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To cite this article: Gwyn N. Lewis, Belinda Ihaka, Eva Morunga, Debbie J. Bean, Gareth Terry, Mere Roberts & Donald Ripia (02 Jul 2025): Ngā Wai Rerekē: the water streams of difference, Journal of the Royal Society of New Zealand, DOI: [10.1080/03036758.2025.2526191](https://doi.org/10.1080/03036758.2025.2526191)

To link to this article: <https://doi.org/10.1080/03036758.2025.2526191>



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Published online: 02 Jul 2025.



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Ngā Wai Rerekē: the water streams of difference

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ABSTRACT

Māori-centred research reflects a partnership between Māori and non-Māori researchers, working together on projects designed to benefit whānau Māori (Māori families). Such cross-cultural partnerships are challenging, particularly when embedded within Western-centred academic environments. The goal of our project was to review publications discussing how Māori-centred research had been or should be undertaken to identify ways such research partnerships could be better supported in academia. From a structured review of 19 articles, we generated a model of partnership, Ngā Wai Rerekē (water streams of difference), that incorporates key concepts of whakapapa (history), whanaungatanga (relationship), mana ōrite (shared management), kotahitanga (unity), wero (challenge), and he koha mō te iwi Māori (benefit for Māori). Ngā Wai Rerekē is a model of two streams coming together to form a river, reflecting the relationship between Māori and non-Māori. The model emphasises the importance of this relationship between research partners over the research project. It highlights the necessity of beneficial outcomes for Māori, discusses the challenges that commonly present, and describes actions that can facilitate stronger relationships. At the conclusion, we present recommendations for individuals and institutions to facilitate Māori-centred research in a way that promotes meaningful outcomes for whānau Māori.

ARTICLE HISTORY

Received 22 November 2024
Accepted 24 June 2025

KEYWORDS

Māori-centred research;
health equity; partnership;
academia; qualitative
analysis

Introduction

Māori-centred research is defined as research that is undertaken with Māori participants or communities but is led, co-led, or has a strong involvement of non-Māori researchers (Hudson et al. 2012). It involves Māori and non-Māori researchers working in partnership, thereby bringing together expertise across cultures and worldviews. Both criticisms

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of and support for the involvement of non-Māori in research with Māori communities have been raised and discussed (Bishop 1995; Barnes 2000; Tolich 2002; Hudson et al. 2010; Smith 2012; Curtis 2016). While Kaupapa Māori methodologies are prioritised for research with Māori (Barnes 2000; Walker et al. 2006; Smith 2012; Curtis 2016), in practice, there are too few Māori researchers to respond to the needs of Māori communities. In 2023, only 8% of academic and research staff employed at universities in Aotearoa were Māori (Ministry of Education 2024). Structural racism, a lack of cultural safety within the workplace, and the failure to value mātauranga Māori (Māori knowledge) and whakaaro Māori (Māori thinking) likely all contribute to this under-representation of Māori in our academic institutions (McAllister et al. 2019).

The limited number of Māori researchers is particularly problematic in the health field due to the substantial health inequities Māori face. Colonisation has been associated with marked health disadvantages for Māori. It is well documented that Māori are disproportionately represented in many health conditions (Ministry of Health 2015; Gurney et al. 2020), have greater difficulty accessing healthcare (Health & Quality Safety Commission [HQSC] 2019), commonly have negative clinical interactions (Jansen et al. 2008; Graham and Masters-Awatere 2020), and often receive inadequate delivery of treatment (HQSC 2019). In addition, Māori are disadvantaged in many of the determinants of health, including those related to housing, income, education, and social support (Simpson et al. 2015; Curtis et al. 2022; Waitangi Tribunal 2023). Mainstream research approaches have proved to be inadequate in addressing these inequities. Therefore, given the noted lack of Māori researchers, the health field appears well suited to partnerships between Māori and non-Māori researchers. In our experience, however, there are many difficulties to overcome in undertaking such partnerships. These challenges provide the rationale for this review.

Our research team comprises Māori and non-Māori academics and clinicians who have all been involved in research related to health and science. Many of us have long-standing relationships through previous research projects and committees, while others were working together for the first time. The Māori members (BI, EM, DR, MR) understand that whanaungatanga (relationships) is central to their cultural values by building relationships and sharing experiences for understanding that extend well beyond research projects. Some Māori members who have experience on research committees acknowledge that those non-Māori researchers who are committed to Te Tiriti o Waitangi and vision mātauranga are challenged by the scarcity of Māori researchers to awhi (embrace) and support them, and/or tensions within ethical guidelines and research timelines which do not allow for meaningful engagement or acknowledge these fundamental relationships. The Pākehā members (GL, DB, GT) have all been involved in Māori-centred research, some of which has included leading and co-leading projects. All three are committed to honouring Te Tiriti o Waitangi and openly support the promotion of equity in health and society in Aotearoa. They recognise the privileges they may have as Pākehā and wish to use these to advance outcomes for Māori.

It was our team's individual and collective experiences of undertaking research with Māori that brought us together. All three Pākehā authors had encountered challenging experiences in their research. In some cases, those experiences led to substantial reflection on their roles in Māori-centred research, including questioning whether their contributions were necessary or welcome. The motivation for the current project came from

a desire to better understand what our respective roles were in research with Māori, and a belief that we could learn a lot through what had previously been published in the area. When we came together as a team and talked about our reasons for participating in the project and what we hoped to achieve, it was evident that it was not only the Pākehā members who had encountered challenges with Māori-centred research. Some of our Māori members felt positioned as not having the research or cultural expertise to undertake their own research with Māori, while others disagreed with views that research with Māori should only be undertaken by Māori and wanted to highlight the benefits of working in partnership. Together, we recognise that people, including our own team members, have different lived experiences of their culture and often identify with multiple cultures. We have chosen to use the term ‘non-Māori’ in this article as a broad term to refer to anyone who does not identify as Māori. We acknowledge that it encompasses a range of people of different ethnicities, cultures, and experiences in Aotearoa.

We discussed as a team what we would focus on and how we should do this. We did not want to cover the opinions of whether or not research with Māori should involve or be led by non-Māori. Our primary question was, what can we learn from previous experiences of Māori-centred research to derive recommendations for the future? We therefore decided to conduct a review of published material on Māori-centred research and the learnings (positive and negative) that had resulted from this work. From this information, we aimed to develop principles that would facilitate meaningful research. That is, research partnerships that result in beneficial outcomes for whānau Māori and build Māori research capacity.

Methods

GL undertook a thorough search of the literature to locate qualitative studies that described personal experiences of undertaking Māori-centred research or articles in which the authors provided their own thoughts or recommendations on how this should be undertaken. We were interested in views of both Māori and non-Māori authors and, given our backgrounds, initially wanted to focus on health research. However, there were articles in the education and environmental science sectors that were useful, so the search was broadened to include several health, science, and education databases. The search included terms such as ‘Māori-centred’, ‘Māori-focussed’, ‘Kaupapa Māori-based’, ‘cross-cultural’, and ‘research’. Articles were additionally located through reference checking and citation tracking. It was not a truly systematic search, given the topic was a difficult one to pursue; therefore, we do not profess that our review identified all material written in the area. The studies were required to be qualitative articles that described the authors’ personal experiences of undertaking Māori-centred research or articles in which the authors provided their own thoughts or recommendations on how this should be undertaken. We used our previously provided definition of Māori-centred research in that it should involve participants who are predominantly Māori while the research team is a partnership of Māori and non-Māori working together.

An iterative process was used to synthesise the information from the identified studies. This was largely based on the principles of qualitative synthesis described by Thomas and Harden (2008), although we generated a model as the output rather than a set of defined

themes. All of the articles were read and the sections relevant to our topic were coded by GL and entered onto a board in Miro software (Miro, San Francisco). GL formed prototype categories based on the codes, which were shared and discussed with the full team. To increase the collective sense-making of this process, four additional authors (2 Māori, 2 Pākehā) selected three articles each to read and code. The codes from the additional authors were presented and considered by the team alongside those derived by GL. Any additional codes or alternative interpretations were discussed to facilitate clarity of understanding. The prototype categories were then further refined and developed into a set of principles. To create a framework for these principles, an initial model was developed and shared with the group. The model was discussed with the full team and advanced through several iterations to refine how the principles were presented in the model and the physical look of the model.

Our research philosophy was interpretivism (Lincoln et al. 2023) informed by te ao Māori principles of respect, reciprocity, and collaboration, with discussions undertaken in a way that was mana enhancing for everyone, and decisions made collaboratively. Every endeavour was made to meet *kanohi ki te kanohi* (face-to-face) as a team for all discussions but given the reality of multiple commitments and varying geographical locations, there were frequent online meetings and smaller meetings between team members to enable input from everyone. Our team meetings were opened and closed with *karakia* (prayer), or a blessing to start and end processes. In addition, time was made for *whanaungatanga* at the beginning of meetings and *kai* (food) was provided at in-person meetings.

Results

We located 19 articles (Table 1) published from 1995 to January 2024 that covered a variety of formats. Some were from research teams who had worked together on projects and had written about the experience, while others were reflections from individual Pākehā or Māori authors. The detailed and often personal descriptions, reflections, and recommendations provided by the authors not only revealed multiple strategies and recommendations, but also facilitated the identification of several shared concepts and principles. These centred around the benefits of partnerships, the importance of establishing authentic relationships, the clear need for outcomes for Māori communities, and the factors that helped and hindered cross-cultural relationships and understandings. From these principles, we developed a model (Figure 1) that reflects these aspects in relation to working in research partnerships and how this could be undertaken. The principles are described below, with a description of the model following this.

Why undertake Māori-centred research?

Most of the articles provided a rationale for why they had undertaken Māori-centred research in partnership. One of the main reasons presented was that Pākehā were obligated to share their skills and resources and engage in research that promotes equity for Māori. Some authors proposed that this was an ethical responsibility under Te Tiriti o Waitangi, and that working in partnership reflected the partnership that is central to Te Tiriti (Bishop 1995; Forster 2003; Martin et al. 2020; Martel et al. 2022). For

Table 1. Studies included in the review.

| Study | Author ethnicity | Research area | Purpose |
|------------------------------------------|-------------------|-----------------------|------------------------------------------------------------------------------------------------------------------|
| Boardsworth et al. (2024) | Māori & non-Māori | Health | PhD thesis on collaborative research stories |
| Came (2013) | Non-Māori | Health | Describe learnings from undertaking health-related Māori-centred research |
| Crawford and Langridge (2022) | Non-Māori | Health | Describe application of the <i>Te Ara Tika</i> framework to research |
| Cunningham (2000) | Māori | Health | Discuss experiences undertaking Māori-centred research |
| Marques et al. (2022) | Māori & non-Māori | Health | Present experiences of working in Māori and Pasifika health research |
| Martel et al. (2022) | Māori & non-Māori | Health | Discuss kaupapa Māori and Māori-centred health and science research |
| Nikora and Evans (1998) | Māori & non-Māori | Health | Discuss a Māori-centred research project on Māori identity and values using the <i>Te Hoe Nuku Roa</i> framework |
| Wilson (2008) | Māori | Health | Present insights on a partnered environmental research project |
| Carpenter and McMurphy-Pilkington (2008) | Māori & non-Māori | Education | Discuss issues related to Pākehā involvement in educational research with Māori communities |
| Hotere-Barnes (2015) | Non-Māori | Education | Describe a framework for evaluating trust in a cross-cultural research relationship |
| Martin et al. (2020) | Māori & non-Māori | Education | Describe a study on rongoā Māori led by a non-Māori |
| Greenaway et al. (2022) | Māori & non-Māori | Environmental science | Describe a framework (<i>He Awa Whiria</i>) to integrate different world views in research partnerships |
| Saha et al. (2023) | Māori & non-Māori | Environmental science | Discuss use of a Māori-centred framework (<i>Te Ao o Pakirehua</i>) in education research |
| Bishop (1995) | Māori | General | Describe the development of a Māori and psychology research unit |
| Forster (2003) | Māori | General | Reflect on a cross-cultural friendship and research partnership likened to a takarangi (interlocking spiral) |
| Puke and Lowe (2020) | Māori & non-Māori | General | Share insights from a collaboration using <i>He Awa Whiria</i> to develop an educational geology resource |
| Vaeau and Trundle (2020) | Māori & non-Māori | General | Discuss promotion of cultural safety for Pākehā engaging in research with Māori |
| Leuthart and Prinsen (2022) | Non-Māori | Social science | Explore the ethics of developing meaningful research relationships between Māori and Pākehā |
| Tolich (2002) | Non-Māori | Social science | Discuss the role of non-Māori in research with Māori |

example, Bishop (1995) stated, ‘The second reason why non-Māori should be involved in this area of research is simply that for Pakeha researchers to leave it all to Māori people is to abrogate their responsibilities as Treaty partners’. A more pragmatic reason cited by other authors was that, ‘while Māori are building their research capability and capacity’ (Wilson 2008), there are not enough Māori researchers available to undertake all research with Māori and partnering with non-Māori was an appropriate response (Nikora and Evans 1998; Wilson 2008; Hotere-Barnes 2015). A further key advantage of partnerships described was that bringing together skills, resources, and ways of working from both cultures resulted in powerful and meaningful contributions and possibilities. This concept was summarised by Saha et al. (2023), who used the He Awa Whiria (Braided Rivers) approach in their project: ‘When these individual streams of knowledge converge, they create new opportunities for learning’. Multiple authors argued that cross-cultural partnerships enable new knowledge and understandings to be developed, more Māori voices to be heard, and that everyone is upskilled in the process, resulting in an

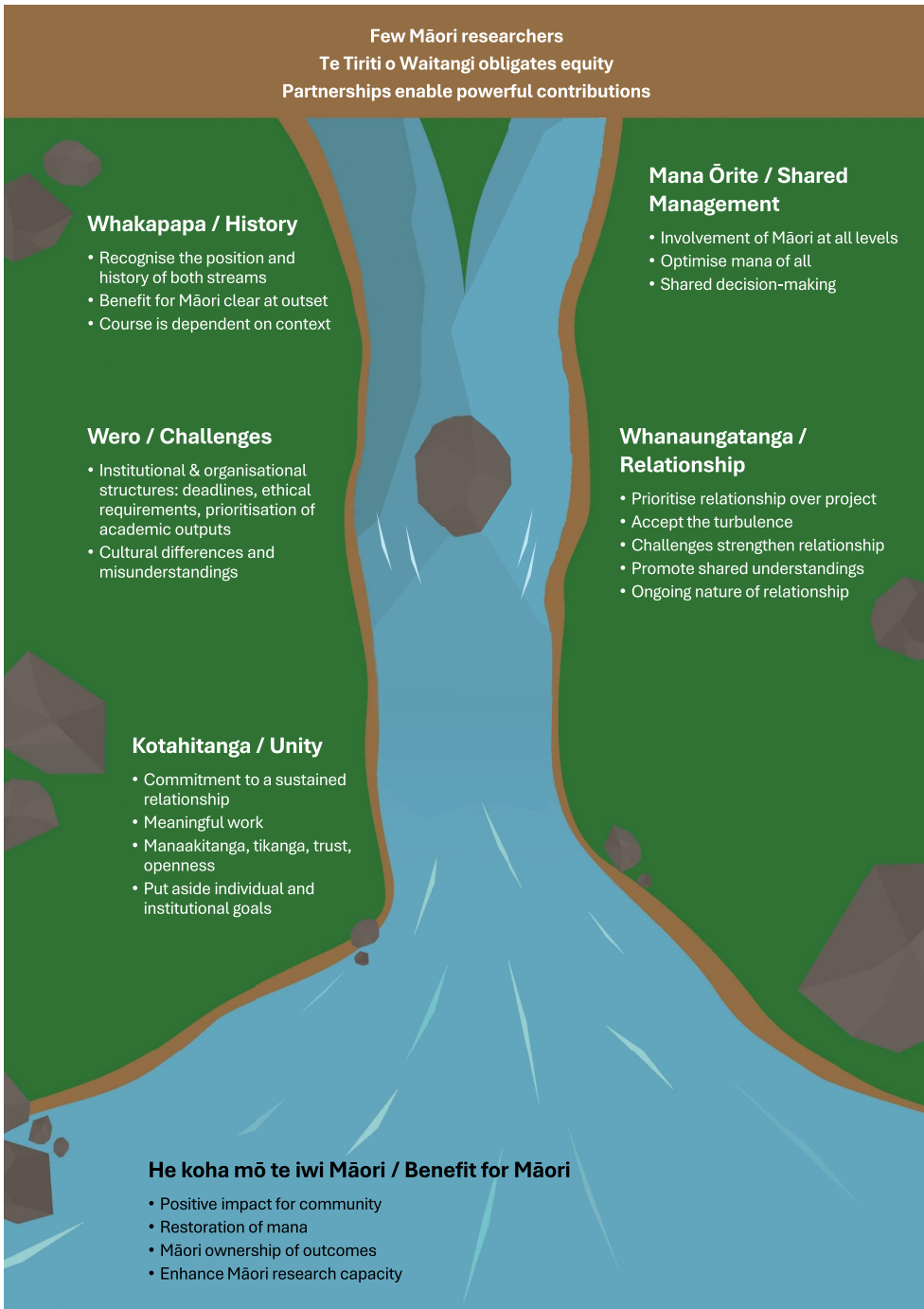


Figure 1. Ngā Wai Rerekē – the water streams of difference.

enhancement of Māori research capacity. It was also proposed by some that non-Māori should stand up against injustices and racism, and that undertaking research that promotes better outcomes for Māori was a way to achieve this (Came 2013; Crawford and Langridge 2022).

Know the whakapapa / history

Several articles emphasised the importance of understanding the relevant history of the research focus and of the communities involved and not to gloss over historical injustices that may have occurred (Carpenter and McMurchy-Pilkington 2008; Forster 2003; Wilson 2008; Crawford and Langridge 2022; Leuthart and Prinsen 2022; Marques et al. 2022). The process of developing recognition and understanding was described by Greenaway et al. (2022):

During the workshop the group discussed how they were learning to recognise other world views and were developing a growing appreciation for te ao Māori (a Māori world view). This required educating oneself about historical injustices and their long-term impacts.

It was recommended by various authors that individual researchers should understand their own positionality and what has informed this, including their whakapapa, where they have come from, and their existing relationships with the research team and community. In several articles, it was also stipulated that when the partnership is being formed, the anticipated benefit to Māori from the relationship must be made clear (Bishop 1995; Wilson 2008; Crawford and Langridge 2022; Marques et al. 2022; Martel et al. 2022).

A number of articles further noted that each project will have its own specific context that is largely determined by the people involved, and that ‘there can never be “one right way”’ (Hotere-Barnes 2015) to form relationships and undertake a cross-cultural research project (Hotere-Barnes 2015; Vaeau and Trundle 2020; Martel et al. 2022). As individuals within the team contribute their own whakapapa, unique worldview, skills, and connections, how the relationship forms and how the research process is undertaken in one project may not translate to another (Bishop 1995; Crawford and Langridge 2022; Boardsworth et al. 2024).

Mana ōrite / shared management

In many of the articles, the authors emphasised the need to have Māori involvement across all levels of project, through initiation, analysis, interpretation, and delivering outcomes to communities. Forster (2003) summarised this need in relation to data sovereignty by stating, ‘In the context of research it demands that Māori have some form of control over the research. Control over participation, the research process and the protection of information generated by the project’. Some authors contended there was a need for Pākehā to relinquish power and promote Māori leadership and control (Bishop 1995; Tolich 2002; Martin et al. 2020; Crawford and Langridge 2022). More commonly, it was suggested that research protocols needed to respect te ao Māori (Māori worldview) and to challenge Western methodologies to ensure that mātauranga Māori and whakaaro Māori were visible and respected (Bishop 1995; Nikora and Evans 1998; Forster 2003; Came 2013; Leuthart and Prinsen 2022; Boardsworth et al. 2024). For example, Came (2013) described her involvement of a Māori governance group:

The establishment of my research whānau as a governance structure was the central mechanism to embed Māori control into the research process. This rōpū was involved in decision-making at all levels, from the initial research proposal to decisions around data collection, analysis and dissemination.

An additional reason proposed for involvement of Māori throughout the research process was that data analysis through a Māori lens was likely to elicit more meaningful outcomes (Cunningham 2000; Martel et al. 2022).

Whanaungatana / prioritise the relationship

Many of the articles stipulated that the relationships between researchers and with the participants must be prioritised over the research project, with Leuthart and Prinsen (2022) stating, ‘In this cross-cultural collaboration, the relationship between the two parties is central, arguably both object of and condition for the collaboration’. The commitment to a sustained, authentic relationship meant that these relationships continued beyond the completion of the research project (Hotere-Barnes 2015; Saha et al. 2023; Boardsworth et al. 2024). It was acknowledged by several authors that there would be discomfort and unease in establishing new relationships and working with a different culture, and it was recommended that non-Māori learn to become comfortable with this discomfort and sense of vulnerability (Carpenter and McMurchy-Pilkington 2008; Hotere-Barnes 2015; Martin et al. 2020; Vaeau and Trundle 2020; Crawford and Langridge 2022; Greenaway et al. 2022). The importance of this process was described by Martin et al. (2020): ‘At times the sharing was challenging and confronting and it became clear that a sense of vulnerability from each educator needed to occur in order for honest dialogue to flow’. The lack of willingness to engage in Māori-centred research because of this uncertainty and anxiety associated with working with another culture (sometimes termed ‘Pākehā paralysis’ [Tolich 2002]) was described as an example of Pākehā privilege and detrimental to promoting equity (Hotere-Barnes 2015; Crawford and Langridge 2022). Instead, other authors put forward that overcoming the challenges of working cross-culturally would strengthen the relationship (Carpenter and McMurchy-Pilkington 2008; Vaeau and Trundle 2020; Saha et al. 2023). Having open discussions that enabled shared understandings and reflecting individually and together on challenges and decisions were viewed as important to achieve this (Puke and Lowe 2020; Vaeau and Trundle 2020; Leuthart and Prinsen 2022; Martel et al. 2022; Saha et al. 2023). Another key factor identified in relationship building was not trying to dictate the speed at which the research project progresses, to go with the flow instead of trying to control it (Came 2013; Vaeau and Trundle 2020; Leuthart and Prinsen 2022). This included being flexible with deadlines and protocols and being understanding of individual circumstances. For example, Vaeau and Trundle (2020) wrote:

In our experience, a focus on ‘whānau first’, of prioritising family commitments over work ones, and never needing to apologise for the need to rearrange a meeting, or conduct it virtually, or bring our kids along, has been of real benefit to the well-being of all involved.

Enacting these principles and showing flexibility demonstrated the prioritisation of the relationship over the research project.

Kotahitanga and wero / what strengthens and challenges relationships?

In a number of the articles, the authors commented on factors that strengthen the relationship and promote kotahitanga (unity) as well as factors that challenged researchers and hindered the formation of meaningful relationships (wero). Two aspects that

were frequently mentioned as critical for Māori-centred research were the incorporation of tikanga (customs, protocol) and a commitment to a sustained relationship. Aspects of tikanga viewed as essential across the research process were karakia, kanohi ki te kanohi meetings, taking time for whakawhanaungatanga (forming relationships), provision of kai, use of te reo Māori (Māori language), showing manaakitanga, and inclusion of whakataukī (proverbs). The importance of including tikanga was described by Leuthart and Prinsen (2022):

With valuable advice from my Māori research partner, a culturally responsive practice was developed. He advised what was acceptable and not acceptable from each community's perspective. His shared language, insight and tikanga was critical to establishing a level of trust and sincerity between myself as researcher and all of the participants. Ultimately, as a non-Māori, I could not say I was doing Indigenous research but I could ensure my approach respected and prioritised the world through their eyes.

Trust was frequently mentioned as a key factor in forming and maintaining relationships, requiring ongoing sharing and openness to being in a vulnerable position, and committing to a relationship that went beyond that of research colleagues (Puke and Lowe 2020; Crawford and Langridge 2022; Greenaway et al. 2022; Leuthart and Prinsen 2022; Saha et al. 2023). It was suggested that researchers need to 'be prepared to put ego aside and replace it with a sense of satisfaction in the work we are doing' (Crawford and Langridge 2022), instead focusing on the values of trusting and meaningful relationships (Puke and Lowe 2020; Crawford and Langridge 2022).

Factors that made relationships challenging, or the wero, were largely comprised of institutional and organisational structures and processes that clashed with te ao Māori and tikanga. These created competing responsibilities for both Māori and non-Māori researchers who had to meet the demands of both worlds:

Typically these accountabilities will be cumulative: researchers will need to meet the expectations of (mainstream) funders and reviewers and the expectations of Māori. Sometimes these dual accountabilities can work against each other, with the two groups having contrary positions on a single issue. (Cunningham 2000)

The competing factors included the need to work to deadlines, such as funding or project deadlines, the prioritisation of academic outputs over community outcomes, ethical regulations that are largely based on Western principles, and the inflexibility of ethics committees to consider a Māori worldview (Cunningham 2000; Tolich 2002; Came 2013; Greenaway et al. 2022; Marques et al. 2022; Saha et al. 2023). Cunningham (2000) again highlighted these incongruencies, describing ethical and peer review processes as 'barriers to be broached'. Cultural differences and misunderstandings were also reported to be challenging:

Our main internal challenge to date has been, at times, talking past each other. While we generally thought we understood what the other was saying and meant, sometimes we did not. (Carpenter and McMurchy-Pilkington 2008)

Such misunderstanding coupled with lack of open discussion was reported to hinder relationships (Carpenter and McMurchy-Pilkington 2008; Martin et al. 2020; Vaeau and Trundle 2020; Saha et al. 2023).

He koha mō te iwi Māori / benefit for Māori

In many articles, it was clear that the intended purpose and outcome of the project must be to provide benefits for Māori communities. Marques et al. (2022) emphasised this in their statement that ‘the knowledge gained must be returned for the benefit of those taking part and for the kaupapa, or topic of the research’ while Forster (2003) indicated that researchers should ensure ‘that the research outputs are of use to the Māori community’. It was suggested that these community outcomes should be prioritised over producing academic or institutional outputs, and that all outputs should include appropriate acknowledgement of the participants (Nikora and Evans 1998; Carpenter and McMurchy-Pilkington 2008; Vaeau and Trundle 2020; Crawford and Langridge 2022). The benefits described also encompassed upskilling of Māori researchers. For example, Wilson (2008) wrote that non-Māori researchers should ‘consider ways in which Māori involvement can lead to the development of skills, competency, and possibly expertise in these areas.’ Finally, data sovereignty was also raised, with the recommendation that data generated and knowledge gained should be returned to the participants or community and remain in Māori ownership (Bishop 1995; Puke and Lowe 2020; Marques et al. 2022; Martel et al. 2022).

Ngā Wai Rerekē / the water streams of difference

This final section describes how the principles above informed the development of our model (Figure 1). The model itself is based on a river that is formed from two streams merging into one. The two streams represent Māori and non-Māori worlds, coming together to form a relationship both between researchers and with the community. A river was chosen because of the importance of rivers (awa) for Māori and non-Māori alike. Water symbolises the essence of life, while for many hapū (subtribe) and iwi (tribe), rivers are linked with identity and can be considered tipuna (ancestors) (Barlow 1991; Mead 2003; Johnston 2018). For non-Māori in Aotearoa, rivers provide connection, recreation, and aesthetic values (Noakes 2011). We have named the model Ngā Wai Rerekē, which means the water streams of difference. For us, it is the differences between the two worldviews that bring benefits of working in partnership, but it is also those differences that can make these partnerships challenging.

We present the rationale for undertaking Māori-centred research at the top of the model and figuratively represent the growing strengths of a partnership in the joining together of two streams to form a single river. The resultant flow of the river is stronger and more powerful than the individual streams. This enhanced flow is able to progress the research process and facilitate outcomes for whānau Māori.

The *Whakapapa / History* box indicates the importance of recognising where the individuals comprising each stream come from and what has happened upstream in the past, and the need to have a clear outcome for whānau Māori in mind at the outset. When the streams come together, the course of the river is not set but will vary depending on the relationships formed and the progression of the research project. That is, the river both shapes and is shaped by the cultural landscape through which it flows.

The *Mana Ōrite / Shared Management* box was the most contentious area in our interpretation of the articles. While it was clear that the authors prioritised optimising

or restoring mana of participants and whānau Māori (Tolich 2002; Forster 2003; Wilson 2008; Came 2013; Martel et al. 2022), the nature of management and decision making was discussed among our research team at some length. Although the articles' authors promoted Māori control and power (Bishop 1995; Nikora and Evans 1998; Tolich 2002; Forster 2003; Vaeau and Trundle 2020), the Māori members of our own team emphasised that a true partnership would involve shared decision-making, and that there was no concept of power imbalance and rank within an authentic relationship. Relationships that are built around principles of manaakitanga (care, respect), kaitiakitanga (guardianship), and reciprocity, where there is recognition of each other's abilities, meant that shared decision-making and management was more appropriate. We have thus reflected in the model that the course of the river is under shared management.

The focus of the model on the river, rather than the project, reflects that the relationship is central and is described in the *Whanaungatanga / Relationship* box. Researchers should learn to accept its flow and turbulence as the river's way of nurturing the relationship and facilitating shared understandings. We depict the sustained aspect of this relationship as the ongoing nature of the river, even though the research project itself may have finished.

Factors that strengthen and facilitate the formation and maintenance of the relationship are described in the *Kotahitanga / Unity* box. These factors are critical to uniting the individual streams. The *Wero / Challenges* box describes the challenges that force the streams apart and create turbulence in the river. Researchers need to embrace and accept this turbulence, with the knowledge that negotiating that turbulence may eventually strengthen the flow of the river.

In the final box, *He Koha mō te tiwi Māori / Benefit for Māori*, we have highlighted that the completion of a research project should provide positive benefits for the community, restoration of mana to those involved, Māori ownership of outcomes, and enhancement of Māori research capacity. A healthy river promotes and sustains productive lives for everyone.

Discussion

Ngā Wai Rerekē depicts what we see as the central elements of Māori-centred research, or research that involves cross-cultural partnerships and relationships between Māori and non-Māori as researchers and participants. The model shows alignment with other models and frameworks that have centred around integration of mātauranga Māori or rangahau Māori (Māori research) and Western views of science or methods of knowledge gathering (Bishop 1995; Macfarlane 2009; Hudson et al. 2012). However, Ngā Wai Rerekē is novel in that it captures the aspect of Māori and non-Māori working together in a research relationship, rather than separately alongside each other, as well as many of the nuances of situating this relationship in predominantly Western-oriented institutions.

Historically, research with Māori involved Pākehā researchers doing research on Māori that tended to highlight perceived insufficiencies, frequently misappropriated and misunderstood cultural knowledge, and ignored tikanga Māori (Teariki et al. 1992; Bishop and Glynn 1999). Any benefits gained were likely to have been outweighed by the harm caused, resulting in missed opportunities and deep suspicion and mistrust of

Pākehā researchers (Cram 1993; Smith 2005). Bishop (1995) made one of the first attempts to formally encapsulate the need for Māori voices, knowledge, and ways of thinking within mainstream research processes through creation of the IBRLA (initiation, benefits, representation, legitimation, accountability) framework. The framework consists of a series of questions to promote deeper thinking about the responsiveness of the research to Te Tiriti o Waitangi. He Awa Whiria, the Braided Rivers Approach developed by Macfarlane (Macfarlane 2009), is perhaps most similar to Ngā Wai Rerekē in terms of analogy. He Awa Whiria uses the concept of a braided river constantly coming together and parting to reflect separate Māori and non-Māori knowledge and research approaches sitting alongside each other in a single project. It acknowledges that Māori challenges cannot solely be addressed using Western knowledge and approaches and, similar to Ngā Wai Rerekē, is based on the premise that the interaction of different worldviews can facilitate better outcomes and advance understandings in both worlds (Durie 2004; Mazzocchi 2006; Brannelly and Boulton 2017; Macfarlane and Macfarlane 2019). Similarly, the Negotiated Spaces Model (Hudson et al. 2012) sees mātauranga Māori and science on equal footing alongside each other, with a central negotiated space that affords an area to explore similarities and differences and advance understandings. In alignment with Ngā Wai Rerekē, the Negotiated Spaces Model emphasises the need for meaningful relationships between researchers rather than perfunctory knowledge exchange. Finally, aspects of Ngā Wai Rerekē also resonate with the Get Together, Work Together, Write Together framework proposed from a conservation partnership between local iwi and non-Māori researchers (Cisternas et al. 2019). This framework includes the need for establishing relationships based on trust and mutual understanding prior to engaging in work, and additionally raised some of the difficulties of forming and maintaining such relationships across cultures and in association with Western institutional systems.

The frameworks above provide critical support for the structure of our model. Other aspects of Ngā Wai Rerekē are reflected in the literature and in our own research relationship as collaborating authors. While it generated substantial discussion in our research team, the concept of shared management, or being on an equal footing within a cross-cultural research relationship, is central to the previous frameworks described (Bishop 1995; Macfarlane 2009; Hudson et al. 2012). A key quality of that relationship is that it is built on trust, reciprocity, and respect, and therefore our team agreed that there are no imbalances in power in this kind of relationship. When working across cultures or undertaking research with those who have experienced historical injustices, prioritisation of the relationship facilitates trust and diminishes Western perspectives that emphasise the project and research outputs (Amundsen et al. 2017; Cornish et al. 2023; Flavell and Cunningham 2023). These key relationship principles are reflected in overseas models of partnerships between Western-based health researchers and indigenous communities. For example, Two-Eyed Seeing (Bartlett et al. 2012), developed in Canada, encourages understanding and acceptance of both indigenous and Western perspectives and promotes the strengths of each partner for mutual benefit. These shared understandings are also inherent within partnership frameworks developed in Latin American (Iván et al. 2020) and Australia (Wilson et al. 2020), with factors such as trust, honesty, humility, and reciprocity seen as key for successful relationships.

Previous works have additionally provided important learnings on the significance of committing to a long-standing relationship that persists beyond the scope of a single research project (Greenhill and Dix 2008; Amundsen et al. 2017; Cornish et al. 2023). This commitment was evident in our own partnership in that several of us had worked together across multiple projects and roles over almost a decade. Ngā Wai Rerekē also supports the premise that there is no one right way to undertake research with Māori, as each relationship and project is context dependent (Amundsen et al. 2017; Gibson et al. 2020). This contextual nature of research with Māori highlights the importance of getting the right people in the team at the commencement of the partnership, identifying those who have access to specific communities and knowledge of local tikanga.

Many of the difficulties and challenges of working in partnership with another culture have also been described previously (Cornish et al. 2023; Flavell and Cunningham 2023) and, as noted earlier, have been a feature of our own previous research. These challenges can create deeply personal experiences that require substantial personal and epistemological flexibility and reflexivity and strong relationships to negotiate. In our own research partnership, we shared our reasons for involvement in the project, describing previous experiences of research and its impacts. Talking openly about our positionality among team members allowed for a trusting relationship to develop, and this in turn created an environment that enabled our project to progress. These discussions were not restricted to sharing understandings across cultures, but also involved discussion amongst Māori members who had different perspectives arising from divergent cultural identities. In a meaningful relationship, those involved should be able to trust the process and accept the differences and difficulties that arise, and the relationship itself should provide a supportive culture for processing and working with that discomfort (Cornish et al. 2023).

The competing demands of satisfying institutional procedures while also following cultural protocols are well documented. The burden of deadlines within academic processes force researchers to push projects along and neglect the time it takes to develop trusting and respectful relationships (Liamputtong 2008; Cornish et al. 2023). Similarly, institutions customarily acknowledge and value people for their research capability and traditional outputs, rather than their ability to form community networks and meaningful relationships (Cornish et al. 2023). Finally, incongruencies with ethical committees have been raised multiple times and have also featured in our own experiences with Māori-centred research. Institutional ethics committees need to be flexible in considering projects and relationships with non-Western participants where the underlying ethical principles and worldviews may differ between the institution and the community involved (Msoroka and Amundsen 2017; Gibson et al. 2020; Sherwood and Anthony 2020; Amundsen and Msoroka 2021; Chattopadhyay and de Kok 2023). Rigid procedures that align with Western ethical values and protection of the institution can interfere with the formation of meaningful relationships (Chattopadhyay and de Kok 2023), force processes like informed consent to become administrative tasks (Sherwood and Anthony 2020), and often do not reflect the dynamic nature of interactions that occur in the real world (Amundsen et al. 2017).

Finally, research with Māori or marginalised groups needs to deliver benefit to those involved (Bishop 1995; Liamputtong 2008; Macfarlane and Macfarlane 2019). Macfarlane

and Macfarlane (2019) proposed that the benefit does not need to be immediate or arise from an individual project, but the potential for benefit from the relationship needs to be evident at the start (Bishop 1995). For Māori, knowledge is taonga (treasured). In return for being entrusted with that gift, researchers should reciprocate by providing a positive and meaningful impact to whānau and hāpori Māori (Māori families and communities) they have worked with (Amundsen et al. 2017).

Strengths and limitations

Our study had a number of strengths. The qualitative nature of the included articles enabled us to capture in-depth data that described researchers' experiences and thoughts. We also used a structured approach to analyse the data based on published principles of qualitative synthesis. Finally, our research team represents a partnership itself, which enabled multiple worldviews within the analysis and interpretation. There were also some limitations. As noted previously, the research topic was challenging to exhaustively search within the literature; therefore, there may be relevant articles that were not included in the review. We also initially aimed to focus solely on health-related research but ended up including research from other disciplines. Finally, some of the articles were written 20–25 years ago, which may limit their relevance to the current research environment. However, the inclusion of similar views and experiences in more recent articles suggests the data from the earlier articles is still meaningful today.

Recommendations

Our review and associated model, Ngā Wai Rerekē, suggest a number of recommendations to facilitate Māori-centred research within academia (Table 2). Several of these recommendations are not necessarily specific to the health field and could apply across multiple areas. At the level of the institution, there should be wider acceptance, acknowledgement, and promotion of Māori and non-Māori working in partnerships and the benefits that this affords. More time and funding need to be invested in building and sustaining cross-cultural relationships both amongst researchers and with hāpori Māori. Although it is improving, there needs to be greater acceptance and prioritisation of wider categories of research outputs that acknowledge networking capabilities and the ability to form meaningful relationships that will result in benefit to Māori. Institutions

Table 2. Summary of recommendations for individuals and institutions.

| Recommendations for individuals | Recommendations for institutions |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Be mindful of research team composition to ensure meaningful connections are facilitated | Greater recognition and promotion of working in partnerships |
| Consider from the outset how whānau Māori will benefit from a research relationship | Enable funding for whakawhanaungatanga and maintenance of relationships |
| Non-Māori researchers should upskill in tikanga and te ao Māori | Encourage and fund wider forms of dissemination that benefit whānau Māori |
| Form support networks for non-Māori researchers | Greater flexibility with time frames and reporting for research with Māori |
| Look to create opportunities to upskill Māori researchers | Encourage ethics committee to prioritise a te ao Māori worldview |
| | Provide clarity on Māori data sovereignty |

and funding agencies are encouraged to provide more flexible time frames for undertaking partnered research to enable relationships to develop and progress at their own pace. Institutions need to encourage ethics committees to demonstrate flexibility around different worldviews and to prioritise te ao Māori in projects involving Māori researchers and participants. Finally, clarity and direction are encouraged regarding data sovereignty and how to facilitate te hokinga o nga taonga o Te Ao Māori, or the return of data and knowledge to Māori.

Further recommendations are aimed at the researchers. The research team should be thoughtful about who is involved in the project to ensure the overall team has the knowledge and connections required to form safe and authentic relationships with Māori. Researchers themselves need to think creatively about how they give back to communities to provide tangible benefits. Non-Māori researchers should be enabled support for enhancing their understanding of tikanga within research processes in a way that does not burden their academic Māori colleagues. Additionally, networks outside of the research team should be established to provide a supportive place to process, reflect upon, and discuss the discomfort and anxiety that goes with cross-cultural relationships. Finally, within a team, there should be open discussion and understanding of roles and responsibilities in a way that does not constrain what team members can do or contribute to. Research in partnerships is a useful way to upskill researchers and expose people to new roles they might not otherwise feel comfortable undertaking.

Acknowledgements

The authors would like to thank Cassandra Khoo and Joshua Lowe for assisting in the creation of Ngā Wai Rerekē, and to acknowledge Donald Ripia for gifting the name.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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