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Toward Culturally Responsive Qualitative Research Methods in the Design of Health Technologies: Learnings in Applying an Indigenous Māori-Centred Approach

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Abstract

There is a growing call for health researchers to address the inequities in healthcare experienced by indigenous populations by focusing on the development of culturally responsive research approaches. This article presents a contextual example from Aotearoa New Zealand (NZ) of how indigenous (Māori) knowledge and practices helped reimagine and enhance an existing qualitative descriptive research protocol exploring clinicians' perspectives of robotic rehabilitation for people with stroke. The intent was to develop a research design that upheld and valued mātauranga Māori (indigenous knowledge systems) alongside Western clinical sciences knowledge. To achieve this, a collaboration of non-indigenous (tauiwi) and indigenous researchers with experience in Qualitative and Kaupapa Māori (indigenous) methodologies, and clinical practice was formed. The researchers undertook a cyclical process of relationship building, engagement with mātauranga Māori, discussion and exploration of how indigenous knowledge and practices could inform and shape the existing study design. Key influences in adapting the research design were drawn from Māori ethical principles, Māori frameworks of health and wellbeing, and Māori cultural practices for clinical engagement. Drawing on indigenous knowledge and practices to develop a Māori-centred research method resulted in significant changes to the study design, methods, and interview approach. Focused development of a culturally responsive approach enabled the researchers to engage indigenous participants in a research process that was safe, respectful, and culturally appropriate. Transformation occurred within the researcher-participant relationship from one often characterised as transactional, to one of deeper connection and reciprocity, which facilitated a richer and more in-depth inquiry. The explicit valuing and integration of indigenous knowledge and practices in adapting the research method strengthened the cultural responsivity of the research. Central to the process was prioritising working in relational partnership. Non-indigenous researchers' self-reflection on their own culture, alongside being attuned to the influence of historical, political, and social contexts of the participants experiences proved essential.

Keywords

indigenous research, Māori-centred research, cross-cultural research, culturally responsive methods, qualitative research

Introduction

This paper seeks to describe the journey of a research team undergoing a process of transforming an existing qualitative research project in health technology design towards a Māori-centred approach. The genesis of this research began with an existing project exploring the robotic device features and programme parameters required for effective upper-limb

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robotic rehabilitation following stroke from the perspective of stroke rehabilitation clinicians. The research was undertaken in Aotearoa New Zealand (NZ), a country known for its diverse and multicultural population of approximately 5 million people. Māori are the indigenous people of Aotearoa NZ, accounting for 16.5% of the population, with European (70.2%), Asian (15.1%), and people with Pacific Island backgrounds (8.1%) constituting most of the remainder of the population (Statistics New Zealand, 2019). To appropriately answer the research question in the context of Aotearoa NZ, the inquiry needed to be responsive to the diversity of communities which access healthcare services.

Like many colonised countries, research demonstrates that Aotearoa NZ's healthcare system fails to meet the needs of the indigenous community. In addition to the impacts associated with the social determinants of health, Māori also experience inequitable access to healthcare services, systemic bias and racism within the healthcare system, inadequate representation in the healthcare workforce, and systemic inequity in health outcomes (Harris et al., 2006; Reid et al., 2019). Notably, the average age of stroke onset within Māori is 65 years, in contrast to over 80 years for European New Zealanders (Thompson et al., 2022). Māori stroke survivors are less likely to have access to specialist stroke services, are 1.5 times less likely to receive the recommended minimum amount of rehabilitation and experience poorer outcomes in function and quality of life (Thompson et al., 2022). These inequities, however, are not unique to New Zealand, reflecting a global trend seen in many indigenous communities (Santos et al., 2021). Therefore, in acknowledging the systemic inequities faced by Māori, the researchers sought a culturally responsive research approach when exploring the robotic device features and programme parameters required for effective upper-limb robotic rehabilitation following stroke.

Health Technologies and Their Design

Health technologies encompass tools, devices, software, and systems that are used to improve health outcomes or to deliver healthcare services. Health technologies hold immense promise to revolutionize healthcare by boosting efficiency, cutting costs, expanding access for underserved groups, empowering individuals to be proactive in their care, and enhancing patient outcomes (Awad et al., 2021; Hobson et al., 2019). The field of stroke rehabilitation has benefited significantly from the implementation of health technologies. For example, there is strong evidence supporting the effectiveness of wearables to provide objective data, body weight supported treadmill training to retrain walking, and virtual reality to enhance motor relearning (Iosa et al., 2012; Mehrholz et al., 2017). There is growing interest in the development and implementation of robotic devices to augment stroke rehabilitation, where there is evidence to suggest that robotic rehabilitation may provide similar or additional benefits for upper limb function in comparison with conventional rehabilitation (Veerbeek et al., 2017). Most of the benefits of robotics have been ascribed to the repetitive practice allowing a greater amount of high intensity, task-specific training (Poli et al., 2013). However, the uptake of robotic devices in clinical settings has been limited (Langan et al., 2018). This may reflect the incomplete knowledge about what a robotic device should entail to deliver efficacious rehabilitation outcomes, or how upper-limb robotic rehabilitation programmes should be designed to support their implementation in clinical practice (Burgar et al., 2011).

The Need for Culturally Responsive Research Methods

Designing health technologies requires multi-disciplinary collaboration between designers, engineers, healthcare professionals, patients, and their support networks to create effective and safe tools that address the diverse needs of users (Baines et al., 2022; Lu et al., 2011). Who engages in the design of health technologies requires careful consideration (Brewer et al., 2020). Mitigation of cultural bias in health technology design is a priority. Cultural bias refers to the presence of assumptions, stereotypes, and preferences of a particular cultural group that influence the design of healthcare technologies, which can lead to technologies that may not fully meet the needs and preferences of diverse populations (Haddad et al., 2019). This is especially important when considering the design of health technologies intended to support equitable access to and outcomes from healthcare. Cultural bias in health technology design can have significant consequences, including perpetuating health disparities, limiting access to healthcare for certain populations, and reinforcing existing inequities in the healthcare system (Brewer et al., 2020; Fawzy et al., 2022). To address cultural bias, it is essential to adopt an inclusive and user-centred design approach that actively seeks diverse perspectives and considers cultural contexts throughout the design process (Goodman et al., 2023). In the Aotearoa NZ context, drawing on mātauranga Māori knowledge and Māori perspectives to inform the development and implementation of health technologies could contribute to the development of health technologies which can be more effective, equitable, and inclusive for all users in Aotearoa NZ (Kidd et al., 2021; Te Morenga et al., 2018).

Inclusive health technology design necessitates incorporating the voices and perspectives of indigenous populations using culturally responsive methods. Yet, there is a notable lack of guidance on conducting culturally responsive research in health technologies design. Researchers in healthcare and health technology design need sound guidance in the design and implementation of culturally responsive research methodologies (Francis et al., 2019). This would enable them to fulfil their obligations to conduct research with indigenous populations in culturally safe ways, to respond to and address health inequities (Macfarlane & Macfarlane, 2019). It is hoped that sharing the learnings from our journey provides an example of how culturally responsive methods can support and enhance research design and practice and contribute deeper understandings of the personal journey required by health researchers within this process.

Method

Research Context

The original research protocol adopted a qualitative descriptive approach (Bradshaw et al., 2017) to explore clinicians' experiences and perspectives of robotics for upper-limb stroke rehabilitation. Physiotherapists, occupational therapists, and rehabilitation assistants were to be recruited through professional networks and purposively sampled for key characteristics including profession, years of clinical experience, ethnicity, gender, clinical setting, geographic location, and experience using robotic devices. Data was to be collected using semi-structured interviews and focus groups, supported by image elicitation to provide visual prompts of robotic devices and stroke rehabilitation delivery using robotics. Interviews would be transcribed and analysed using a descriptive content analysis to provide a rich and descriptive summary. The original research protocol outlined that the perspectives of Māori clinicians would be captured in a subsection of the study, where 2-3 Māori clinicians would be purposively sampled, interviewed, and the data analysed separately before being combined back into the full dataset.

Process of Adaptation

The adaptation process began with assembling the right team to undertake the proposed research. The original team consisted of two tauiwi researchers who identified the need for appropriate support and guidance to conduct the research in methods which would be culturally responsive for Māori. Three Māori researchers (two with experience in Kaupapa Māori research methods and rehabilitation practice) were approached to join the project. As a newly formed team, time and space was prioritised to undertake whakawhanaungatanga (building connections and relationships), which enabled the underpinning values of the research and collective working relationship to be established (Francis et al., 2019) and supported discussions regarding the project. In this research, that included mātauranga Māori (Māori knowledge systems, worldviews and practices) being valued, respected and upheld alongside that of Western clinical sciences.

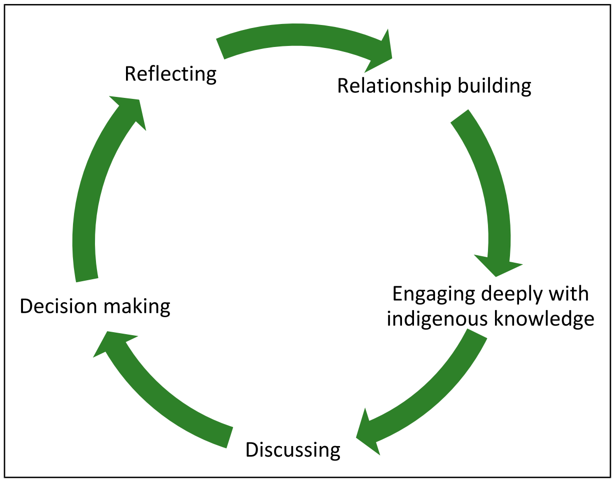

Figure 1. Cyclical process of research team engagement.

Figure 1 captures the cyclical process the team collectively engaged in to adapt different aspects of the research. Every hui (gathering or meeting) was initiated with explicit attention to *Relationship building* through whakawhanaungatanga, with the aim of strengthening the partnership between the research team members beyond collegial relationships. The team would then *engage deeply with indigenous knowledge*; taking time individually and together to consider the core concepts of mātauranga Māori which informed the research and d*iscussing* these in a kōrero (conversation or discussion); exploring how they might shape the research. In *Decision making* the team prioritised Te Ao Māori (Māori world views) when deciding how the research protocol would be adapted to align with a Māori-centred approach. The team would then spend time *reflecting* on these choices. Each decision informed the next, resulting in key changes being made to the theoretical framework, study design, methods, interview, and analysis approach.

Engaging With Indigenous Knowledge and Practices

To ensure our practices and responsibilities as researchers were upholding indigenous knowledge(s) appropriately, we drew from Te Ao Māori ethical principles (Hudson et al., 2010), models of health and wellbeing (Pitama et al., 2014), and frameworks for culturally responsive clinical and research practice (Hudson et al., 2010; Lacey et al., 2011). We provide an overview of the key texts and frameworks which explicitly informed the adaptation process below.

Te Ara Tika – a framework of ethical principles for health research, was utilised to support and inform our ethical decision making (Hudson et al., 2010). Grounded in Māori principles, Te Ara Tika prompted considerations regarding concepts of whakapapa (genesis and purpose of the research), tika (validity of the research proposal), manaakitanga (cultural and social responsibility), and mana (equity, justice, and rights) (Hudson et al., 2010).

The team identified an appropriate model of health to underpin the work. Founded on earlier models of Māori Health (Durie, 1985), the Meihana model depicts a waka hourua (double-hulled canoe) as an analogy for the person and their whānau (extended family and community) as they journey toward hauora (health and wellbeing) (Pitama et al., 2014). The person and their whānau are connected by five aku (crossbeams) representing tinana (physical health), hinengaro (psychological and emotional wellbeing), iwi katoa (services and systems), wairua (spirituality), and taiao (physical environment) (Pitama et al., 2014). Importantly, this model acknowledges the wider contextual factors influencing hauora Māori as an indigenous people in a colonised country. Nga Hau e Wha (the four winds) which buffet the waka, signify the historical and societal influences of colonisation, racism, migration, and marginalisation on Māori. Nga Roma Moana (ocean currents) represent specific components from Te Ao Māori which influence the journey, including ahua (personalised indicators), tikanga (cultural protocols), whānau (roles and responsibilities within family), and whenua (connection to place/land) (Pitama et al., 2014).

It was essential to draw on tikanga Māori (culturally safe practices) to guide authentic interactions and engagement with participants. The Hui process is a model of clinical engagement developed to support clinician-patient interactions with Māori to enhance communication and relationship building (Lacey et al., 2011). The Hui process was designed to follow the structure of a traditional hui (gathering or meeting). The four components include the mihimihi (initial greeting and engagement), whakawhanaungatanga (making a connection/building relationships), kaupapa (attending to the purpose of the encounter) and poroaki (closing the session). This relational process aligned with our vision of prioritising connection building when engaging with our Māori research participants.

Results

Undergoing this process of adaptation resulted in changes to the research protocol. The following table highlights how the process of engaging with mātauranga Māori resulted in adaptations to the research protocol. (Table 1).

Examples of Adaptations

While it would be inappropriate to list all the adaptations made, we present three examples of fundamental adaptations to the research design.

Study Design. A fundamental change was challenging the methodology and study design which underpinned the work. The original protocol adopted a qualitative descriptive approach (Bradshaw et al., 2017), utilising user-centred design strategies (Redström, 2006) to explore clinicians' experiences and opinions of robotics for upper-limb stroke rehabilitation. Rooted in Western methodologies, this approach fell short in reflecting Māori worldviews. We soon recognised that 'nesting' data from Māori clinicians within a broader study would not sufficiently honour their perspectives, voice, or values, nor be a culturally responsive approach. In light of this, our first fundamental change to the research protocol was to explore the perspectives of Māori clinicians as an independent study.

In re-conceptualising the research with Māori clinicians as an independent inquiry, we drew from Kaupapa Māori research principles to inform a Māori-centred approach. Central to this was prioritising Māori practices, knowledge, and values (Walker et al., 2006), and ensuring our research methods and practices supported this positioning (Berryman et al., 2017). Māori members of our research team provided essential cultural insights and direction and were pivotal in ensuring Māori perspectives were prioritised and amplified in our processes. Implementing and upholding tikanga Māori throughout the project, supported the cultural safety of all who engaged in the research. These outlined changes in study design, critically informed and grounded the protocol adaptations that followed.

Data Collection Methods. A key adaptation required to conducting interviews was to ensure tikanga Māori was upheld. The

Table 1. Key Adaptations From Original Research Protocol to Māori-Centred Approach.

Research Protocol Element	Original Protocol	Adapted Protocol
Aims and objectives	Stroke rehabilitation clinicians' perspectives of device and programme requirements for effective upper-limb robotic rehabilitation following stroke	Māori stroke rehabilitation clinicians' perspectives of device and programme requirements for effective upper-limb robotic rehabilitation following stroke
Methodology	Qualitative descriptive approach drawing on user-centred design elements	Māori-centred approach
Methods		
Sample	Purposive sampling, clinicians with experience in stroke rehab	Purposive sampling, Māori clinicians with experience in stroke rehab
Recruitment	Flyers, professional networks	Through existing and new relationships. Detailed project information distributed, inclusion of researcher profiles
Data collection	Semi-structured interview	Semi-structured interview following the Hui process
Interview content	Exploring user requirements for robotics, image elicitation for prompting	Exploring user requirements for robotics framed based on the Meihana model, image elicitation for prompting
Data analysis	Descriptive content analysis	Thematic analysis, informed by Te Ao Māori concepts

original protocol outlined that interviews would be semi-structured in nature and explore clinicians' perspectives on what a robotic rehabilitation device may entail, including the parameters of a robotic training rehabilitation programme. Whilst a semi-structured approach allowed flexibility in exploring clinicians' perspectives, it did not inherently support the type of relationship between researchers and participants necessary for an in-depth Māori-centred inquiry. The research team considered the Hui Process (Lacey et al., 2011), a Māori framework of clinical engagement, a responsive approach. With explicit processes focused on whakawhanaungatanga (building connections and relationships), the Hui Process supported the team to prioritise and strengthen the nature of relationships established within participant interactions. Attention to whakawhanaungatanga provided space and time for appropriate tikanga Māori, such as opening with karakia (prayer or incantation), and an exchange of mihimihi and pepeha (Māori cultural forms of greeting and introductions). Upholding tikanga Māori in these ways enabled more meaningful connection (beyond professional roles) to be established.

Interview Content. In addition to changing the interview structure, the content of the interview questions were reframed to uphold and better reflect Māori concepts of health and wellbeing. The Meihana model (Pitama et al., 2014) provided perspectives which enhanced the line of inquiry. The original research questions exploring rehabilitation clinicians' perspectives on robotic devices, shifted from "If you could design a system for upper-limb stroke rehabilitation, what would it entail?", "What do you think would help or hinder the uptake of robotic devices in practice?" to more responsive questions such as, "How do you tailor your rehabilitation approach to meet the needs of Māori?", "What would a device need to be, look like or do for it to be beneficial for Māori patients?", "How can a device strengthen someone's wairua, or a spiritual connection to whānau (extended family and community), or whenua (place)?". This reframing supported exploration of health and wellbeing after stroke from a Te Ao Māori perspective, acknowledging not only an individuals' physical needs, but their whānau (support network), wairua (spirituality), hinengaro (psychological and emotional wellbeing), taiao (physical environment) and iwi katoa (services and systems) as they related to rehabilitation robotics.

The Meihana model also provided framing for understanding how wider contextual and cultural elements (Ngā Roma Moana), including whānau roles and responsibilities, and connections to place/land, may influence Māori in clinical settings. Broader considerations of historical and societal factors (Ngā Hau e Whā) such as the personal and whānau impacts of colonization, racism and marginalization were also prompted, relative to rehabilitation in Aotearoa NZ. For example, when asked, "Can you tell us about your experience of being a Māori clinician working in NZ?", participants often referred to the negative impacts of systemic racism, bias, and discrimination frequently experienced by Māori patients and Māori clinicians. These were then able to be explored further within the interview and related to rehabilitation robotics.

Discussion

This article has presented a worked example of integrating a Māori-centred approach through application of mātauranga Māori and tikanga Māori to an existing qualitative research protocol. Whilst the adaptation process resulted in fundamental changes which directly improved participants experience and the overall quality of the research, it is also acknowledged that the process did not occur without significant challenges. We hope that sharing our insights and reflections from this process will offer valuable perspectives for fellow researchers aiming to cultivate culturally responsive research practices.

What the Process Required

The tensions inherent in navigating differing worldviews within healthcare were mirrored in the research teams experience. Across the course of the research, diverse challenges and instances of discomfort arose, affecting each member in unique ways. Western and Te Ao Māori perspectives represent distinct ways of knowing and relating to the world, reflecting differing values and belief systems (Rolleston et al., 2022). We intentionally sought to ensure that both worldviews were represented within our research team, necessitating that all members traverse these differences. Indigenous people living in countries with a dominant colonised culture are often well versed in navigating Western worldviews (Simonds & Christopher, 2013). This was no different for our indigenous research team members, who were experienced navigating multiple cultural contexts when working alongside tauiwi team members (Smith, 2013; Webber, 2009).

This traversing of multiple worldviews however was new for the tauiwi members of the research team. The tauiwi members of the team often struggled to understand Te Ao Māori worldviews, knowledge and practices. Despite engaging independently and collectively in learning and reflecting, they frequently relied upon Māori team members to guide them. This reliance, is reflective of the demands placed on indigenous academics working in cross-cultural contexts, where by necessity, they frequently are required to assume the role of cultural intermediary by their non-Indigenous peers. Haar and Martin (2022) describe this phenomenon experienced in an Aotearoa NZ context as Aronga Takirua; the cultural double-shift experienced by Māori researchers and academics as they navigate two world views. This duality suggests that Māori researchers may bear twice the responsibilities and demands as tauiwi researchers. Beyond both cultural and academic expertise, indigenous researchers also experience an additional layer of scrutiny and accountability to the differing communities they are both from, and represent

(Naepi et al., 2020). Our approach to adapting an existing qualitative descriptive research design may have inherently amplified the burden of ‘double shift’ on the Māori members of our team, and prompts reflection of the role of tauiwi researchers engaged in cross-cultural research.

The work non-indigenous researchers need to undertake to engage and work in cross-cultural research teams and conduct projects in a culturally responsive way requires further exploration. While all members of this project contributed in good faith, the team identified several ways in which the demands placed on Māori members of the team could have been minimised or mitigated. Prioritising indigenous knowledge to inform the project should remain a primary focus, but non-indigenous researchers need to come into such spaces having invested significant effort in upskilling and learning about indigenous worldviews, ethical principles, models of health and wellbeing, and culturally responsive clinical and research practices (Krusz et al., 2020). A significant part of the groundwork from non-indigenous researchers involves learning to recognise and acknowledge the power, privilege, and patterns of thinking associated with being part of the dominant culture in colonised societies, and the injustices this may promulgate (Max, 2005). Challenging such ingrained beliefs and acknowledging the role taken in perpetuating colonising practices is difficult and uncomfortable, but nonetheless imperative work to begin to ‘decolonise the self’ and move towards ‘allyship’ (Krusz et al., 2020; Lewis, 2018).

Incorporating indigenous practices into ways of working in cross-cultural research teams is also paramount to promoting positive and successful working relationships through the entirety of the research project. As a team, we had committed to prioritising building and strengthening relationships between the research team members beyond collegial connections through the practice of whakawhanaungatanga (Francis et al., 2019). More than committing to relationship building, team members showed vulnerability, openness, respect, and aroha (love and care) for enduring trust to be formed. A significant aspect of this trust building and maintaining respectful relationships required the non-indigenous researchers to have awareness around the boundaries of their roles and knowing how to ‘stay in their lane’. That is, recognising that their understanding of indigenous worldviews will always be ‘novice’, coming into shared cultural spaces humbled and committed to supporting others to thrive, not assuming they know what indigenous communities need; listening more and giving precedence to indigenous voices (Brophey & Raptis, 2016; Krusz et al., 2020). Non-indigenous researchers’ involvement in cross-cultural projects is a privilege; their engagement should come from a genuine desire to see positive change for all communities, rather than as a tokenistic act. The connection and trust which had been developed between the research team members helped to maintain these boundaries and to talk openly about the challenges of this work.

What the Process Enabled

Notably, the focus on whakawhanaungatanga, building connections both between Māori and tauiwi members of the research team, and between the researchers and participants, proved paramount. Prioritising collaborative partnerships within the research team created intentional space for Māori members of the team to lead decision making as the research design and methods were adapted (Francis et al., 2019). The resulting adaptations, in turn, positively impacted the participants experience and the quality of data gathered. Valuing and prioritising mātauranga Māori in our processes enabled richer breadth and depth of kōrero. For example, the framing of the question “How can a device strengthen someone’s wairua, or a spiritual connection to other people (whānau), or to a place (whenua)?” prompted clinicians to discuss the importance of designing devices which enabled people with stroke to connect with environments and activities of meaning, such as ancestral gathering places or activities related to the land and water like food gathering and fishing. This highlights how the adapted approach unveiled insights that might not have been uncovered in the original Western-oriented research methodology.

Embedding tikanga Māori within the recruitment, data collection and interview structure facilitated researcher-participant relationships based on respect, reciprocity, and trust. This approach served to expand participant contributions, enabling participants to draw on their knowledge and understandings as both Māori and clinicians. The professional knowledge of physiotherapists and occupational therapists, and the practice of rehabilitation stem from Western healthcare principles and scientific foundations (Duncan, 2006). Through the interview process participants were able to explore the potential tensions between Te Ao Māori and Western worldviews in the context of stroke rehabilitation. Participants described observing the way the healthcare system amplified inequities and inequalities, including the access to healthcare technologies such as rehabilitation robotics. Some described the daily challenge of seeing Māori with stroke struggling to navigate through a healthcare system which doesn’t adequately support them, whilst simultaneously working as part of that system. Had the researchers not committed to creating a safe space where the participant felt known, heard, and respected, nor asked the type of questions which provided opportunities for this type of inquiry, these perspectives may not have been shared. A deeper level of inquiry was thus able to be achieved, more aligned with and reflective of the experiences and perspectives of Māori clinicians engaging in stroke rehabilitation providing key insights to inform the design of rehabilitation robotics which address these issues.

Conclusion

In our pursuit of a culturally responsive approach to health technology design research, we have highlighted both the enriched understandings that may be gained and the inherent challenges for those involved. Prioritizing indigenous Māori worldviews, knowledge, and practices necessitated profound modifications to our study design and methods. While adapting the protocol was a lengthy and demanding undertaking, the resultant data quality and combined learnings were invaluable. By grounding our research approach in indigenous knowledge and practices, we strengthened our connection with participants, fostering an environment of trust and enabling more insightful, and rich interviews. However, the act of traversing two distinct worldviews required conscientious navigation by both researchers and participants alike. This insight underscores the dual burdens shouldered by indigenous researchers, emphasising the imperative for non-indigenous researchers to invest in developing knowledge in indigenous paradigms, culturally responsive research practices and consider their own positionality and biases. As health researchers, we have an obligation and a responsibility to ensure we are responding to the call for the inclusion of indigenous people in health technologies research. Culturally responsive research approaches to health technology design have the potential to yield considerable benefits, including reducing health disparities, enhancing healthcare access, and promoting equity within the healthcare system.

Glossary

Aotearoa	Land of the long white cloud; New Zealand
Ahua	Personal indicators of Te Ao Māori that are important to the patient/whānau
Aku	Cross bars of the waka hourua connecting the person and whānau
Aroha	Love/care/compassion
Aronga Takirua	Māori academics working multiple roles from dual foci (Western and Māori)
Hauora	Holistic health and wellbeing
Hinengaro	Psychological and emotional wellbeing
Hui	Gathering/meeting/assembly, central ritual of encounter
Hui process	Framework to guide clinical interactions and engagement with Māori
Iwi katoa	Services and systems that provide support for patients/whānau within the health environment
Karakia	Ritual chant/incantation/prayer
Kaupapa	Topic/purpose/matter for discussion/agenda/project/initiative
Kaupapa Māori	Māori approach/ideology/topic/customary practice
Kōrero	To speak/conversation/discussion
Mana	Power and authority bestowed, gained or inherited individually and collectively; equity and distributive justice
Manaakitanga	The process of showing respect, generosity and care for others
Māori	Indigenous people of Aotearoa New Zealand (a heterogenous group with distinct understandings of language, culture and customs dependant to hapū or iwi)
Māori-centred	Research approach informed by Kaupapa Māori principles and Māori people and experience, may incorporate both Māori and non-Māori research methods
Mātauranga Māori	Knowledge systems/wisdom
Meihana model	Clinical framework and assessment tool for Māori which considers the individual, support networks, environment, and wider societal issues
Mihimihi	Official speech of greeting/acknowledgement
Nga hau e wha	(Four winds) signify the societal/historical influences on Māori depicted in the Meihana model
Nga roma moana	(Ocean currents) represent components of the Māori world view depicted in the Meihana model
Poroaki	Concluding an encounter/to take leave/farewell
Taiao	Physical environment
Tauiwi	Non-Māori people of Aotearoa New Zealand
Te Ao Māori	Māori worldview
Te Ara tika	Framework for addressing Māori ethical issues in research
Tika	To be correct/true/right/just/fair/appropriate/valid
Tikanga	Correct procedure(s)/cultural practices (expression of Māori values and practices informed by traditional Māori knowledge)
Tinana	Physical health and functioning of the person
Wairua	Spirit/soul/essence/feel/mood/atmosphere
Waka hourua	Double-hulled canoe
Whakapapa	The genesis and purpose of any particular kaupapa (topic/purpose)
Whakawhanaungatanga	Process of establishing relationships
Whānau	Extended family and community
Whenua	Land

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Ethical Approval

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