices, with a focus on Māori and Pacific peoples.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāpuhi, Ngāti Whakaue

Bachelor of Oral Health

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Encouraging rangatahi into oral health careers

S9(2)(a) worked with Julie Jenkins to identify ways that Te Pae Hauora o Ruahine o Tararua can encourage rangatahi Māori to pursue careers in oral health.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Raukawa, Ngāti Maniapoto, Ngāi Tahu

Bachelor of Nursing

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Assessing the effectiveness of the Get Up, Get Dressed, Get Moving campaign for Māori patients

S9(2)(a) assessed the effectiveness of Pae Ora's Get Up, Get Dressed, Get Moving campaign, a campaign that seeks to improve patient recovery times and shorten hospital stays. His project involved assessing the research that supports the campaign and working in the Older Person's Assessment and Liaison Ward at Pae Ora.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngai Tahu

Bachelor of Medicine and Surgery

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Analysing data on term babies admitted to neonatal care

S9(2)(a) project involved analysing data on term babies (babies older than 37 weeks) who are admitted to the neonatal ward at Midcentral. In particular, S9(2)(a) searched for and identified trends in the data to better understand why term babies are entering neonatal care, and therefore what can be done to reduce them requiring such care.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Waikato-Tainui

Bachelor of Medicine & Bachelor of Surgery

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Improving ED experiences

S9(2)(a) worked in Pae Ora's Emergency Department (ED) to identify ways that Pae Ora can improve cultural responsiveness, patient experiences, and priority population access to ED services.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kauwhata

Bachelor of Nursing

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Enhancing understanding and support - Pae Ora processes and strategies for informed whānau engagement

In this project, S9(2)(a) reviewed approaches to enhance whānau engagement and communication when accessing tūpāpaku services at Palmerston North Hospital. Her research revealed a number of unique cultural challenges that Māori face in such contexts, and resulted in several recommendations for how to improve the hospital's processes and communication.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngai Tahu

Bachelor of Science (Psychology)

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Exploring kaumatua perspectives on enduring power of attorney (EPOA)

In this project, S9(2)(a) worked with Jonathan Kok to gather information from kaumatua on whether they have EPOA, and to better understand why some do not. This information was used to inform the creation of a resource aimed at increasing awareness of the importance of EPOA and encouraging kaumatua to arrange EPOA to benefit themselves and their whānau.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Kahungunu, Ngāti Tahu, Ngāti Tūwharetoa

Masters in Science (Psychology)

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Evaluating competency training in healthcare

In this project, S9(2)(a) evaluated the effectiveness of psychological and cultural competency training in healthcare, with the goal of identifying gaps and exploring improvements to enhance patient care and workforce well-being.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Kāi Tahu, Ngāpuhi, Ngāti Apa ki te Rā Tō, Te Aupōuri

Bachelor of Oral Health

Supervised by S9(2)(a)

Hosted by Te Pae Hauora o Ruahine o Tararua | Midcentral

Recruitment and retention of kaimahi Māori at Te Pae Hauora o Ruahine o Tararua, Midcentral

In this project, S9(2)(a) explored the experiences of kaimahi Māori at te Pae Hauora o Ruahine o Tararua, with the aim of making recommendations for how to improve kaimahi retention.

S9(2)(a)

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Ngāti Porou, Ngāti Kahungunu

Bachelor of Dental Surgery

Supervised by S9(2)(a)

Hosted by The Centre for Bioparticle Applications, Massey University

Endolysin bioparticles to prevent bacterial infections

S9(2)(a) assessed the efficacy of endolysin bioparticles against the bacteria *enterococcus faecalis*. With further research, endolysin bioparticles could be used to target bacteria in a number of settings, including applications to root canal material to prevent reinfection.

S9(2)(a)

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Ngāti Maniapoto

Bachelor of Science (Microbiology, Genetics)

Supervised by S9(2)(a)

Hosted by the University of Otago

Characterising the genome of *Mycobacterium tuberculosis*, the causative agent of mate kōhi

S9(2)(a) investigated the genome of *Mycobacterium tuberculosis* (Mtb), focusing on unique strains circulating in Māori communities. The broader study in which S9(2)(a) participated aims to address the disproportionate impact of tuberculosis on Māori in Aotearoa and provide insights into Mtb's genetic characteristics within these populations.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Tūwharetoa, Ngāti Maniapoto

Bachelor of Health Science (Māori Health)

Supervised by S9(2)(a)

Hosted by the University of Otago

Empowering Māori in gut microbiome research

S9(2)(a) contributed to designing a tikanga-led protocol for a project evaluating the effect of a New Zealand diet on gut microbiome health, focusing on Māori communities.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Ngāti Raukawa

Bachelor of Arts (Psychology)

Supervised by S9(2)(a)

Hosted by the University of Otago

Understanding the relationship between sleep and chemosensory dysfunction

S9(2)(a) explored the relationship between sleep and smell and taste function through a systematic scoping review and by assisting with an online survey. S9(2)(a) mapped available research on chemosensory dysfunction, helped recruit participants, and analysed survey results.

S9(2)(a)

He Mihi | Our Thanks

Since the beginning of our collaboration, we have witnessed first-hand the impact of empowering rangatahi to engage in STEMM pathways and explore careers in health. Through termly wānanga and internship opportunities, Pūhoro has nurtured taura curiosity, built taura confidence to pursue careers in health, and strengthened taura tūākiri (identity). Because of our collaboration, Pūhoro rangatahi are developing awareness of opportunities within the health sector.

As we move forward through 2025, Pūhoro remains committed to strengthening this collaboration and continuing to inspire and equip rangatahi with the tools they need to excel in health while making an impact in their communities and beyond.

Again, Pūhoro extends our aroha and thanks to Te Whatu Ora - Health New Zealand for your unwavering commitment to a STEMM-led Aotearoa.

He waka eke noa!





HEALTH NEW ZEALAND | TE WHATU ORA
(Hauora Māori Services Directorate)

Pūhoro STEMM Academy

Year Two: Quarterly Report 4
1 April-30 June 2025

&

Final Progress Report
1 July 2024 – 30 June 2025



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FOREWORD OF THE MANAHAUTŪ



Kemp Reweti – Manahautū: Pūhoro Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

It is an honour and a privilege to present this quarterly review and final report for our second year of partnership with Health New Zealand | Te Whatu Ora. Our collaboration has been a powerful catalyst for empowering rangatahi to engage with and excel in STEMM and in particular pursue their aspirations in health through the bespoke Health Careers Pathway we have developed with Health New Zealand | Te Whatu Ora's support. Our partnership has enabled rangatahi to develop their knowledge of health pathway opportunities as a key career focus and work destination. We are pleased to report that many of our rangatahi are seizing the opportunity to gain further skills and qualifications within health fields with outstanding results.

Te Whatu Ora's engagement has been instrumental in preparing our rangatahi for entry into health related study or the workforce. The first hand experiences provided by attendance at Pūhoro wānanga, engagement with the summer internship programme and the scholarship opportunities open to our tauira are helping to create a new generation of specialised, culturally anchored Māori health professionals ready to advance the hauora outcomes for our whānau, our marae, our hapū and our iwi.

Please find in this report an overview of activity in Quarter Four, covering the period from 1 April – 30 June 2025 followed by a comprehensive review of the full year from 1 July 2024- 30 June 2025. Pūhoro extends its heartfelt gratitude to Health New Zealand | Te Whatu Ora for their commitment and support. Your investment in the vision of our kaupapa has transformed the lives of countless rangatahi, nurturing their potential and equipping them with the tools needed to thrive in the ever-evolving STEMM landscape.

PŪHORO SUMMARY (YEAR TWO: QUARTER FOUR)

The Pūhoro Summary provides a quick snapshot of progress completed over the last quarter (April – June 2025) and is further expanded below:

- The projected target for Year Two was to engage a total of 750 rangatahi in the Health Career Pathway. As per our Quarter One report Pūhoro already exceeded this target by successfully engaging a total of 872 rangatahi. We have further added to that number through the provision of our term 2 wānanga series, held during Quarter 4 and have engaged a further 499 rangatahi in the Health Career Pathway.
- Our Term Two wānanga successfully delivered 70 health-focused workshops on a range of issues from forensic science to orthopaedic surgery to traditional Māori exercise modalities.
- Applications also opened this quarter for the Pūhoro Summer Internship Programme and we look forward to matching a new cohort of highly skilled and capable health-focused interns with exciting career advancing opportunities.
- We are also delighted to report that in April 2025 we launched Pūhoro in Tauranga, further expanding our reach across the motu and our ability to engage and inspire more rangatahi in the Health Career Pathway.

PŪHORO HEALTH WORKSHOP DELIVERY

Pūhoro have continued to provide Hauora-focused workshops during our Pūhoro wānanga events help across the motu in Term Two 2025. Through participation in our wānanga each term, rangatahi are exposed to various key leaders within the STEMM sphere, engaged in a variety of workshops giving them valuable experiences, and connected with like-minded rangatahi from other schools in the region. As in previous Terms we have had the privilege of running a number of very successful health focused workshops. These workshops in particular have engaged rangatahi on a wide range of health-related subjects and are often a highlight of the wānanga. Our health-focused workshops provide a fascinating insight to the breadth of study and career opportunities available to rangatahi in a range of diverse and dynamic health fields.

In Term Two, 2025 Pūhoro have successfully delivered **70** health-focused workshops at 11 wānanga events to rangatahi from 13 Pūhoro regions. This section of the report provides a concise overview of each health workshop conducted during our wānanga series, along with feedback from rangatahi and photo highlights from a sample of the regions delivered to (Te Tai Tokerau, Manawatū and Horowhenua).

- **Hauora-focused Workshops**

	Name	Year(s)	No. delivered
1.	Forensic Science	Yr 11	8
2.	Microbiology	Yr 12	1
		Yr 13	3
3.	RACS – Surgery & Orthopaedic	Yr 11	8
		Yr 12	3
4.	Food Science	Yr 11	1
		Yr 12	3
5.	Mau Rākau – Traditional Exercise Modality	Yr 13	11
6.	Purapura Whetū (Mātauranga)	Yr 12	16
		Yr 13	2
7.	Te Urunga Pae (Pūhoro Tertiary phase)	Yr 13	14
		Total	70

HEALTH-FOCUSED WORKSHOP REVIEW

FORENSIC SCIENCE | ESR

ESR facilitated a fun and engaging workshop with a hands-on introduction to the work of forensic scientists. The session began with a brief presentation on the current and future research conducted by ESR and an overview of the role of a forensic scientist. ESR demonstrated how technology can assist with the day-to-day tasks of a forensic scientist and where the future is heading with research and innovation. Rangatahi then participated in interactive activities exploring some of the evidence types which are not visible to the human eye and were provided with some hands-on time with lab equipment. The activities provided a clear understanding of the role of technology in forensic science and the variety of work undertaken by forensic scientists, inspiring rangatahi to consider careers in this field.

Rangatahi Feedback Snapshot

“Forensics had great explanations and hands on stuff, easy to understand and fun to do.”

Horowhenua College, Year 11

“We listened to the forensics presentation. Then we did practices. I liked the shoe print one. It was interesting to learn that such little things can make a big difference when solving cases with evidence.”

Palmerston North Girls' High School, Year 11

“To begin, we were introduced to Forensic Science In this subject, we learnt about DNA and the importance of it, such as footprints, blood, and various other examples. It was an entertaining subject that kept my attention, as I learnt more about chromosome, the similarities and differences.”

Ruapehu College, Year 11

MICROBIOLOGY | FONTERRA

Tauira participated in workshops centred around the production of cheese and other dairy products, including the taste of different cheeses, the effect of microbes on the taste, and the processes used to convert milk into various products. They engaged in activities such as cheese tasting, titration experiments, and learning about the engineering processes used in the production of different dairy products. They also gained insights into the biochemistry involved in dairy production and the engineering processes used to make different products to ensure they are safe from a public health perspective. Rangatahi also gained valuable

hands on experience by examining microorganisms under a microscope and predicting how the microbial characteristics could influence the final appearance, flavour and smell.

Rangatahi Feedback Snapshot

“The first session felt like I was getting converted to a scientist it was a cool experience”

Hato Pāora College, Year 13

“We learned about Fonterra and what they do, I enjoyed finding out more about what they do in the factories and what jobs are actually required.”

Auckland Girls’ Grammar School, Year 12

“The Fonterra session was very interactive which made it more interesting.”

Palmerston North Boys’ High School, Year 13

FOOD SCIENCE | Plant & Food Research

The workshop provided a fascinating overview of Plant & Food Research’s role in Aotearoa’s science sector and the wide range of STEMM career opportunities available within the food science sector. The session began with a presentation of the work done at Plant & Food Research in the pathology, entomology and post-harvest/fruit quality teams. Rangatahi then participated in a range of interactive workshops across three areas (post-harvest, pathology and entomology). They appreciated the knowledge gained about diseases in the food we eat daily and the measures taken to protect our food from being infected. These practical and informative activities gave rangatahi valuable insight into scientific concepts and their real world application, covering a variety of areas of food science, biological work fields and health.

Rangatahi Feedback Snapshot

“It was really fun and I got to eat a lemonade apple. I enjoyed learning about the bacteria and different things in apples and how they can be infected.”

Napier Girls’ High School, Year 12

“We did some experiments with leaves and bacteria and had to guess what fruits were mixed in with the water, my highlight of the session was trying out and learning new things.”

Western Heights High School, Yr 11

"It was good because we got to do taste testing and learning about fruit, and the tools they use to make sure it's safe to send out."

Trident High School, Year 11

MEDICINE & SURGERY | Royal Australasian College of Surgeons (RACS)

RACS facilitated a variety of workshops across the motu focusing on a range of health related issues. These included presentations about surgical career pathways, including surgeons and trainees talking about their journey. Johnson and Johnson also brought some demonstration equipment for the tauira to engage with.

They also presented a number of workshops focused on orthopaedic surgery, pathway progression, and the daily life of a doctor. Rangatahi engaged in practical activities such as repairing fake radius bones, plating and cutting bones, drilling pelvic bones. Finally rangatahi at the Te Tai Tokerau wānanga were introduced to Te Rau Poka, the RACS Academy of Māori Surgeons. These practical experiences were engaging for rangatahi, and provided insight into the work of surgeons. The practical workshops, and commentary by surgeons on their experiences also provided valuable insights into the various medical fields, and inspired rangatahi to consider medicine as a potential career pathway.

Rangatahi Feedback Snapshot

"My highlight about this experience was being able to learn different areas of the health system, and also having fun and to be able to talk to other people that are in different schools."

Fraser High School, Year 11

"I enjoyed it heaps. I loved it so much and kind of felt inspired by Whaea's journey to where she is today. Definitely my favourite."

Hillcrest High School, Year 11

"Surgery school was really informative, and very interactive, I learnt about knee replacements, and tumour removal. Was really good."

Selwyn College, Year 11

MAU RĀKAU | Pūhoro STEMM Academy

For this workshop, rangatahi engaged in mau rākau, a traditional Māori art that involved the use of rākau (weapons) and is rooted deeply in whakapapa, tracing back to Tūmatauenga,

the atua of war. The session began with an exploration of the historical and cultural significance of mau rākau, offering rangatahi an understanding of its place in Te Ao Māori. The practical component allowed them to physically engage with the rākau, learning movements that not only developed their physical prowess (tinana) but also enhanced mental agility (hinengaro) and spiritual connection (wairua). For rangatahi Māori pursuing STEMM, this workshop underscored the importance of mātauranga and Hauora, two critical elements in the pursuit of holistic wellbeing.

Rangatahi Feedback Snapshot

“We did movements with rakau and used teamwork to pass them. I learnt how to communicate to people to get things right and the highlight was being able to do a whole procedure properly.”

Wairoa College, Year 13

“The third session was my favourite I really enjoyed the pace of learning as well as the movement aspects.”

Palmerston North Girls’ High School, Year 13

“Mau rakau was fun I enjoyed learning about it and building some confidence within the space.”

Hato Pāora College, Year 13

PURAPURA WHETŪ | Pūhoro STEMM Academy

This workshop explored Te Tūtuku Kaurewa, the first union and Te Whānau Mārama, the family of light. The session then led rangitahi to a deeper understanding of the history of Huitangiora, the first whare, and the stories represented in the tukutuku panels. Rangatahi were then given the opportunity to weave their own tukutuku square so they could practically engage with the learning and explore the spiritual connection with the weaving process to increase their mental wellbeing and overall Hauora.

Rangatahi Feedback Snapshot

“It was great learning all the different patterns that are in tukutuku panels as well as the meanings. And getting to make our own mini patterns.”

Ōtorohanga College, Year 12

"It was so therapeutic I learnt about stars and I made a heart with the tukutuku patterns. I like this one and I remember it from last time."

Napier Girls High School, Year 12

"Very interesting because I learnt some new things."

Whanganui Girls' College, Year 12

TE URUNGA PAE | Pūhoro STEMM Academy (Tertiary Transition Workshop)

Te Urunga Pae (Pūhoro Tertiary phase) guided rangatahi on a journey through the tertiary space. Emphasising how Pūhoro can provide support for many aspects of post-secondary school life, including Studylink, scholarships, internships, lectures, and study fees, among other aspects that rangatahi may need to navigate. Rangatahi were guided through a 'future planning' activity which examined reasons why rangatahi often struggle outside of high school with the transition to tertiary study or the work environment. This included discussions on mental health, money and time management and challenges in finding their identity outside of a school structure. This activity not only challenged them to proactively prepare for tertiary study but also instilled confidence to navigate the traditional barriers they often face during this transition. These workshops highlighted the importance of protecting your mental health and the value of securing your identity as Māori rangatahi.

Rangatahi Feedback Snapshot

"Our second session was giving us advice for financing after school. Matua really helped me understand how to sort my budget."

"This uni session was good basic reminders for uni and good to get us started on thinking about how uni will affect us as students."

Feilding High School, Year 13

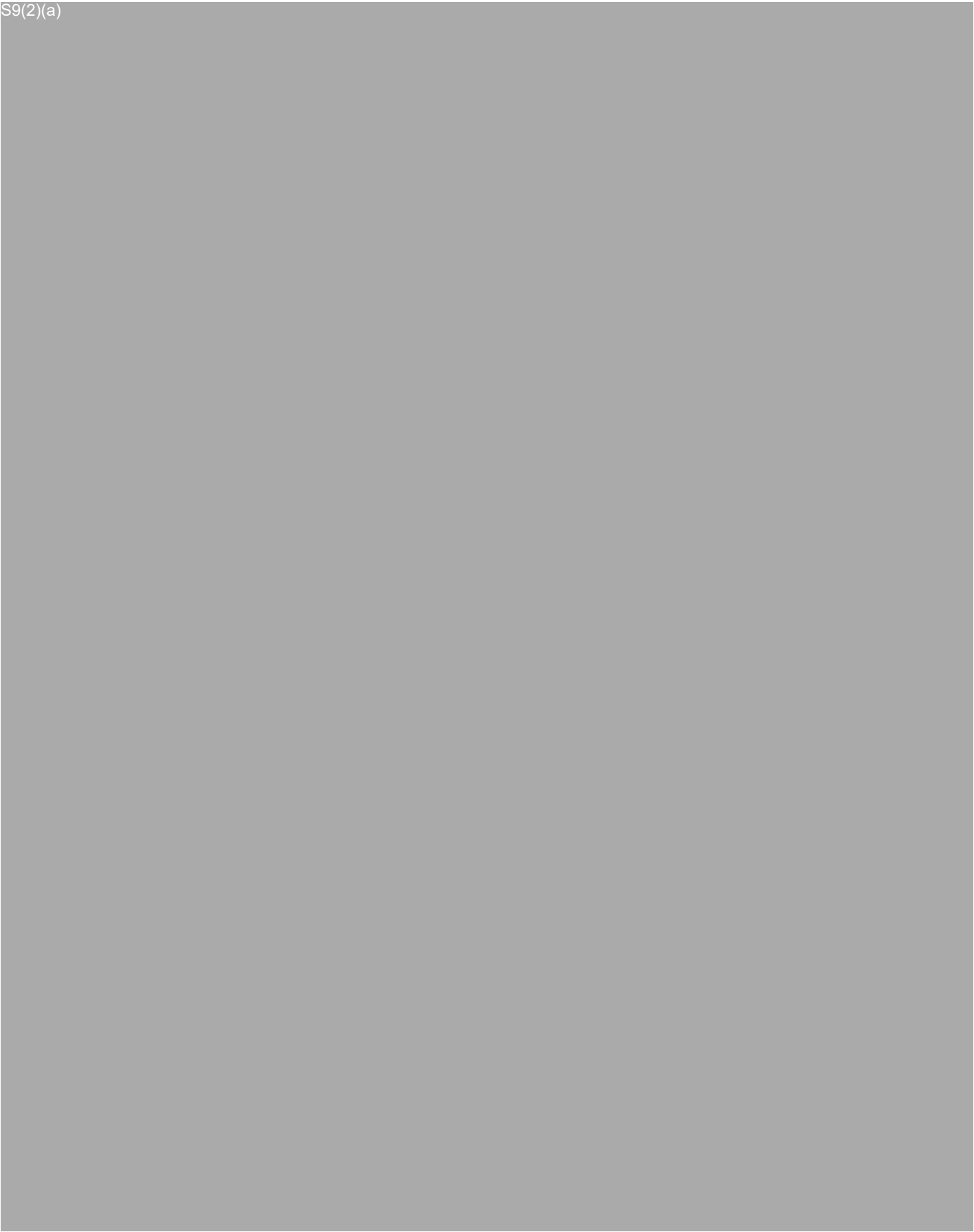
"We learnt about how to take care of ourselves in uni and I found it very valuable to learn about budgeting- the paper scissors rock game made us bond more as a group which was good."

Palmerston North Girls' High School, Year 13

WĀNANGA PHOTO HIGHLIGHTS

TERM 2 HOROWHENUA WĀNANGA | Te Wānanga o Raukawa

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TERM 2 MANAWATŪ WĀNANGA | Awapuni Racecourse

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PŪHORO TAURANGA LAUNCH

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It was a very special occasion in April 2025 when Pūhoro launched in Tauranga. We are delighted to be supporting more of our rangatahi in this region. The programme launched with Year 11 taura in five schools, Katikati College, Mouth Maunganui College, Ōtūmoetai College, Tauranga Girls' College and Te Puke High School and currently serves 75 rangatahi. This will naturally increase next year when our Year 11's move into Year 12 and we welcome new Year 11 students into the secondary school phase.

PROMOTIONAL & PLANNED ACTIVITIES: 1 JULY-30 SEPTEMBER 2025

In alignment with the key aspirations of our agreement, Pūhoro will provide an update of upcoming kaupapa during the next quarterly report due 30 September 2025. Any additional information will be provided as required, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- An update of the Term 3 Pūhoro wānanga, including highlighting the health workshops that will be delivered across the Pūhoro regions.
- Health New Zealand | Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Term 3 wānanga and any other significant events that may occur in the next three months.
- Pūhoro will continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-careers oriented pathways in 2025

As we move through the final half of 2025, Pūhoro are grateful for the opportunities that have arisen for our rangatahi who have a keen interest in health. We look forward to what the second half of this year brings. May our rangatahi continue to amaze us with their resilience, commitment to STEMM and their unique Māori worldview.

FINAL REPORT 1 JULY 2024 – 30 JUNE 2025

The Pūhoro Charitable Trust is delighted to report on the successful completion of Year Two of our agreement with Health New Zealand | Te Whatu Ora. We are so grateful for the breadth of support offered by Health New Zealand | Te Whatu Ora and are thrilled that our partnership continues to build awareness of health career pathway opportunities for rangatahi, across Aotearoa and to develop a strong sustainable Māori health workforce.

Our partnership has provide numerous meaningful opportunities for rangatahi to develop skills, engage in STEMM tutorials, and engage in mentoring and health career pathway opportunities. These efforts have enabled Pūhoro to support rangatahi with the critical tools needed to consider health and its wide range of pathways as a key career focus and desirable work destination. Our ability to communicate the diverse range of health-related fields with our Pūhoro tauira opens the doors to a plethora of options for our rangatahi, and our ability to collaborate with multiple health partners enables us to continue to provide ample engagement opportunities for rangatahi to capitalize on.

PŪHORO ACHIEVEMENT PROGRESS

Achievements for the reporting period including: rangatahi details, demographics and wānanga feedback: progress along the Health Career Pathway; and; the reporting of any cross-collaboration that has occurred to support delivery of the Project.

As per our agreement, the following update on our achievement is provided. As reported in Year One, Pūhoro has a significant focus on delivering the project across three phases and this focus has continued into Year Two of our partnership:

Health Career Pathway:

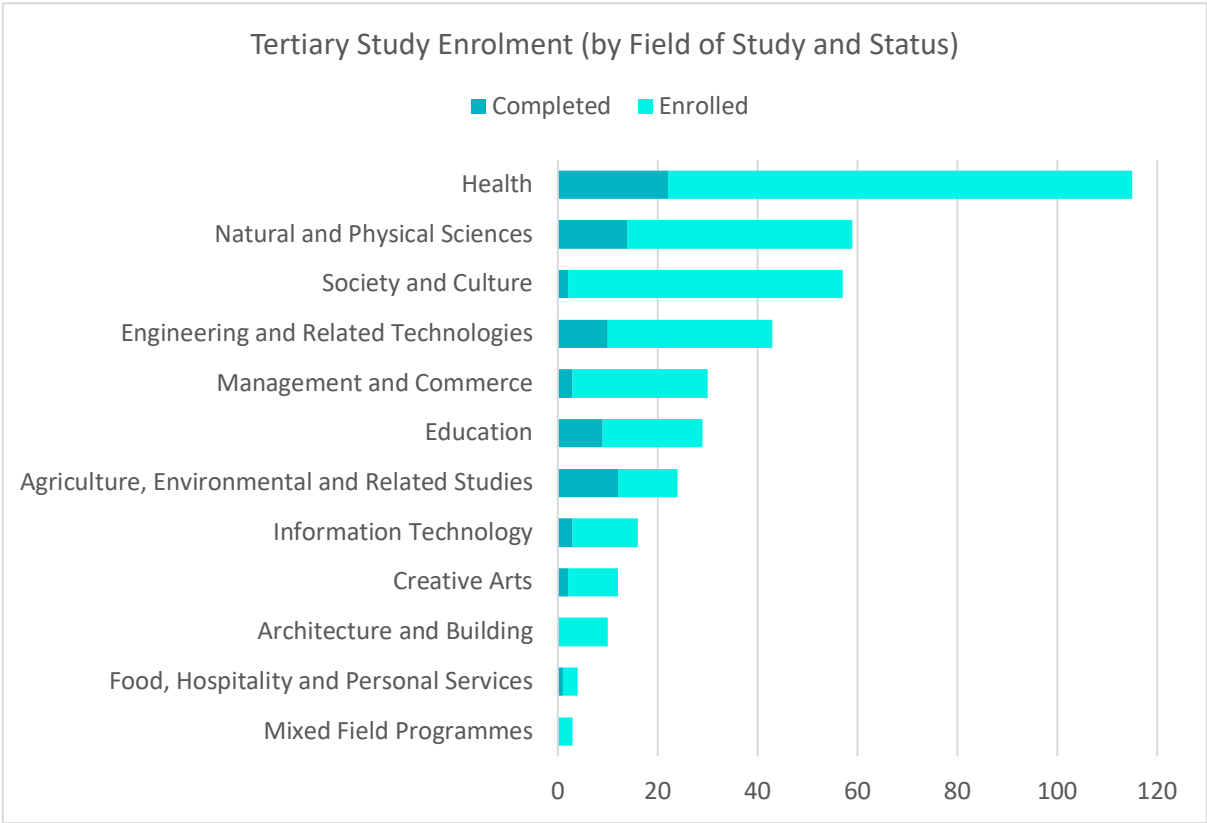
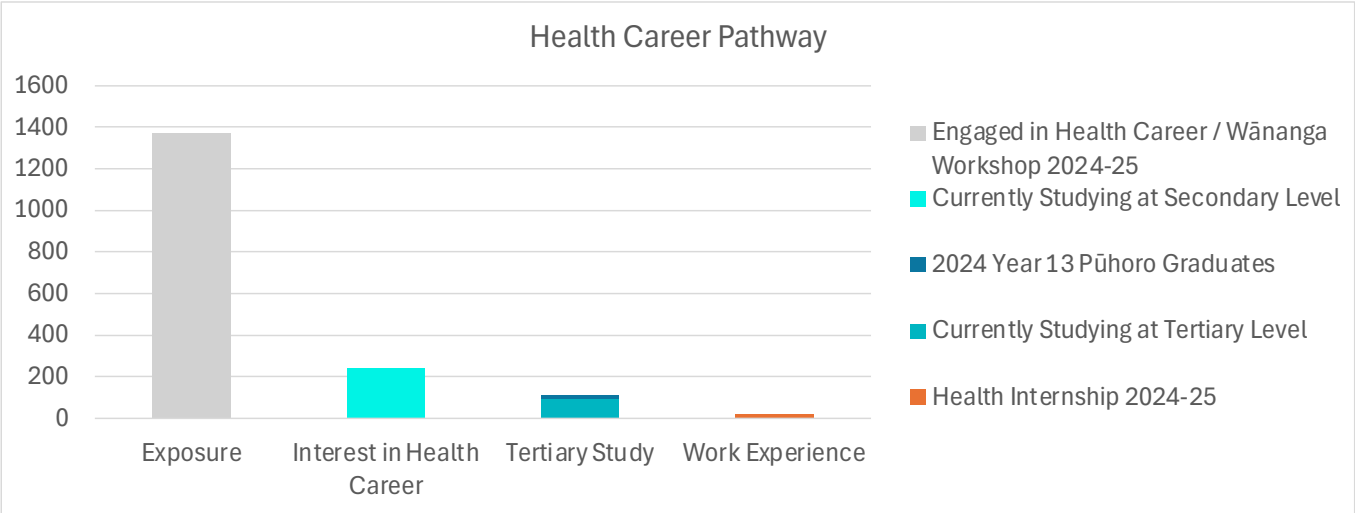
Phase 1: Te Urunga Tū (Secondary School Health Career Education)

Phase 2: Te Urunga Pae (Tertiary Provision Health Pathway & Exposure)

Phase 3: Te Urunga Tapu (Employment Provision)

PŪHORO DASH SUMMARY

A ‘dashboard’ summary of key project information such as: rangatahi participation, engagement & progression rates through the Health Career Pathway



PŪHORO STEMM DELIVERABLES YEAR TWO

We are pleased to provide an overview of the many achievements and the progress completed over Year Two of our partnership with Health New Zealand | Te Whatu Ora. More detail on specific elements of our partnership successes will be detailed in later sections of the report.

- The projected target for Year Two is to engage a total of 750 rangatahi in the Health Career Pathway. Now at the end of Year Two reporting we are delighted to announce that Pūhoro have successfully engaged a total of **1,381** rangatahi. Further, this number will only continue to increase as we prepare for another set of health-focused workshops at Pūhoro wānanga in Term Three 2025.
- **93** rangatahi are enrolled in and pursuing health-related studies with Te Urunga Pae (the Pūhoro tertiary phase) for 2025.
- Pūhoro partnered with He Oranga Hauora on a new scholarship opportunity for **four** exceptional rangatahi Māori from our tertiary phase
- At the end of 2024 Pūhoro were proud to graduate **26** Year 13 rangatahi from the Pūhoro Te Urunga Tū (the Pūhoro secondary phase), who planned to study or work in the health sector in 2025.
- The 2024/2025 internship programme saw **49** rangatahi engaged in the programme with **18** internships offered specifically to those rangatahi studying health-focused subjects at tertiary level.
- In Quarter One of Year Two, **15** Pūhoro rangatahi were selected to participate in our health focused STEMM excursion to Silicon Valley, USA as part of our Nōku te Ao kaupapa.
- The launch of Te Urunga Tū secondary school phase in Tauranga in April 2025 has been a great success and we look forward to emulating this when we launch in Taranaki in July 2025. This will take the total number of regions engaged with Pūhoro to **14**.

HEALTHIER LIVES SCHOLARSHIP RECIPIENTS

This year Pūhoro had the privilege of partnering with He Oranga Hauora – Healthier Lives on a new scholarship targeted at rangatahi Māori studying data and related fields in connection with positive health outcomes.

He Oranga Hauora is a kaupapa as part of the National Science Challenges umbrella that aims to improve the prevention and treatment of cancer, cardiovascular disease, diabetes and obesity, and achieve equitable health outcomes in Aotearoa. The collaborative national research programme envisions a future in which Māori are research leaders in data science. With this scholarship, they aim to raise awareness about the importance of data science in health disciplines, to manaaki young Māori data scientists who have the potential to someday lead research in these fields, and to demonstrate the impact and viability of scholarships to Māori in data science. This partnership also seeks to bring awareness to the indigenous data sovereignty movement and recognises the inherent rights and responsibilities indigenous people have over their data, particularly in how it relates to Māori data sovereignty in the health sector.

Pūhoro were delighted that four of our exceptional rangatahi from the tertiary phase of our kaupapa were selected as recipients of this scholarship. Each of them brings expertise in fields which cover Information Systems and Software Development, Civil Engineering and Plant Genetics, Data Analytics, Data Analysis and Health Sciences, Product Invention and Development as well as whakapapa and mātauranga preservation, showcasing the diverse skill sets that will drive this important mahi forward. With our support, these rangatahi will play a key role in contributing to the kaupapa by working at the intersection of health and data science, underscoring the importance of fostering Māori leadership in these fields.

In December 2024, our Manahautū CE, Kemp Reweti met all four of our recipients via Zoom to offer mentoring and career development support and to ensure the rangatahi understood how Pūhoro can further support them in their individual development in mātauranga Māori and provide ways where Pūhoro can link them into our diverse network of STEM.

We are pleased to share with you some brief insights from our scholarship recipients as they share their STEM experiences and aspirations.

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“The course for mechanical engineering at Auckland University is not for the weak. As well as balancing this year’s project for biomedical and data research on unhealthy homes with a primary scope on Māori and Pasifika communities. It has been an absolute whirlwind. Though I can say I am very proud of the hard work I have put into this degree.”

“I love engineering, I love science, and I want to find ways to give back to the village that helped me get here. I want to inspire other young Māori women to acknowledge that they are good enough and they have the capabilities to go into careers in STEMM.”

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“That is what university is for, to explore your interests and meet people who can introduce you to new ideas that may intrigue you enough to pursue further. I found genetics fascinating and I wanted to know as much as possible.”

“There is a lot of amazing work being done in STEMM, and I am excited to be a part of the changes that are coming, driven by advances and discoveries being made. For me, I hope to be using my science and stats background to improve the health of our people and our land.”

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Chance is pursuing a Bachelor of Information Sciences, specialising in Software Engineering with a minor in Mathematics. Beyond his academic achievements, he leads as the Head Tutor at the Pūhoro STEMM Academy, where he is passionate about empowering rangatahi Māori to reach their full potential. Eager to expand his expertise, Chance is excited about an upcoming collaboration with Horizon Council on a software development project, where he will apply his skills in a dynamic, real-world environment.

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“Your community plays a big part in shaping you as a person and I believe it is important to give back to it; whether it be through programs, mentorship, staying grounded and balanced. Pursuing a career in STEMM has the potential to be demanding, maintaining a balance between professional goals and personal well-being is essential. Stay connected to your whānau, culture, and community.”

PŪHORO SUMMER INTERSHIP NOHO/PŌ WHAKANUI

The Pūhoro Summer Internship Programme noho took place from Wednesday, 20 November 2024, to Friday, 22 November 2024, at Te Pūtahi a Toi, Massey University in Palmerston North. The noho served as a preparatory event for 49 rangatahi entering their three-month Pūhoro summer internships, with a focus on developing professional, cultural, and personal skills.

Health New Zealand | Te Whatu Ora played a pivotal role in this programme by co-funding a significant number of internships focused on health-related fields. Your support has empowered our rangatahi to pursue meaningful contributions to Māori health and wellbeing, aligning with the kaupapa of building a culturally-responsive health workforce.

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Our Quarter Two report provided a full overview of the event and the sessions but to summarise the noho included a diverse range of sessions to equip rangatahi with essential skills and knowledge for their internships. For our rangatahi, the noho prepares them for their internships and enhances their confidence, cultural identity, and professional readiness. They emerge as skilled, culturally-grounded individuals who are equipped to make meaningful contributions to their chosen STEMM fields. For our internship supervisors, the noho provides a unique opportunity to engage with and learn from rangatahi who bring a distinctive Māori worldview and skillset. These interns are able to demonstrate the value of integrating

mātauranga Māori into STEMM industries, fostering innovation and inclusivity. Organisations gain insights on how to support and benefit from a workforce that values cultural-responsiveness and diversity, ultimately enriching their own capabilities and ensuring a more equitable and effective contribution to Aotearoa's STEMM sector.

The Internship programme concluded with our Pō Whakanui, on 12 February 2025. This very special event highlighted the achievement of our interns at the end of their summer programme. It was an inspirational evening and a highlight of the year. The previous report

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submitted for Quarter Three focused on our Internship Programme but we did want to highlight this event as it is a special celebration for our rangatahi.

In addition to showcasing interns' work Pō Whakanui is also a great networking opportunity as our health interns had the opportunity to kōrero with a number of professionals within

the health sector and those professionals were given a first-hand look at the innovative projects undertaken by the interns. The success of the Pūhoro internship programme continues to demonstrate the value of investing in rangatahi Māori within STEMM.

S9(2)(a)



HEALTH INTERN PROFILES

Pūhoro are grateful for the continued investment made by Health New Zealand | Te Whatu Ora in our internship programme. Health New Zealand | Te Whatu Ora have significantly contributed to the support of eighteen of our rangatahi who successfully completed health-focused internships over the reporting period. Again, our Quarter Three report profiles all eighteen of these talented scholars and provided summaries of their projects and links to their display posters. However, we would like to highlight again the exceptional work of health interns S9(2)(a) . S9(2)(a) won the best Poster Design award for her poster *Mobile App Solution for Māori Heart Health?* And S9(2)(a) won the Māoritanga Award for her poster *Enhancing a Collective Understanding to Support Whānau in Times of Loss*.

S9(2)(a)

Batchelor of Biomedical Sciences (Functional Human Biology)

Supervised by: S9(2)(a)

Hosted by: Pūtahi Manawa, Manawa Ora
Integrated Health & Research, and the Heart
Foundation

S9(2)(a) worked alongside the Manawaora research team in Tauranga to co-design solutions to support heart health in the community. This involved reviewing current resources available to support Māori heart health such as those from Toi Tangata Heart Foundation & Manawaora, and developing a wire frame for a whānau facing app to support heart health.

S9(2)(a)

S9(2)(a)

S9(2)(a)

Batchelor of Nursing

Supervised by: S9(2)(a)

Hosted by: Te Pae Hauora o Ruahine o Tararua |
Midcentral

In this project, S9(2)(a) reviewed approaches to enhance whānau engagement and communication when accessing tūpāpaku services at Palmerston North Hospital. Her research revealed a number of unique cultural challenges that Māori face in such contexts, and resulted in several recommendations for how to improve the hospital's processes and communication.

S9(2)(a)

NŌKU TE AO 2024: SILICON VALLEY, USA

Nōku Te Ao, is a transformative initiative designed by Pūhoro to expand the horizons of our rangatahi through international experiences. Previous destinations have included Hawaii, Houston (USA), Taiwan and Singapore. Thanks to the support of Health New Zealand | Te Whatu Ora in 2024, Noku Te Ao enabled 15 rangatahi from across the motu to experience STEM in other countries alongside other indigenous communities. The haerenga to Silicon Valley, USA, was an opportunity to explore health-focused STEM pathways and engage in reciprocal learning with the Ohlone people, the indigenous peoples of the San Francisco Bay area.

The Nōku Te Ao trip to Silicon Valley provided our rangathi with invaluable experiences that have inspired them to pursue STEMM pathways with renewed vigour. The engagement with the Ohlone people highlighted the importance of indigenous knowledge systems in addressing global challenges. Visits to world-class intuitions and companies underscored the significant of health-focused STEMM initiatives and the potential to rangatahi to lead in these spaces.

The rangatahi recorded the haeranagi as they experienced it in real-time with daily diary entries to capture the experience. Below features some highlights of the haerenga from the perspective of the rangatahi.

S9(2)(a)



“Our first full day in STEM was incredible!. At Google, we learned about the company’s history, innovative projects, and employee well-being practices. In the afternoon, we visited the California Academy of Sciences, exploring exhibits on wildlife, sea life, and earthquakes.”

S9(2)(a)



S9(2)(a)



“Today was a day of cultural connection with the Ohlone people...Redbird welcomed us with a ceremony and shared practices of kai sovereignty and cultural preservation. We contributed through planting trees and preparing the land for winter. The exchange was emotional and enriching, as we found parallels between their struggles and our won. To conclude, we gifted taonga and performed waiata and haka.”

“We had the incredible privilege of visiting the prestigious University of California, Berkeley Science Institutions...We had the opportunity to learn about Berkeley’s groundbreaking contributions, from learning how Berkeley scientists contributed to the discovery of new elements on the Periodic Table, to breakthroughs in treatment for metastatic melanoma, to insights on nanotechnology...We spent the day fully immersed in everything the institutions has to offer and walked away with an abundance of fascinating new insights.”

PŪHORO HEALTH GRADUATES 2024

The Te Urunga Tū (secondary school) phase of the Pūhoro kaupapa plays a significant role in enticing our rangatahi towards future STEMM pathways and careers. This phase is a crucial time to inspire rangatahi, who often change their study or careers aspirations as they progress through the Pūhoro kaupapa.

We were proud to announce that of our 2024 cohort, twenty-six of our Year 13s had declared that they would be pursuing health related study at tertiary level in 2025. Their commitment to pursue health-related study and careers signifies the crucial support given by Health New Zealand | Te Whatu Ora, in fostering success through our kaupapa and opening our rangatahi to the wide range of health-related study and career options available to them.

Our Quarter Two report featured a celebration of each Year 13 graduate from across the motu and we would like to take the opportunity to highlight four of these rangatahi who have now completed their first semester of tertiary level health related study as a number of them were also part of the Nōku Te Ao trip as reported above.

S9(2)(a)

S9(2)(a)

S9(2)(a) is currently enrolled in First Year Health Science at the University of Otago. When S9(2)(a) began with Pūhoro as a year 11 student at John Paul College, Rotorua she was already focused on a health related career with aspirations to study and work in the psychology and/or medical fields. This focus was further developed by her inclusion as one of the 15 rangatahi selected to attend the 2024 Nōku Te Ao trip to Silicon Valley. S9(2)(a) is now engaged with our tertiary phase in health related study where we are sure she will continue to thrive.

S9(2)(a)

S9(2)(a)

S9(2)(a) was our Year 13 MVP for the Waikato Region and her aspirations since joining Pūhoro as a Year 11 student at Hillcrest High School, Hamilton were to further her study and career options in medicine and health. S9(2)(a) continues to pursue this goals and is now enrolled in First Year Health Science at the University of Otago. S9(2)(a) was also a member of the cohort on Nōku Te Ao and this experience further developed and confirmed her desire to pursue health related study in 2025.

S9(2)(a)

S9(2)(a) was also selected to attend Nōku Te Ao in 2024. She began her time with Pūhoro as a Year 11 student at Tū Toa, Palmerston North with aspirations to be a Technology Scientist or Marine Biologist. S9(2)(a) is now focused on studying a Batchelor of Midwifery and is undertaking further study at UCOL to achieve this goal. She remains engaged with our tertiary phase and values the support that our Te Urunga Pae team can offer her.

S9(2)(a)

S9(2)(a)

S9(2)(a)

S9(2)(a) joined Pūhoro as a Year 11 student at Cashmere High School, Ōtautahi . He was always very clear on his career aspirations declaring his early desire to be a Sports Psychologist. S9(2)(a) is now on the path to achieving this goal as First Year Psychology Student at the University of Canterbury. Our tertiary phase will continue to support S9(2)(a) on his journey.

HEALTH FOCUSED WĀNANGA WORKSHOPS: DELIVERY & IMPACT

Our summary of Year Two Quarter Four on pages 3-15 of this report provides an overview of the key health workshop delivered across the motu at Pūhoro wānanga in Term 2, 2025. Thanks to the support of Health New Zealand | Te Whatu Ora, Pūhoro is able to offer a wide range of health related workshops at our wānanga.

As previously reported in 2024 Pūhoro successfully delivered 69 health-focused workshops to 872 rangatahi across 10 Pūhoro regions. Adding our numbers for 2025 (to date) as stated in the quarterly summary in this report. We are pleased to confirm that a total of **139** health-focused workshops have been delivered to **1,381** rangatahi from 13 Pūhoro regions at 11 wānanga.

Following analysis of our qualitative feedback from rangatahi, the consensus is that the Term Three, 2024 and Term Two 2025 Pūhoro wānanga health workshops positively impacted rangatahi.

The following themes and learnings emerged from their workshop experiences:

EXPOSURE TO STEM INNOVATION AND CAREERS PATHWAYS

Rangatahi enjoyed the exposure to the variety of Hauora-focused careers that were presented to them and also enjoyed the opportunity to create and innovate, expressing the value of being able to learn by doing and experiencing. Exposure to a wide variety of Hauora-focused activities and careers allows rangatahi to be aware of the possibilities that exists within health, which in turn prompts them to be curious about, and visualise themselves, in health pathways.

MĀTAURANGA MĀORI AND TŪ-Ā-KIRI LEARNINGS

Rangatahi were quick to recognise tū-ā-kiri themes throughout a number of Hauora workshops that reminded them of who they are and that their identity as Māori is to be embraced, celebrated and used as a launching pad for success. Rangatahi need regular reminders and teaching that confirms their Māori identity as inherently good and a valuable part of who they are so they can remain positively connected with their identity and be proud to succeed as Māori. Having a strong connection to identity is closely linked to positive Hauora outcomes for Māori.

A vertical teal geometric pattern consisting of various shades of teal and blue triangles and polygons, located on the left side of the page.

TEAMWORK

During the Hauora-focused sessions, rangatahi expressed enjoyment at being together and interacting with each other in teams. This allowed them to explore outside of their comfort zone and experience the whanaungatanga element of Pūhoro. Rangatahi benefit from interaction with others and thrive in environments where they can meet new people, work, and problem-solve together. This is a key element of Pūhoro wānanga and an accurate predictor of workshop success.

HE MIHI | OUR THANKS

Since the beginning of our collaboration, we have witnessed first-hand the impact of empowering rangatahi to engage in STEMM pathways and explore careers in health. Through termly wānanga and internship opportunities, Pūhoro has nurtured tauira curiosity, built tauira confidence to pursue careers in health, and strengthened tauira tūākiri (identity). Because of our collaboration, Pūhoro rangatahi are developing a deeper awareness of opportunities within the health sector.

As we move forward through 2025, Pūhoro remains committed to strengthening this collaboration and continuing to inspire and equip rangatahi with the tools they need to excel in health while making an impact in their communities and beyond.

Again, Pūhoro extends our aroha and thanks to Health New Zealand | Te Whatu Ora for your unwavering commitment to a STEMM-led Aotearoa.

He Waka Eke Noa!



HEALTH NEW ZEALAND | TE WHATU ORA
(Hauora Māori Services Directorate)

Pūhoro STEMM Academy

Quarterly Report 1
1 July-30 September 2025



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FOREWORD OF THE MANAHAUTŪ



Kemp Reweti – Manahautū: Pūhoro Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

It is both an honour and a privilege to present this quarterly review, reflecting our continued partnership with Health New Zealand | Te Whatu Ora. Our collaboration has been a powerful driver in empowering rangatahi to engage with and excel in STEMM — particularly inspiring them to pursue their aspirations in health through the bespoke Health Careers Pathway developed in partnership with Te Whatu Ora.

Through this partnership, rangatahi have been able to deepen their understanding of health career opportunities as a meaningful and achievable pathway. We are proud to report that many are actively pursuing further skills and qualifications within the health sector, achieving outstanding results.

Te Whatu Ora's engagement has been instrumental in preparing our rangatahi for study and employment across health-related fields. The hands-on experiences gained through attendance at Pūhoro wānanga, participation in the summer internship programme, and access to scholarship opportunities are fostering a new generation of skilled, culturally grounded Māori health professionals — ready to uplift the hauora of our whānau, marae, hapū, and iwi.

This report provides an overview of Quarter One activity under our new agreement, covering the period from 1 July to 30 September 2025. Pūhoro extends its sincere gratitude to Health New Zealand | Te Whatu Ora for their ongoing support and commitment. Your investment in our kaupapa continues to transform lives — nurturing the potential of rangatahi and equipping them with the tools to thrive in the ever-evolving world of STEMM.

PŪHORO SUMMARY (QUARTER ONE)

The Pūhoro Summary provides a quick snapshot of progress completed over the last quarter (July – September 2025) and is further expanded below:

- The projected target under our new agreement is to engage a total of 1,500 rangatahi in the Health Career Pathway by 30 June 2027. We are pleased to advise that we have started off strong with **1,063** currently engaged through attendance at our health-related workshops at our Term Three wānanga. We are confident that this number will continue to grow as our work continues over the next 2 years.
- Our Term Three wānanga successfully delivered **66** health-focused workshops on a range of issues from medical science to microbiology to art and meaning of Māori carvings.
- We are also in the process of confirming the placements for the Pūhoro Summer Internship Programme and we look forward to confirming the new cohort of highly skilled and capable health-focused interns with exciting career advancing opportunities in our next Quarterly Report due January 2026.
- We are also delighted to report that in July 2025 we launched Pūhoro in Taranaki, further expanding our reach across the motu and our ability to engage and inspire more rangatahi in the Health Career Pathway.
- **93** rangatahi are enrolled in and pursuing health-related studies with Te Urunga Pae (the Pūhoro tertiary phase) for 2025. We expect this number to increase for our next report once our 2025 Year 13 cohort confirm their study choices for 2026.
- **15** Pūhoro rangatahi have been selected to participate in our STEMM focused trip to Singapore from 30 November – 7 December 2025, as part of our Noku Te Ao Kaupapa. We look forward to providing Health New Zealand | Te Whatu Ora with more detail on this in our next report.
- We were also pleased to recently meet with Whakapiki Ake to explore ways in which we could potentially collaborate to bring together rangatahi, researchers, and health/STEMM professionals.

PŪHORO HEALTH WORKSHOP DELIVERY

Pūhoro has continued to deliver hauora-focused workshops throughout our Term Three 2025 wānanga held across the motu. Each term, through participation in our wānanga, rangatahi have the opportunity to engage with leading figures in the STEMM sector, take part in a variety of interactive workshops, and connect with like-minded peers from other schools within their regions.

As in previous terms, we have had the privilege of facilitating a number of highly successful health-focused workshops. These sessions have captured the interest of rangatahi through exploration of a wide range of health-related topics and consistently stand out as a highlight of the wānanga experience. Our hauora workshops offer valuable insights into the diversity of study and career pathways available across the dynamic and evolving health sector.

In Term Three, 2025 Pūhoro have successfully delivered **66** health-focused workshops at 11 wānanga events to rangatahi from 13 Pūhoro regions. This section of the report provides a concise overview of each health workshop conducted during our wānanga series, along with feedback from rangatahi and photo highlights from a sample of the regions delivered to.

- **Hauora-focused Workshops**

	Name	Year(s)	No. delivered
1.	Forensic Science	Yr 11	8
2.	Microbiology	Yr 11-13	5
3.	Food Science	Yr 12 & 13	10
4.	Medical Science	Yr 11	2
5.	Food Science & Research	Yr 13	1
6.	Te Rau Poka	Yr 11	3
7.	Sport & Recreation	Yr 11-13	3
8.	What is a Māori?	Yr 11	26
9.	Toi Whakairo	Yr 12	8
		Total	66

- **Term 3 Wānanga**

TE MATAU-A-MAUI | 5 August – Toi Whakairo, Food Science and What Is A Māori?

ŌTAUTAHĪ | 8 August – Forensics, Te Rau Poka, Food Science & Research and What is a Māori?

MANAWATŪ | 13 August – Microbiology, Food Science and What Is A Māori?

HOROWHENUA | 15 August – Toi Whakairo and What Is A Māori?

TE TAI TOKERAU | 19 August – Toi Whakairo and What Is A Māori?

WAIKATO | 21 August – Microbiology and What Is a Māori?

ROTORUA | 5 September – Sports & Recreation and What Is a Māori?

WHANGANUI | 11 September – What Is A Māori?

TAURANGA | 12 September – Forensics and What is A Māori?

TĀMAKI MAKĀURAU (Central) | 15 September – Medical Science, Food Science, Toi Whakairo and What Is a Māori?

TĀMAKI MAKĀURAU (South) | 16 September – Forensics, Medical Science, Food Science and What Is A Māori?

HEALTH-FOCUSED WORKSHOP REVIEW

FORENSIC SCIENCE | PHF

PHF facilitated a workshop on forensic science. Rangatahi took part in engaging forensic science activities, including DNA analysis, examining shoe prints, and learning how evidence is collected at crime scenes. They particularly enjoyed the hands-on aspects of the session — matching DNA samples, interpreting footprints, and using forensic tools and equipment. Through these activities, tauira developed an understanding of forensic science processes, such as identifying evidence, applying scientific methods, and exploring how crimes are solved. Many rangatahi also valued the chance to experience a new and fascinating subject area that broadened their learning beyond the classroom.

Rangatahi Feedback

“It was really cool and interesting to learn about the forensics area and seeing how they are able to identify different things from a crime scene.”

Tuakau College, Year 11

“This session was very interesting and I enjoyed learning all of the ways that DNA can be traced.”

Katikati College, Year 11

MICROBIOLOGY | Fonterra

Rangathi participated in engaging augmented reality (AR) and virtual reality (VR) activities, interactive quizzes, and presentations focused on career opportunities in the dairy industry.. They explored both academic and vocational routes into these industries and learned about the wide-ranging operations within organisations like Fonterra, extending beyond milk production. Overall, rangatahi found the sessions enjoyable and informative, noting the fun, interactive learning environment and the emphasis on future planning, career opportunities, and earning potential. Tauira also gained insights into the biochemistry involved in dairy production and the processes used to make different products to ensure they are safe from a public health perspective.

Rangatahi Feedback

"We did a lot of learning about the different things we can do at a company like Fonterra. They told us about all the academic opportunities, and it was a lot of fun."

Tai Wānanga, Year 13

"It was lots of fun, and very interesting. We got to see what food technologists did for their living, and to see where that could take us. Got to try some food, and understand the properties that help create them."

Palmerston North Girls' High School, Year 11

FOOD SCIENCE & HEALTH | Plant & Food Research

The workshop provided a fascinating overview of Plant & Food Research's role in Aotearoa's science sector and the wide range of STEMM career opportunities available within the food science sector. Rangatahi took part in a food taste-testing session, sampling a range of foods, sweets, and drinks while sharing their observations and discussing how elements such as colour and presentation can influence taste perception. Many taura enjoyed the novelty of the experience and the chance to compare perspectives with their peers. Through these activities, rangatahi learned about food variation, sensory perception, and the processes involved in food testing. These practical and informative activities gave rangatahi valuable insight into scientific concepts and their real world application, covering a variety of areas of food science, biological work fields and health.

Rangatahi Feedback

"I thought this was fun and interesting because you got to learn in depth just how far and long it takes for something to be released into the market. Loved the energy from the leaders of that group."

Auckland Girls' Grammar School, Year 12

"It was cool learning about the sciences behind how horticultural apples are produced, and how modern, scientific methods of reducing disease in apples are used in the horticulture sector."

Karamū High School, Year 13

MEDICAL SCIENCE | University of Auckland

Rangatahi explored the organs of the human body and took part in interactive group activities. They particularly enjoyed the hands-on experience with medical tools, especially the ultrasound equipment. Many highlighted the presenters' enthusiasm, humour, and engaging delivery, which made the session both enjoyable and memorable. Through the activities, tauira deepened their understanding of the heart, blood vessels, arteries, veins, and blood pressure. They learned how blood circulates through the body and gained insight into the distinctions between arteries and veins. The session also introduced students to potential medical career pathways while reinforcing key biological concepts. Rangatahi valued the interactive, practical approach to learning and appreciated the opportunity to use real medical equipment in a fun and supportive environment.

Rangatahi Feedback

"Amazing, was really engaging. Definitely gave insight into a career in medicine."

Waiuku College, Year 11

"It was interesting to learn about the heart and how it functions and it was cool working with the different tools like the ultrasound."

Papakura High School, Year 11

TE RAU POKA | RACS

Te Rau Poka can be seen as a surgical academy for Māori, providing support, advice and mentorship from secondary school to the midpoint of their surgical careers. In this practical workshop rangatahi took part in hands-on medical science activities focused on bone surgery. They practiced drilling and repairing bones, performed mock surgeries, and removed simulated objects from body parts. Through these interactive sessions, they explored surgical procedures, handled medical equipment, and learned about pathways into healthcare and medical science careers. Through the workshops, tauira gained insight into surgical techniques, medical equipment use, and the training required to become doctors or surgeons. They developed practical skills and a deeper appreciation for the responsibilities of healthcare professionals while enjoying the hands-on, immersive learning experience.

Rangatahi Feedback Snapshot

“It was amazing, I’m going into medical school when I am older so this was really helpful and informational.”

Cashmere High School, Year 11

“This session was so fun I got to hammer bones and see what it’s actually like to be a surgeon.”

Christchurch Girls' High School - Te Kura o Hine Waiora, Year 11

FOOD SCIENCE & RESEARCH | Lincoln University

Lincoln University provided a memorable workshop on food science and research. Rangatahi took part in chocolate-tasting activities where they sampled and rated different types of chocolate while learning about food science and statistical analysis. They also developed marketing pitches and designed their own chocolate products for specific target audiences. Many rangatahi highlighted the hands-on tasting and rating experience as a memorable part of the session. They enjoyed creating unique chocolate concepts and exploring how food science and technology contribute to product development.

Through these activities, taura gained insights into food science processes, including product testing, manufacturing considerations, and data analysis using spreadsheets. They also examined consumer trends related to chocolate production and testing. Overall, rangatahi appreciated the interactive and enjoyable nature of the session, noting the balance between creativity, learning, and fun in exploring the science behind food.

Rangatahi Feedback Snapshot

“We tested chocolate and learnt the science behind how the manufacturer food products and what they need to keep in mind.”

Avonside Girls' High School, Year 13

“It was interesting hearing about the food sciences and seeing the statistics behind food science.”

Cashmere High School, Year 13

SPORT & RECREATION | Toi Ohamai

Toi Ohamai delivered a highly interactive session centred on testing power, balance, and strength using cutting-edge performance assessment tools. Rangatahi responded positively to the hands-on, competitive aspects of the workshop, enjoying the opportunity to challenge both themselves and their peers. The session provided step-by-step demonstrations of how each test is conducted, allowing taura to actively participate in measuring their own performance. Participants also learned how data from these tools is analysed to inform training and improve outcomes in high-level sports.

The workshop offered valuable insights into how science and technology integrate with sport, particularly in measuring and analysing athletic performance. Rangatahi had the chance to ask questions, discuss results, and reflect on how different variables like nutrition, training, and recovery influence performance.

For rangatahi Māori exploring STEMM pathways, the workshop highlighted the deep connection between mātauranga Māori and hauora — both essential elements in achieving holistic wellbeing and success across all areas of life. It reinforced how STEMM knowledge can be applied in real-world contexts, encouraging rangatahi to see the relevance of science, technology, and measurement in fields they are passionate about.

Rangatahi Feedback Snapshot

“Very cool we got to see the science integrated in sports. We were allowed to measure our jump height and asymmetry height, as well as learn how to improve our strength. The equipment used calculated our jump and it was interesting to see. Good warm up.”

Rotorua Girls' High School, Year 13

“It was pretty fun I quite liked finding out the forces in my jump.”

Rotorua Lakes High School, Year 12

WHAT IS A MAORI? | Pūhoro STEMM Academy

The purpose of this session was to get rangatahi to think critically about what being a Māori means to them. The workshop started with a timeline of key events within the history of Aotearoa and their subsequent effect on Māori. Rangatahi then discussed their perceptions of the key element that define what a Māori is, encompassing various aspects such as relevant kai, kapa haka, and leadership, to low socio-economic status, alcohol and violence

on the opposite spectrum. With the various perceptions written on the board. Pūhoro kaimahi then challenged rangatahi to filter their perceptions down to key elements that truly define what a Māori is. After a process of elimination, rangatahi came to the realisation that whakapapa is the only requirement to be Māori. This instilled a sense of upliftment and reassurance.

Rangatahi Feedback Snapshot

“Made me feel more confident with my identity.”

Cullinane College, Year 11

“I was happy to learn about different perspectives of Māori and how far te reo Māori has come and our whakapapa.”

Manawatū College, Year 11

TOI WHAKAIRO | Pūhoro STEMM Academy

Rangatahi explored the art and meaning of Māori carvings through sketching activities, a quiz, and discussions about traditional designs. The story of Ruatēpupuke and the whale stood out as a memorable and meaningful part of their learning. Tauira also created their own carving-inspired designs, drawing on the stories and symbolism they had learned. Through the workshop, students deepened their understanding of the cultural significance of Māori carvings, their historical context, and the stories they embody. The combination of storytelling, creativity, and hands-on engagement made the experience both insightful and enjoyable and enabled rangatahi to practically engage with the learning and explore the spiritual connection with the weaving process to increase their mental wellbeing and overall hauora.

Rangatahi Feedback Snapshot

“This was the best session, I really enjoyed the meaning and background of each individual pattern. I also learned so much about Toi Whakairo. Matua ^{S9(2)(a)} was really exceptional at teaching us. Overall I enjoyed this session the best.”

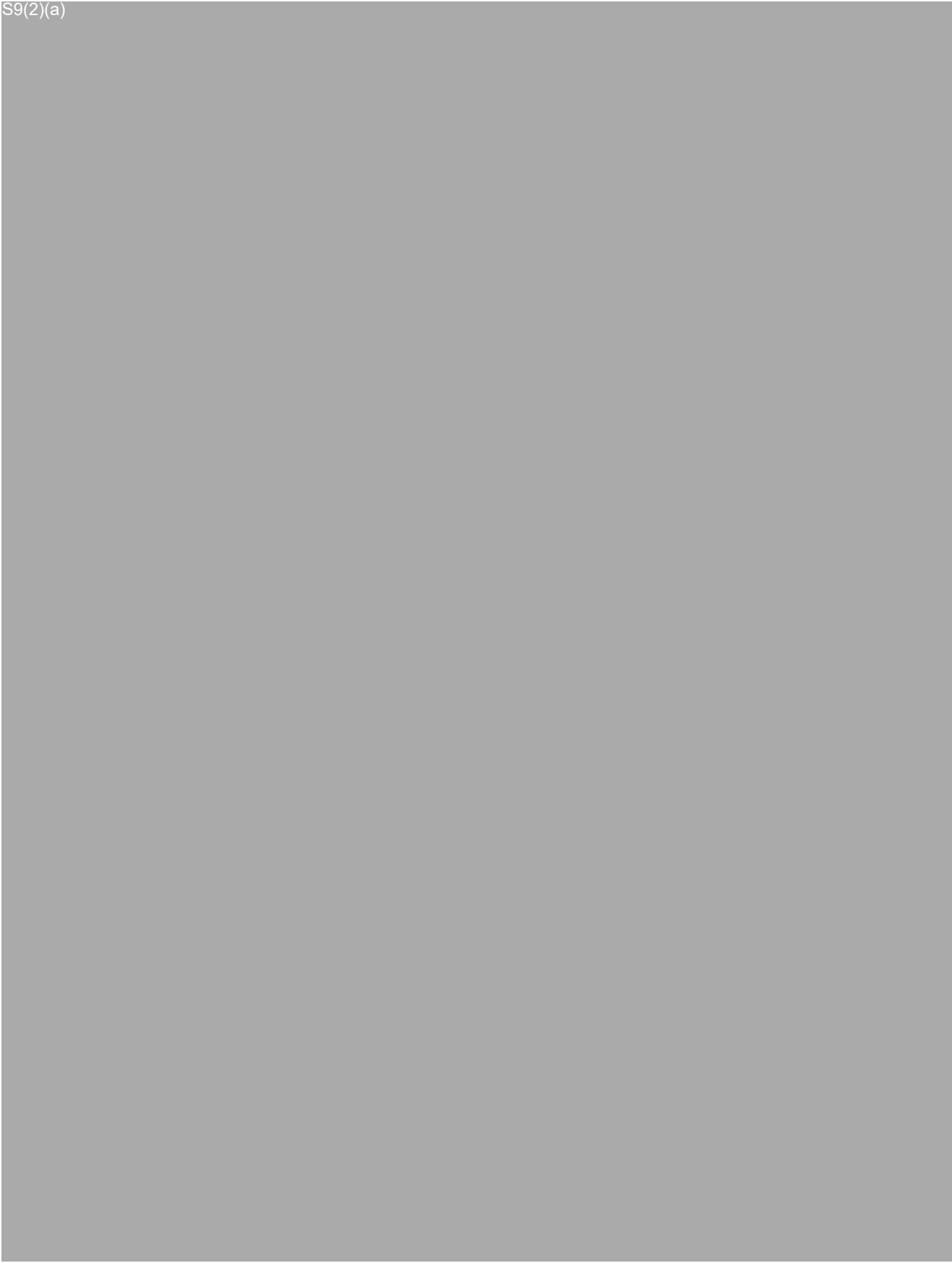
Auckland Girls' Grammar School, Year 12

“This one was fun we got to draw which was cool and we learned the origin of carving and what Toi Whakairo is and the beauty of it and how it has impacted our culture.”

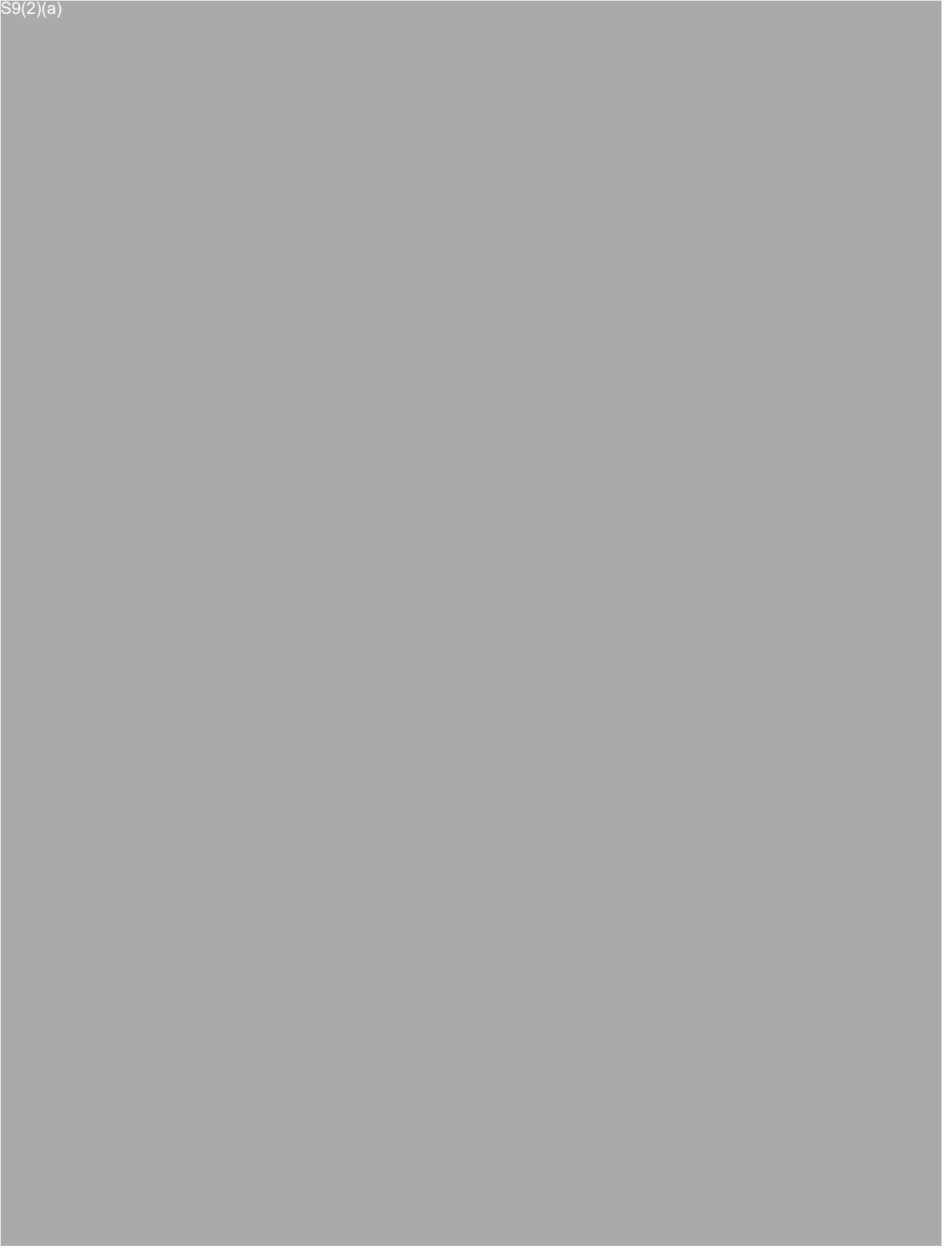
Tāmaki College, Year 12

WĀNANGA PHOTO HIGHLIGHTS

S9(2)(a)



S9(2)(a)



PŪHORO TARANAKI LAUNCH

In July 2025 we officially launched in Taranaki. Through a powerful collaboration with Why Ora Pūhoro is now supporting rangatahi Māori in Taranaki to be the STEMM leaders of tomorrow. We are partnered with 5 schools, New Plymouth Boys' School, New Plymouth Girls' School, Stratford High School, Pe Paepae o Aotea and Waitara High School, with 68 tauira registered and are excited for the opportunities ahead for further growth in this region.

S9(2)(a)



PROMOTIONAL & PLANNED ACTIVITIES: 1 OCTOBER - 31 DECEMBER 2025

In alignment with the key aspirations of our agreement, Pūhoro will provide an update of upcoming kaupapa during the next quarterly report due 20 January 2026. Any additional information will be provided as required, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- An update of the Term 4 Pūhoro graduations, including highlighting the health graduates that will be moving onto further health related study or work opportunities in 2026.
- Health New Zealand | Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Term 4 graduations and any other significant events that may occur in the next three months.
- The Pūhoro Internship programme will launch on 17 November with the Summer Studentship noho. We look forward to providing more detail on this special event in our next report.
- Pūhoro will continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-careers oriented pathways in 2026.

As we move through the final quarter of 2025, Pūhoro are grateful for the opportunities that have arisen for our rangatahi who have a keen interest in health. We look forward to what the second half of this year brings. May our rangatahi continue to amaze us with their resilience, commitment to STEMM and their unique Māori worldview.

He Waka Eke Noa!



HEALTH NEW ZEALAND | TE WHATU ORA
(Hauora Māori Services Directorate)

Pūhoro STEMM Academy

Quarterly Report 2
1 October-31 December 2025



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FOREWORD OF THE MANAHATŪ



Kemp Reweti – Manahautū: Pūhoro Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

As we enter another year of positive progress in Māori health pathways, it is timely to reflect on and celebrate the achievements of our rangatahi as we conclude the 2025 year through this milestone report. With the completion of Term 4 of the secondary school year, our rangatahi have continued to actively pursue their aspirations in health. Through the Pūhoro and Health New Zealand | Te Whatu Ora Health Career Pathway, rangatahi have gained valuable first-hand experience across a range of health careers, progressed through scholarship opportunities, and a strong number of rangatahi who participated in a life-changing overseas experience in Singapore are commencing or continuing into higher education in health related study. These achievements would not have been possible without the unwavering support and commitment of our partners at Health New Zealand | Te Whatu Ora, whose mahi reflects a genuine dedication to building a diverse, inclusive, and future-focused health workforce for Aotearoa.

In acknowledging these milestones, we also recognise the collective commitment of Health New Zealand | Te Whatu Ora to the kaupapa. This shared investment continues to create meaningful pathways and opportunities for the next generation of Māori health professionals. The partnership demonstrated throughout this reporting period highlights the power of collaboration in advancing equity, inclusivity, and excellence in Māori health outcomes. As evidenced below, our rangatahi continue to inspire through their resilience, ambition, and determination to succeed in their chosen fields. Their achievements reflect both their individual dedication and the importance of culturally responsive pathways that honour their aspirations and uphold their Māoritanga.

Pūhoro extends its sincere appreciation to Health New Zealand | Te Whatu Ora for its ongoing support and commitment. Your continued investment in this kaupapa is transforming lives — empowering rangatahi and equipping them with the skills, confidence, and opportunities to thrive within the evolving STEMM and health sectors.

PŪHORO SUMMARY (QUARTER TWO)

The Pūhoro Summary provides a quick snapshot of progress completed over the last quarter (October – December 2025) and is further expanded below:

- The projected target under our new agreement is to engage a total of 1,500 rangatahi in the Health Career Pathway by 30 June 2027. Pūhoro have successfully engaged a total of **1,063** rangatahi during 2025. Importantly we note that in respect to this target at the end of 2025, which this report covers, Pūhoro's progress is firmly **on-track**.
- A total of **249** rangatahi from the Te Urunga Tū (secondary school phase) have indicated an aspiration to pursue a career in health. It is anticipated that this number will increase as we welcome a new cohort of Year 11 rangatahi across the motu in 2026.
- **155** rangatahi are pursuing health-related education/studies with Te Urunga Pae (the Pūhoro tertiary phase) we are confident will see an uplift in this statistic in the next quarter.
- We have **65** Year 13 rangatahi who have already advised us that they will be pursuing health related studies in 2026 and this number is likely to increase as more rangatahi confirm their plans in the New Year.
- Pūhoro coordinated **22** health- related summer studentships for 2025-2026. A description of each intern and their project can be found on page 6. These rangatahi are engaged with a number of leading health organisations including Te Pae Hauora o Ruahine o Tararua | MidCentral, Pūtahi Manawa, the University of Auckland, Manatū Hauora | Ministry of Health, the Malaghan Institute of Medical Research, Edible Research and Massey University.
- **15** Pūhoro rangatahi were selected to participate in our STEMM focused trip to Singapore from 30 November – 7 December 2025, as part of our Nōku Te Ao kaupapa, 8 of these tauira will be continuing or commencing health-related study in 2026.
- Our partnership with Why Ora in Taranaki continues to develop as we work to support our rangatahi especially those on our Health Career Pathway.

PŪHORO BOARD UPDATE

Our board has also seen a time of change in 2025. We farewelled Tahu Kukutai (FRSNZ) with deep appreciation for her service and leadership, and welcomed two new trustees – Dame Farah Palmer (DNZM) and Aweranghi Tamihere (MNZM). Both bring extensive experience, especially within health-related fields and unwavering passion for Māori success, which will be invaluable as we guide Pūhoro into its next chapter.



Dame Farah Palmer, is a distinguished academic and former elite rugby player, currently serving as Executive Director in Māori Student Success at Massey University. She holds a Doctor of Philosophy and Bachelor of Physical Education from Otago University. She is a prominent leader in various research capacities, including as Acting Director of te Au Rangahau (the Māori Business Research centre) at Massey University, as an Executive Board member of Ngā Pae o te Māramatanga at the University of Auckland.



Awerangi Tamihere joins our Trust with over 30 years of experience in health strategic planning, organisational development and social policy reform. Awerangi's leadership in advocating for whānau self-determination and her expertise in outcome measurement will bring valuable insights to the Pūhoro kauapapa. In 2023, she was appointed a Member of the New Zealand Order of Merit for her services to Māori health.

PŪHORO KURA DATA

We are pleased to list the 93 schools we worked with during 2025 through which we are deploying our Health Career Pathway.

• Northern (22)

Auckland Girls' Grammar School, Botany Downs Secondary College, Pakuranga College, Selwyn College, Tāmaki College, Tangaroa College, TKKM o Mangere, Western Springs College, Alfriston College, Manurewa High School, Onehunga High School, Onewhero Area School, Papakura High School, Pukekohe High School, Rosehill College, Tuakau College, Waiuku College, Dargaville High School, Kamo College, Tikipunga High School, Whangārei Boys' High School and Whangārei Girls' High School.

• Te Manawa Takai (28)

John Paul College, Rotorua Boys' High School, Rotorua Girls' High School, Rotorua Lakes High School, Trident High School, Western Heights High School, Ruapehu College, Taihape Area School, New Plymouth Boys' High School, New Plymouth Girls' High School, Stratford High School, Te Paepae o Aotea, Waitara High School, Kaitikati College, Mount Maunganui College, Ōtūmoetai College, Tauranga Girls' College, Te Puke High School, Cambridge High School, Fraser High School, Hillcrest High School, Huntly College, Ngā Taiātea Wharekura, Ōtorohanga College, Tai Wānanga, Te Kauwhata College, Te Kopuku High and Te Wharekura o Maniapoto.

• Te Ikaroa (35)

Horowhenua College, Kāpiti College, Manawatū College, Ōtaki College, Tararua College, Tū Toa, Waiopahu College, Awatapu College, Dannevirke High School, Feilding High School, Hato Pāora College, Mana Tamariki, Manukura, Palmerston North Boys' High School, Palmerston North Girls' High School, Queen Elizabeth College, St Peter's College, Te Kura ā Iwi o Ngāti Kauwhata, Te Kura Kaupapa Māori o Manawatū, Hastings Boys' High School, Hastings Girls' High School, Karamū High School, Napier Boys' High School, Napier Girls' High School, Sacred Heart College Napier, Taradale High School, TKKM o Ngāti Kahungunu o Te Wairoa, TKKM o Te Ara Hou, Wairoa College, Wairarapa College, Cullinane College, Te Kura o Kokohuia, TKKM o Tūpoho, Whanganui Girls' College and Whanganui High School.

• Te Waipounamu (8)

Avonside Girls' High School, Burnside High School, Cashmere High School, Christchurch Girls' High School, Kaiapoi High School, Riccarton High School, Rolleston College and Shirley Boys' High School.

PŪHORO 2025 GRADUATES

Our Term 4 graduation events are always a very special time to celebrate the achievements of our rangatahi and to gather updates on our graduates plans for 2026. In 2025, Pūhoro are proud to have had over **238** tauira attending our **nine** Pūhoro Te Urunga Tū phase one secondary school graduation ceremonies held across the motu. Pūhoro graduations are a special time to celebrate our rangatahi and to learn of their future plans.

We are pleased to report that of our Year 13 cohort at least **65** tauira are planning to pursue higher health-related studies in 2026. This commitment to health-related study and careers further emphasises the importance of our partnership and its ability to encourage our rangatahi through our crucial secondary-school phase. A number of tauira are still finalising their 2026 plans so we are confident this number will increase further.

At each graduation event we take great pride in recognising an MVP for each region. The MVP award honours a tauira who shows strong commitment to our kaupapa, has a positive attitude and willingness to engage deeply with both mātauranga Māori and STEMM. The recipient of this award leads by example, they actively contribute to our kaupapa, and embody the values of kaitiakitanga, whanaungatanga, and rangatiratanga within the classroom and wider kura community. Of our nine MVP's for 2025 we are delighted to report that four of them (from Ōtautahi, Rororua, Tāmaki Makaurau and Te Tai Tokerau) will be pursuing health-related studies in 2026.

S9(2)(a)

S9(2)(a), MVP, Tāmaki Makaurau. In 2026 S9(2)(a) will be studying at Te Wānanga Takikura O Ngā Kura Kaupapa Māori, with plans to continue on to a Bachelor of Biomedical Science (Dentistry)

S9(2)(a)

S9(2)(a), MVP, Te Tai Tokerau. In 2026, S9(2)(a) will be studying Biomedical Science at Auckland University of Technology.

S9(2)(a)

NOKU TE AO 2025

Nōku Te Ao is a kaupapa designed by Pūhoro to expand the horizons of our rangatahi through international experiences. Previous destinations have included Silicon Valley, Hawai'i, Houston, Texas, Taiwan and Singapore. Nōku Te Ao enables 15 rangatahi (12 from our secondary programme and 3 from our tertiary programme) to experience STEMM in other countries and immerse themselves in local culture. Our 2025 cohort travelled to Singapore from 30 November – 7 December 2025 to immerse themselves in local STEMM industries and culture.

The Nōku Te Ao trip to Singapore provided our rangatahi with invaluable experiences that have inspired them to see the full possibilities available to them within STEMM pathways. They had the privilege of visiting a wide range of STEMM projects and organisations including Fonterra, the Institute of Technical Education, Singapore Science Centre, Art Science Museum, Bioprocessing Technology Institute, Sustainable Living Lab and the NZ High Commission. They also participated in a cultural and discussion based session with local Malay youth in STEM, exploring themes of community, identity and innovation in Southeast Asia.

A highlight of the trip for our health-focused rangatahi was a visit to the Singapore Institute of Food and Biotechnology Innovation. This enabled rangatahi to explore Singapore's leading research in food science, nutrition and biotechnology and to learn how innovative research in these institutes supports healthier, sustainable food systems and drives advancements in food technology across the region.

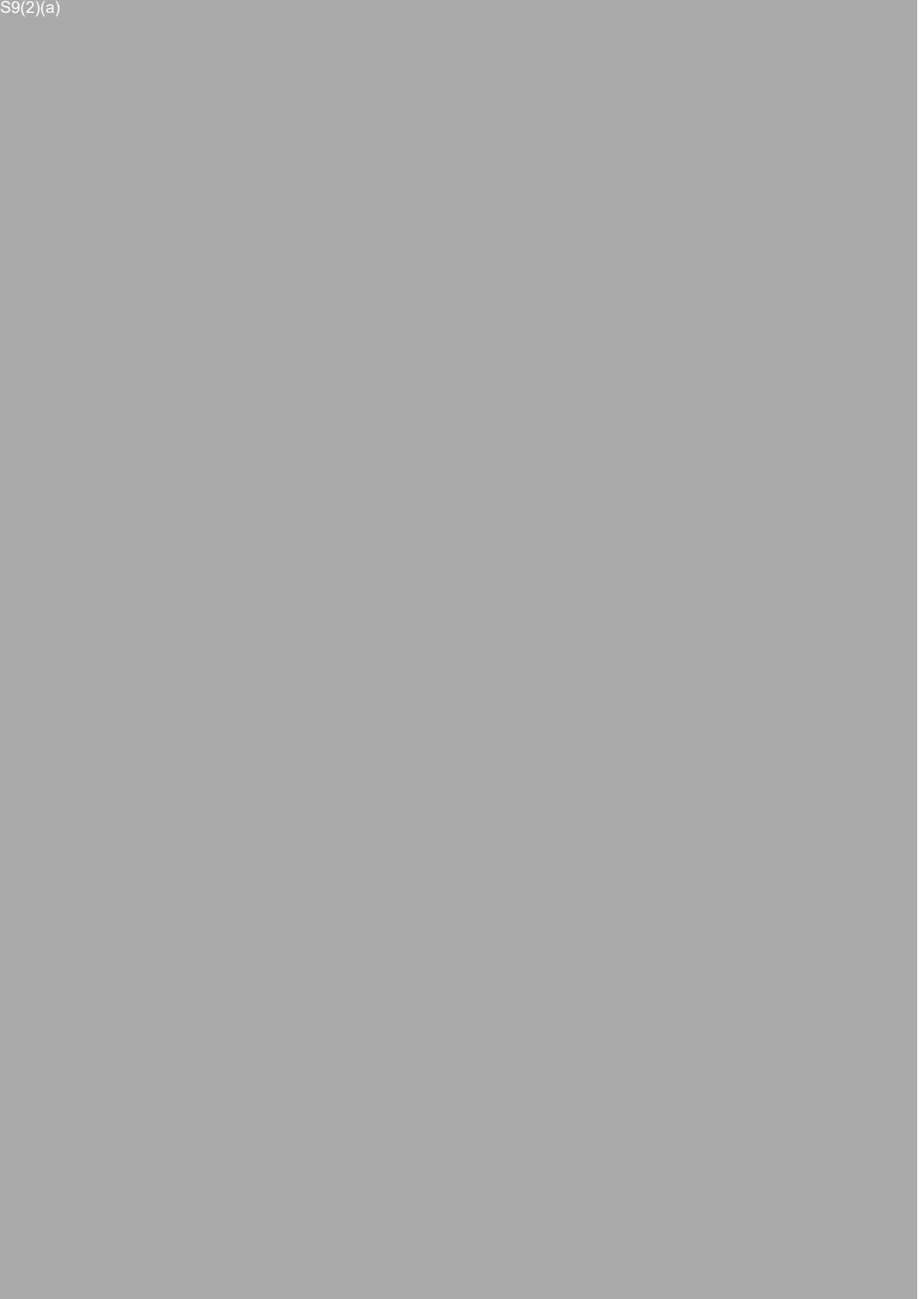
We are pleased to report that of the 15 rangatahi who were selected for Nōku Te Ao, 7 will be enrolling in health-related study in 2026 and 1 will be entering her third year of study towards a Bachelor of Medicine and Bachelor of Surgery.

S9(2)(a)



Photo Highlights

S9(2)(a)



PŪHORO SUMMER STUDENTSHIP PROGRAMME

Our Summer Studentship Programme runs from November through to February the following year and is an opportunity for our external STEM partners to fund work experience within their organisations for one or more of our Māori tertiary rangatahi as part of a broader goal of preparing them for the STEM workforce. Pūhoro's Studentship Programme and connections within the STEM industry can provide work experience, training, mentoring and networking opportunities for our rangatahi.

In 2025/26 Pūhoro will host **54** taura across **27** leading STEM organisations hosted in **9** different regions. The Pūhoro Summer Studentship Programme noho took place from Monday 17 November to Wednesday 19 November 2025, at Te Pūtahi a Toi, Massey University in Palmerston North. The noho served as a preparatory event for rangatahi entering their three-month Pūhoro summer studentship, with a focus on developing professional, cultural and personal skills. The noho included a diverse range of sessions to equip rangatahi with essential skills and knowledge for their internships. Below is a summary of the sessions delivered over the three days:

Session	Description
Pōwhiri & Noho Overview	Rangatahi, supervisors & STEM partners were welcomed with a pōwhiri, followed by an introduction to the purpose and structure of the three-day noho.
Te Whakapapa o Pūhoro	An exploration of Pūhoro's history and kaupapa, emphasising the importance of STEM careers for Māori.
Whanaungatanga Activities	Team-building exercises and whanaungatanga sessions to foster connections among the interns, their supervisors and partners.
Postgraduate Pathways	A panel discussion on the postgraduate pathways open to Pūhoro interns led by external experts
Pūkenga Pathways	Workshops on why time management matters and preparing pepeha and mihi
Workplace skills	A workshop on mastering remote and independent work.
Professionalism in the Workplace	Practical tips and discussions about workplace etiquette, communication and building professional relationships.
Tuakiritanga Workshop	A workshop focused on Te Tiriti o Waitangi and Ngā Kete o te Wānanga
Feedback and Debrief	Rangatahi provided feedback on the noho, shared their learnings and prepared for their upcoming internships.

Our studentship noho have a transformative impact on both the interns and STEM organisations that host them. For our rangatahi, the noho prepares them for their studentships and enhances their confidence, cultural identity and professional readiness. They emerge as skilled, culturally-grounded individuals who are equipped to make meaningful contribution to their chosen STEM field. For our studentship supervisors, the noho provides a unique opportunity to engage with and learn from rangatahi who bring a distinctive Māori worldview and skillset. These taura are able to demonstrate the value of integrating mātauranga Māori into STEM industries, fostering innovation and inclusivity. Organisations gain insights on how to support and benefit from a workforce that values cultural-responsiveness and diversity, ultimately enriching their own capabilities and ensuring more equitable and effective contribution to Aotearoa's STEM sector.

S9(2)(a)



HEALTH NEW ZEALAND | TE WHATU ORA STUDENTSHIP PROFILES

Pūhoro are pleased to have been able to offer **22** health-focused studentships for the 2025-2026 summer period. Please join us in celebrating them as we highlight their iwi affiliations, studentship host, tertiary specialisation and a project description of their studentship for 2025-2026.

S9(2)(a)

S9(2)(a) (Ngāti Kahungunu, Ngāti Porou)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Arts (Psychology & Cultural Anthropology)

Project: Ngāwai Ngaro

S9(2)(a) will work with Te Pae Hauora o Ruahine o Tararua | MidCentral on a project exploring the cultural narrative of Ngāwai ngaro. Her research examines how Māori values, tikanga, and lived

experiences shape perceptions of care, safety, and healing, with the goal of enhancing staff understanding of cultural responsiveness and supporting holistic wellbeing.

S9(2)(a)

S9(2)(a) (Ngāpuhi, Ngāti Whakaue)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Oral Health

Project: Impact of Methamphetamine Use on Oral Health in Māori Communities

S9(2)(a) will spend the summer with Te Pae Hauora o Ruahine o Tararua | MidCentral, researching the oral health impacts of methamphetamine use in Māori communities. Her project involves a literature review and interviews with oral health professionals to identify culturally safe approaches for treatment and prevention, with the aim

of improving long-term oral health outcomes.

S9(2)(a)

S9(2)(a) (Ngāi Tahu / Kāi Tahu)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine and Bachelor of Surgery

Project: Measuring Equity in Maternity Services

S9(2)(a) will spend the summer with Te Pae Hauora o Ruahine o Tararua | MidCentral, contributing to research on creating an equity tool for maternity care. Her project focuses on how equity data can be captured and used to guide culturally safe, inclusive, and responsive maternity services.

S9(2)(a)

S9(2)(a) (Ngāti Apa, Ngāti Kahungunu, Te Whānau-ā-Apanui)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Health Science

Project: Embedding Māori Cultural Responsiveness in Clinical Care

S9(2)(a) will work with Te Pae Hauora o Ruahine o Tararua | MidCentral to investigate how Māori cultural values and practices can be embedded into everyday clinical care. His project aims to identify strategies and barriers to support health professionals in delivering care that upholds mana, fosters trust, and improves outcomes for Māori patients and whānau.

S9(2)(a)

S9(2)(a) (Muaūpoko)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Medicine and Bachelor of Surgery

Project: The Role of Tikanga in Emergency Maternal Care

S9(2)(a) will spend the summer with Te Pae Hauora o Ruahine o Tararua | MidCentral, researching how tikanga Māori can be meaningfully integrated into emergency maternal care. Her project aims to inform clinical guidelines by exploring traditional practices, values, and whānau-centred approaches to ensure maternity care is equitable, culturally safe, and responsive in critical situations.



S9(2)(a)

S9(2)(a)

(Ngāi Tūhoe, Ngāti Kahungunu,

Rangitāne)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

Project: Understanding the Health Impacts of Emergency Housing

S9(2)(a) will work with Te Pae Hauora o Ruahine o Tararua | MidCentral on a project exploring how emergency boarding homes affect the health and wellbeing of Māori individuals and whānau. Her research will highlight Māori experiences, identify systemic barriers, and consider how tikanga and whanaungatanga can inform more culturally responsive housing and health support services.

S9(2)(a)

S9(2)(a)

(Ngāi Te Rangi, Ngāi Tūhoe, Ngāti

Awa, Ngāti Tūwharetoa, Te Arawa)

SUPERVISOR: S9(2)(a)

UNDERGRADUATE: Bachelor of Nursing

Project: The Whānau Voice in Infection Control

S9(2)(a) will spend the summer with Te Pae Hauora o Ruahine o Tararua | MidCentral, researching how whānau perspectives can help reduce hospital-acquired staph infections. By exploring experiences of hygiene, communication, and care, the project aims to co-design culturally responsive strategies that strengthen infection prevention and improve patient safety.



S9(2)(a)

S9(2)(a)

(Ngāti Kahungunu, Ngāti Tahu,

Rangitāne, Ngāti Haua)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Master of Science (Psychology)

Project: What is Kaupapa Māori in Mental Health



S9(2)(a) will work with Te Pae Hauora o Ruahine o Tararua | establish Kaupapa Māori environments within mental health care. Her key elements that create culturally safe spaces where Māori feel respected, empowered, and supported in their health journeys.

S9(2)(a)

S9(2)(a)

(Ngāti Kahu, Ngāti Kahungunu,

Tainui, Waikato)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Health Science

Project: Investigating Novel Therapies for Diabetic Heart Disease

S9(2)(a) will spend the summer at the University of Auckland,

working on biomedical research into how sugar metabolism

contributes to heart disease in diabetes. Her project combines wet lab experiments, data analysis, and literature review to test potential therapies and improve understanding of diabetes-related cardiovascular disease.

S9(2)(a)

S9(2)(a)

(Ngāti Kahungunu ki Heretaunga, Ngāti

Tuwharetoa)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Health Science & Bachelor of Commerce

Project: Mapping Pacific Food Security Policies and Strategies: A Desktop Scan to Inform Heart Health Equity

S9(2)(a) will spend the summer with Pūtahi Manawa, analysing policies and programmes that support food security across Pacific Island countries and territories. Her project will identify key policy levers, gaps, and opportunities influencing cardiovascular health and wellbeing, producing a policy inventory and brief to inform future Pacific-led research on food systems and heart health equity.

S9(2)(a)

S9(2)(a)

(Ngāti Kahungunu, Rongomaiwahine)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Medicine & Bachelor of Surgery

Project: Mechanical Hearts: Scoping Future Treatments for Heart Failure

S9(2)(a) will spend the summer at the University of Auckland, researching mechanical heart pumps as life-saving alternatives for patients awaiting transplants. His project involves reviewing and

comparing existing devices, contributing to a viewpoint article, and exploring kaupapa Māori perspectives on cardiovascular technologies.

S9(2)(a)

S9(2)(a) (Ngāti Haua, Ngāti Rangiwewehi)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Medicine & Bachelor of Surgery

Project: Documenting a Co-Design Process: Comic Strip Resources for Māori Heart Health

S9(2)(a) spend the summer with Manawa Ora, funded by Pūtahi Manawa, documenting the creation and co-design of heart health comic strips that she produced in previous studentships. Her project focuses on transforming these resources into educational tools for health professionals and whānau, with the goal of drafting a methodology paper on indigenous resource development.

S9(2)(a)

S9(2)(a) (Ngāruahine, Taranaki, Te Atiawa)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Medicine & Bachelor of Surgery

Project: Tokoroa Access to Cardiology Study

S9(2)(a) will work with Te Whatu Ora Waikato, funded by Pūtahi Manawa, on a follow-up study in Tokoroa aimed at detecting undiagnosed heart disease among Māori and Pacific whānau. Her project supports data collection in GP clinics, helps identify participants at high risk, and contributes to evaluating the effectiveness of community-based, nurse-led screening models.

S9(2)(a)

S9(2)(a) (Ngāti Kahungunu ki Tāmaki Nui ā Rua, Ngāti Kahungunu ki Wairarapa, Rangitāne)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: Developing immune Cell Therapies for Cancer

S9(2)(a) will work at the Malaghan Institute of Medical Research on laboratory-based studies developing new chimeric

antigen receptor (CAR) T-cells, a promising immune therapy designed to help the body recognise and eliminate cancer. His project uses cell and molecular biology techniques with the long-term aim of advancing cancer treatments in Aotearoa that are both world-class and culturally grounded.

S9(2)(a)

S9(2)(a) (Ngāti Maniapoto, Ngāti Tūwharetoa)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: Wāhi Kōrero Rangatahi Stories: Understanding Whakamā in Healthcare Access

S9(2)(a) will spend the summer at Massey University analysing rangatahi stories submitted to the Wāhi Kōrero

platform about experiences of feeling whakamā when accessing healthcare. Her project involves thematic analysis to identify barriers and insights into how whakamā shapes healthcare access, contributing to a co-authored journal article and strategies for sharing findings with communities and decision-makers.

S9(2)(a)

S9(2)(a) (Ngāpuhi, Ngāti Kurī)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Health Science

Project: Empowering Māori in Gut Microbiome Research – An Extension Project

S9(2)(a) will spend the summer with Edible Research Ltd, contributing to a Health Research Council-funded project on the gut microbiome

and metabolic health. Her work focuses on developing a tikanga-led research protocol for microbiome studies involving Māori participants, including creating an infographic and engaging with hāpori Māori to refine the approach.

S9(2)(a)

S9(2)(a) (Waikato-Tainui)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Medicine & Bachelor of Surgery

Project: Co-ordinating a National Research Agenda

S9(2)(a) will spend the summer with Manatū Hauora | Ministry of Health, supporting work to address the disproportionate rates of rheumatic fever and rheumatic heart disease among Māori

and Pacific peoples. Her project focuses on helping to finalise a coordinated national research agenda, involving synthesis of research and clinical data and preparing the final product for public release.

S9(2)(a)

S9(2)(a) (Ngāi Tūhoe, Ngāti Kahungunu ki Te Wairoa, Ngāti Whare, Rongomaiwahine)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: Pandemic Strategic Framework

S9(2)(a) will work with Manatū Hauora | Ministry of Health on the development of the Pandemic Strategic Framework, which guides government pandemic planning. His role involves reconciling feedback gathered from engagement sessions with key

community groups and preparing a final report to inform recommendations.

S9(2)(a)

S9(2)(a) (Ngāti Maniapoto)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: Optimizing In Vitro Transcription for RNA Vaccine Production: Evaluation of T7 RNA Polymerases and Cap Analogs

S9(2)(a) will work at the Malaghan Institute of Medical Research on optimising RNA production for vaccine applications. His project involves testing different T7 RNA polymerases and cap analogs to evaluate transcription efficiency, RNA stability, and immune activation, with the goal of identifying combinations that produce high-quality RNA suitable for safe and effective vaccines.

S9(2)(a) **S9(2)(a)** (Ngāti Kahungunu)
SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Medicine & Bachelor of Surgery

Project: Exploring How Fever Alters Immune Cell Function

S9(2)(a) will work at the Malaghan Institute of Medical Research on a project exploring how temperature affects T cell metabolism and immune responses. His work involves isolating immune cells from blood and testing them under different conditions using metabolic and immunological assays, contributing to a better understanding of how T cell function can be improved.

S9(2)(a) (Ngāti Hauā, Ngāti Tūwharetoa)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: mRNA Vaccine Formulation

S9(2)(a) will complete a lab-based project that involves working with immune cells, using flow cytometry and imaging for mRNA vaccine formulation. She is supported by S9(2)(a) and a senior research officer with over 20 years' experience.

S9(2)(a) (Ngāti Kahungunu ki Wairarapa)

SUPERVISOR: S9(2)(a)

POSTGRADUATE: Bachelor of Science

Project: Software Engineering Studentship

This project will focus on developing software tools in collaboration with the data science team at the Malaghan Institute. There are two primary work directions:

- [1] Adding some of the top-ranked feature requests to Malaghan's single-cell RNA sequencing data processing pipeline.
- [2] Creating a module for the Chan-Zuckerberg Initiative's CELLxGENE application to replace an in-house data browser.

Which direction the work takes will be determined once the placement has commenced and some initial work has been completed.

PROMOTIONAL & PLANNED ACTIVITIES: 1 JANUARY - 31 MARCH 2026

In alignment with the key aspirations of our agreement, Pūhoro will provide an update of upcoming kaupapa during the next quarterly report due 20 April 2026. Any additional information will be provided as required, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- 2026 marks a significant milestone for our kaupapa – it will be 10 years since Pūhoro first began its journey to accelerate Māori success in STEMM. We are delighted to be hosting Selah Hart, Interim National Director, Hauora Māori Service at **Te Ngahurutanga o Pūhoro**, a special evening to celebrate a decade of impact, connection, and collective achievement in January 2026.
- An update of the Term 1 Pūhoro wānanga , including highlighting the health graduates that will be moving onto further health related study or work opportunities in 2026.
- A summary of the Pūhoro Summer Studentship Pō Whakanui (night of celebration), which signals the end of the Pūhoro Studentship Programme 2025/2026. This will include a feature on the health studentships and their research posters, which they will display at the event.
- Pūhoro will continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-careers oriented pathways in 2026.
- Health New Zealand | Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Term 1 wānanga and any other significant events that may occur in the next three months.

As we reflect on the final quarter of 2025, Pūhoro are grateful for the opportunities that have arisen for our rangatahi who have a keen interest in health. We look forward to what next year brings. May our rangatahi continue to amaze us with their resilience, commitment to STEMM and their unique Māori worldview.

He Waka Eke Noa!



HEALTH NEW ZEALAND | TE WHATU ORA
(Hauora Māori Services Directorate)

Pūhoro STEMM Academy

Quarterly Report 3
1 January-31 March 2026



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FOREWORD OF THE MANAHATŪ



Kemp Reweti – Manahautū: Pūhoro Chief Executive

Ngāti Parewahawaha, Ngāpuhi, Ngaati Whaawhaakia

We are proud of the strength of our partnership and the genuine collaboration that continues to support the growth of the Māori health workforce. Together, we have developed a bespoke Health Careers Pathway that is making a meaningful difference—helping more rangatahi see themselves in health careers and take active steps toward those futures.

Through this partnership, we have been able to provide tailored support across Aotearoa, New Zealand including STEMM tutorials, mentoring, and accessible health career pathway opportunities within the Pūhoro programme. These collective efforts are helping to grow a strong and capable pipeline of rangatahi who are not only interested in health, but are confident in navigating their way into further study and careers in the sector.

We remain committed to walking alongside rangatahi, equipping them with the skills, knowledge, and encouragement needed to explore the many pathways within health. The diversity of opportunities available, alongside the strength of our relationships with health partners, continues to open doors and create real possibilities.

It is inspiring to consider the future impact of this work—supporting the emergence of a Māori health workforce that is both highly skilled and deeply grounded in culture, and who will lead positive hauora outcomes for whānau, marae, hapū, and iwi. Pūhoro extends its heartfelt thanks to Health New Zealand | Te Whatu Ora for their ongoing support and shared commitment to these aspirations.

PŪHORO SUMMARY (QUARTER THREE)

The Pūhoro Summary provides a quick snapshot of progress completed over the last quarter (January – March 2026) and is further expanded below:

- Pūhoro marked a decade of growing Māori excellence in STEMM at Te Ngahurutanga o Pūhoro in January 2026. Pūhoro was privileged to have in attendance the Interim National Director, Aka Matua of the Hauora Māori Service, Selah Hart.
- Pūhoro hosted over **50** interns across **26** leading STEM organisations as part of the Pūhoro Summer Studentship Programme, including **22** health-related summer studentships for 2025-2026.
- The Internship programme concluded with our Pō Whakanui, on 12 February 2026. This very special event highlighted the achievements of our tauira at the end of the programme.
- Our Te Urunga Tū – secondary phase has returned in Term 1, 2026 for its weekly programme in over **95** schools across our regions. We currently have over **2,500** rangatahi registered for 2026.
- Our Term 1 programme of events commenced in February 2026 with **887** rangatahi Year 12 and 13 attending Wānanga Māpurau across 11 regions. Pūhoro developed 2 bespoke pūrākau centred STEMM workshop challenges. One of these challenges titled Hineahuone has a curriculum aligned health science and health workforce carers focus.
- Te Urunga Pae – tertiary phase has also seen a strong start to 2026 with over **1,500** rangatahi registered, including **155** rangatahi pursuing health-related education/studies.
- The projected target under our new agreement is to engage a total of 1,500 rangatahi in the Health Career Pathway by 30 June 2027. In Term 1 2026 we have already successfully engaged a total of **887** rangatahi from our Year 12 and 13 cohorts so Pūhoro's progress is firmly **on-track**.
- As per our agreement we note, in respect to our targets and engagement, we are firmly on track with no foreseeable risks which would hinder our progress across this first year of our 2 year contract (ending 30 June 2027). As a kaupapa we are exceedingly proud of all of the endeavour, work and energy we have given to further increase rangatahi opportunities and pathways into health.

TE NGAHURUTANGA o PŪHORO STEMM - celebrating 10 years of Pūhoro impact

Ten years on from its establishment, Pūhoro has grown from a grassroots kaupapa into a nationwide movement empowering rangatahi Māori in STEMM and shaping a future grounded in mātauranga, innovation, and identity. This special evening in January 2026 was an opportunity to reflect on our shared journey — a decade of impact, connection, and kaupapa Māori and STEMM excellence. It was a privilege to acknowledge the people, partnerships, and achievements that have shaped Pūhoro and continue to inspire our vision for the future. As Pūhoro looks ahead, its focus remains unchanged: growing reach, deepening impact, and continuing to walk alongside rangatahi as they navigate futures shaped by their tuakiritanga, mātauranga and excellence in STEMM.

S9(2)(a)



SUMMER STUDENTSHIP PROGRAMME

The Pūhoro Summer Studentship Programme was another significant achievement for our kaupapa. The programme concluded with our Pō Whakanui, on 12 February 2026. This very special event highlighted the achievement of our interns at the end of their summer programme. It was an inspirational evening and a highlight of the year. In addition to showcasing interns' work Pō Whakanui is also a great networking opportunity as our rangatahi had the opportunity to kōrero with a number of professionals within STEMM sectors and those professionals were given a first-hand look at the innovative projects undertaken by the interns. The success of the Pūhoro studentship programme continues to demonstrate the value of investing in rangatahi Māori within STEMM. We provided a full report on the 22 health-related interns and their projects in our last report but we are pleased to highlight two of the health-related interns and their winning poster displays. A further full update will be included in our next quarterly report, where you will be able to view all of the health-related posters prepared by the interns.

S9(2)(a)

S9(2)(a)

were the joint recipients of the Best Poster Design.

S9(2)(a)

(Waikato-Tainui)

Project: Co-ordinating a National Research Agenda for Rheumatic Fever and Rheumatic Heart Disease

S9(2)(a) spent the summer with Manatū Hauora | Ministry of Health, supporting work to address the disproportionate rates of rheumatic fever and rheumatic heart disease among Māori and Pacific peoples. Her project focused on helping to finalise a coordinated national research agenda, involving synthesis of research and clinical data and preparing the final product for public release.

S9(2)(a)

S9(2)(a)

S9(2)(a)

(Ngāti Kahungunu ki Tāmaki Nui ā Rua, Ngāti Kahungunu ki Wairarapa, Rangitāne)

Project: Developing immune Cell Therapies for Cancer

S9(2)(a)

worked at the Malaghan Institute of Medical Research on laboratory-based studies developing new chimeric antigen receptor (CAR) T-cells, a promising immune therapy designed to help the body recognise and eliminate cancer. His project used cell and molecular biology techniques with the long-term aim of advancing cancer treatments in Aotearoa that are both world-class and culturally grounded.

S9(2)(a)

TERM 1 - WĀNANGA MĀPURAU

Term 1 Wānanga Māpurau continue to play a pivotal role in nurturing rangatahi interest in STEMM. Through participation in our wānanga, rangatahi are engaged in a variety of workshops giving them valuable experiences, and connected with like-minded rangatahi from other schools in the region. Our Term 1 Wānanga Māpurau successfully delivered **20** health-focused workshops (Hineahuone) across **11** Wānanga Māpurau attended by **887** Year 12 and 13 rangatahi.

This section of the report provides an overview of the workshops that have been delivered in our regions in Term 1 by Pūhoro kaimahi, with a particular focus on our health focused session, Hineahuone.

HINEAHUONE (RESPIRATORY FOCUS) | Pūhoro – STEM

Hineahuone was developed by Pūhoro kaimahi as a bespoke pūrākau centred STEMM workshop challenge with a curriculum aligned health science and health workforce carers focus. Rangatahi took part in a range of team-based challenges and competitions centred on the respiratory system, with a strong curriculum focus on health and the biological foundations of STEMM learning. Activities included running, endurance tasks such as holding weights, puzzle-solving, code-breaking, worksheets, question-based races, and Kahoot quizzes. Working in mixed groups with different schools, rangatahi engaged in both physical and cognitive tasks that required strong teamwork and communication, while also exploring how the body responds to physical exertion.

Through these activities, rangatahi deepened their understanding of the respiratory system and its relevance to health. Learning included aerobic and anaerobic respiration, the role of oxygen in sustaining body functions, and key biological structures such as bronchioles and mitochondria. Tauira explored chemical equations related to respiration and gained insight into how the lungs and wider body systems function during physical activity. This applied approach helped them connect biological concepts to real-world health contexts, reinforcing how STEMM knowledge underpins areas such as exercise science, medicine, and public health.

Rangatahi also engaged with the pūrākau of Hineahuone, the first woman in Māori tradition, created by Tāne from the earth at Kurawaka. They examined the connections between this narrative and scientific concepts, recognising how humans are made from the same elements as the earth and how this relates to the first breath of life. Learning included Māori translations of scientific terms and knowledge of key figures in Māori mythology. Tauira valued the integration of Mātauranga Māori with science and the sense of hononga in understanding themselves as ira tangata.

The workshop also created opportunities for rangatahi to see how learning in biology and health-related fields can lead to health-focused STEMM pathways and future health career possibilities. By linking scientific concepts to practical, real-life applications, tauira were encouraged to consider how skills and knowledge in this area could be applied in roles that support individual and community wellbeing.

Rangatahi Feedback

"I loved this activity! I'm very interested in sport science and the energy systems that complement this. I loved learning about respiration via fun games because I was learning in a way that helps me understand rather than just remember."

Christchurch Girls' High School – Te Kura o Hine Waiora, Year 12

"I enjoyed this activity as I got to learn a lot about how my body works through aerobic and anaerobic respiration. The Kaihautū were very helpful and pa was an amazing teacher I was very thankful for his intelligence to be shared with me."

Palmerston North Boys' High School, Year 12

"We had various activities/ puzzles regarding respiration, racing against other teams. this was fun and helped with my biology study."

Whanganui High School, Year 13

"I really enjoyed learning about the respiratory system as it helped me to understand more about the body and gain some knowledge."

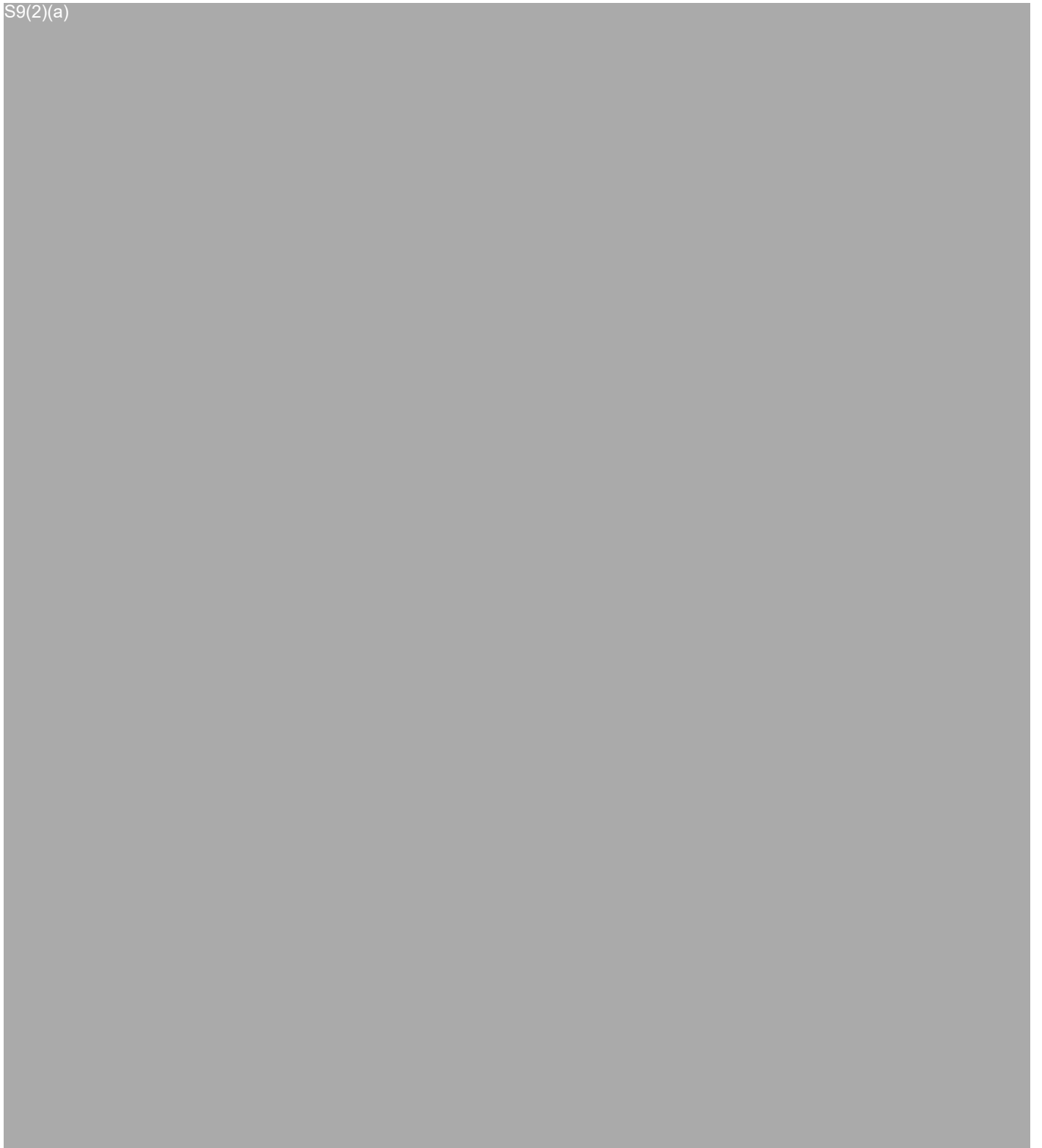
Rosehill College, Year 13

"We did multiple stages, they all revolved around the human respiratory system and why it is important, I enjoyed working with other people."

Hastings Girls' High School, Year 12

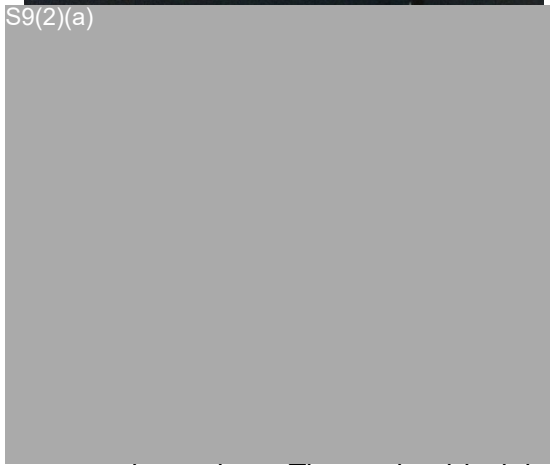
WĀNANGA - HINEAHUONE PHOTO HIGHLIGHTS

S9(2)(a)



TE WHĀNAU MĀRAMA (LIGHT BOARD) | Pūhoro – STEM

S9(2)(a)



In this workshop rangatahi took part in a team-based coding and decoding challenge using light boards and binary code. Working in roles such as senders, receivers, and interceptors, they used cipher wheels and light signals to transmit and crack encrypted messages, relying on pattern recognition and non-verbal communication. Rangatahi also explored Te Whānau Mārama and pūrākau of the stars, learning how Māori used celestial knowledge for navigation and

seasonal practices. They gained insight into how whakapapa connects these understandings, alongside scientific perspectives.

Rangatahi enjoyed the competitive nature of the activity, particularly decoding messages, intercepting other teams' codes, to earn points. Working with peers from different schools and having clear roles made the activity inclusive and engaging. Through the session, tauira developed an understanding of binary code, encryption and decryption, and Caesar ciphers, while building skills in cryptic thinking, teamwork, and strategic planning. The activity highlighted real-world applications of coding and the complexity of cybersecurity concepts.

S9(2)(a)



PŪHORO EXPANSION

We are also delighted to report that Pūhoro continues to grow. In Term 2 2026, Pūhoro will expand into the Wellington region, further expanding our reach across the motu and our ability to engage and inspire more rangatahi to join our bespoke Health Career Pathways.

PROMOTIONAL & PLANNED ACTIVITIES: 1 APRIL - 30 JUNE 2026

In alignment with the key aspirations of our agreement, Pūhoro will provide an update of upcoming kaupapa during the next quarterly report due 20 July 2026. Any additional information will be provided as required, including any potential challenges and risks, as well as any other activities that may occur that are not listed below:

- An update of the Term 2 Pūhoro wānanga , including highlighting the health-related workshops.
- Pūhoro will continue communicating with health partners to confirm further opportunities for rangatahi to pursue health-career oriented pathways in 2026.
- Health New Zealand | Te Whatu Ora and other health partners to be invited to Pūhoro events, namely the Pūhoro Term 2 wānanga and any other significant events that may occur in the next three months.

HE MIHI

Pūhoro are incredibly grateful for the many opportunities in STEMM that have arisen for our rangatahi because of the genuine support of our partnership with Health New Zealand | Te Whatu Ora. May we continue to build on this valuable relationship, as we look to navigate the year ahead alongside our rangatahi, who will be our future health workforce leaders in Aotearoa, New Zealand.

He Waka Eke Noa!

