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ABSTRACT

Significant effort is underway to address the housing crisis in Aotearoa New Zealand (Aotearoa), including rapid investment in public and community housing. As Māori (the Indigenous people of Aotearoa) face many systemic barriers and impediments to home ownership, delivery and development of housing options and make up a significant proportion of public housing tenants, developing and managing housing and associated neighbourhoods that enable and support Māori wellbeing is of critical importance. To support this, we introduce *A Whakawhanaungatanga Māori Wellbeing Model for Housing and Urban Environments* – for use by researchers, developers, designers, managers and regulators – that emphasises whakawhanaungatanga (relationship building and creating connectedness) as central to wellbeing outcomes for Māori. Here we outline seven key concepts from Te Ao Māori built into our model, and pose questions to help guide researchers and housing and urban development actors in their respective research and development activities. While the model is primarily intended to contribute to Māori wellbeing outcomes in Aotearoa, it may also be of broader international interest to those working toward wellbeing outcomes in relation to housing and urban environments, particularly for Indigenous peoples.

Introduction

In response to the housing crisis in Aotearoa New Zealand ('Aotearoa'), investment in housing – including public and community housing – and associated neighbourhood

environments is occurring at an unprecedented pace and scale (Howden-Chapman et al. 2017; Barker 2019; Mosley 2019). This investment is occurring in both the private and public sector, the latter of which is accountable to the New Zealand Government's broader wellbeing economy approach – which places wellbeing at the heart of the country's economic policy framework (NZ, The Treasury 2021b) – and to the Government's responsibilities under Te Tiriti o Waitangi[1] (HUD 2019). The Government is also targeting a near zero-carbon built environment by 2050 (MFE 2022). While the public narrative around such investment is often couched in terms of quantitative variables or economic indicators – such as number of houses; number of people housed; costs (e.g. see HUD 2023), the nature and quality of the built environment – particularly of housing, surrounding neighbourhoods and associated infrastructure – are not sufficiently prioritised, despite being important determinants of wellbeing and significant contributors to national carbon emissions (O'Sullivan et al. 2023). Improving access to high quality housing and reducing emissions from the built environment has the potential to improve the wellbeing and sustainability of whānau (family/families) and communities across Aotearoa. To do so requires transformative new approaches to housing and urban development processes, design, construction, management and evaluation (Chapman and Howden-Chapman 2021).

In this paper, we present a *Whakawhanaungatanga Māori Wellbeing Model*, which draws on existing ideas about wellbeing and the role of the built environment from relevant mainstream literature as well as key wellbeing concepts from Te Ao Māori (the Māori world) outlined in section 'Wellbeing concepts'. These are summarised below and collectively integrated into our model, which is presented in the following section (section 'The model'). We then (section 'Application of the model') provide prompts to support the practical application of our model in research and in the development and provision of housing and surrounding neighbourhood environments, using our own current research as an example. We consider the application of our model in the development and provision of public housing in particular, as the Government and broader public housing sector has clear obligations under Te Tiriti to promote Māori wellbeing. Yet we also consider our model to be of wider practical use; our aim is to help guide researchers and housing and urban development actors – particularly those in Aotearoa – to approach their respective activities in ways that incorporate a holistic, Indigenous approach to wellbeing. As such, and notwithstanding important theoretical engagement with our model, the following paper is structured and oriented to encourage its practical uptake and thereby contribute to positive change in wellbeing outcomes, particularly for Māori.

Wellbeing concepts

Approaches to wellbeing

Although approaches to wellbeing continue to evolve, wellbeing is generally understood as multidimensional, dynamic and shaped to varying degrees by one's physical, social, economic and cultural surroundings, past and present (King et al. 2014; Cylus and Smith 2020). Wellbeing has universal characteristics (i.e. there are common wellbeing needs that all people have), yet wellbeing is also person- and culture-specific (King et al. 2014). As Durie (2003, p. ix) notes below, understanding that wellbeing is a

result of numerous intersecting variables, which vary across populations and individuals, is critical if we are to develop strategies to improve wellbeing:

> Across the range of conditions that determine health there needs to be synergy. No matter whether the focus is on the prevention of ill health and the promotion of wellbeing, or on treatment and rehabilitation, progress depends on the dynamic interaction of people with each other as well as with wider cultural, social, economic, political and physical environments. Health is the outcome of all these variables acting together. Māori health is the product of the combined forces acting on the past and present experiences that serve to define Māori realities. (Durie 2003, p. ix)

The complexity and dynamism of wellbeing is reflected in the proliferation and diversity of wellbeing frameworks and research in Aotearoa and internationally over the last few decades. Conventional approaches to conceptualising and measuring wellbeing are typically based on one of two main approaches: (1) subjective wellbeing (SWB), and (2) the capabilities approach to wellbeing (Sen 1993; Grimes et al. 2023 this edition). Subjective wellbeing is interested in how well people are, and encompasses moods, emotions and feelings such as happiness (hedonic wellbeing), as well as evaluating satisfaction with one's life in terms of purpose, meaning and personal growth (eudemonic wellbeing) (Diener 2009). The capabilities approach is derived from the notion of basic needs and is concerned with how society enables and supports people to be well (Sen 1993). It posits that wellbeing is based on how people actually function (what they do and strive for within their own belief system) and whether they have the capabilities to lead meaningful lives they value, within the constraints and opportunities provided by their environment or circumstances (Kimhur 2020). Our approach to Māori wellbeing in the context of housing and urban environments aligns more closely with the capabilities approach. That is, we are interested in how built environments (specifically public housing and associated neighbourhoods) enable and support the wellbeing of whānau Māori residents and others who call those environments home.

   More recently, Indigenous approaches to wellbeing have gained recognition for their prioritisation of the interdependencies between human wellbeing and ecosystem health, and the important role that connections between humans, nature, spirituality and the built environment have in enabling and maintaining wellbeing (Gallagher 2018). Further, urban design and planning approaches in Aotearoa are starting to embrace Indigenous approaches to wellbeing, leading to some transformations in approaches to shaping landscapes and the built environment to better support wellbeing (Thompson-Fawcett et al. 2019; Marques et al. 2021; Marques et al. 2022). This extends to consideration of housing provision and housing that meets the cultural needs of Indigenous peoples (Anderson and Collins 2014; Anderson et al. 2016; Riva et al. 2021; Boulton et al. 2022; Rogers and McAuliffe 2023), with housing playing a central role in the network of urban infrastructures that support wellbeing (O'Sullivan et al. 2023). Our model reflects the ecological-spiritual basis of wellbeing, and the central role Indigenous approaches play in Indigenous wellbeing.

The role of the built environment in wellbeing

The built environment refers to human-made structures and spaces that people use for living, learning, working, leisure and recreation on a day-to-day basis. Ranging in scale

from the individual building to city-wide and regional landscapes, the built environment can be conceptualised as a complex social-ecological-technical system that links people to physical spaces through roads, bridges and other connecting infrastructures and distributes resources such as water and electricity and the roads (Moffatt and Kohler 2008). As part of urban infrastructure that supports wellbeing, housing is critical, particularly as home is where people spend most of their time (Baker et al. 2007). High quality housing – including secure, healthy, affordable or public housing for those who would otherwise lack access to housing – is essential for protecting and enhancing wellbeing (WHO 2018; Mansour et al. 2022).

Our work is situated within a wider body of work concerned with the built environment's role in wellbeing, both in Aotearoa and internationally (Kent and Thompson 2014; Howden-Chapman et al. 2017; Chapman and Howden-Chapman 2021; Mouratidis 2021; Tonne et al. 2021; Olin et al. 2022). Within this literature we observe different perspectives informing the approaches that those governing, shaping and researching the built environment draw on to understand wellbeing. One is the notion of environmental determinism, a cause-effect perspective underpinned by the premise that what is built – the physical structures and spaces created by architects, urban designers, planners, engineers and others – has the capacity to 'transform us into happier, healthier, better people … to reform human behaviour and society' (Richards 2012, p. 1). Environmental determinism has been prevalent in architecture and urban planning since the modernist era, during the first half of the twentieth century, and remains deeply rooted in mainstream efforts to shape space and place. It also dates back further, and has associations with colonial planning and public health ideals (Miller 2016).

Urban and housing planning and design processes driven by deterministic principles tend to over-estimate the importance of physical or technological outcomes and may overlook important cultural, social, educational or other behaviour processes that shape the ways in which people connect and interact with built environments. Furthermore, deterministic approaches can privilege or endorse certain cultural systems, social hierarchies and relationships by locking in physical structures and certain prescriptions for wellbeing or a 'good' society, whilst 'passing judgment on the lives and behaviour' of those who do not conform (Miller 2016). Determinism is problematic for many reasons, particularly when applied to culturally diverse and evolving communities. Yet any approach, deterministic or otherwise, dominated by mono-cultural values is problematic, as it can undermine or de-legitimise the cultural systems of marginalised groups and can continue to prioritise structures that have led to housing and health inequities for Indigenous peoples (Howden-Chapman et al. 2023). Redressing such inequities in the context of Aotearoa, through giving effect to Te Tiriti is an essential macro-process to improve Māori wellbeing. While a deeper discussion of Te Tiriti is outside the scope of this paper, we do touch on Te Tiriti obligations of the New Zealand Government and broader public housing sector when we consider applications of our model (section 'Application of the model').

Another perspective on the role of the built environment noted here is based on social constructivism (Berger and Luckmann 1966), the idea that knowledge and reality are created jointly by members of society and expressed and institutionalised through prevailing social and cultural symbols, beliefs, values, practices and behaviours. For many scholars, wellbeing is a socio-cultural construction, created in a specific cultural setting

with specific cultural values and perceptions about what is 'good' or not (Gergen 2009; Vilches 2012). As such, different social, cultural and demographic groups (e.g. age, gender, ethnicity, religion) will have different beliefs and knowledge about what wellbeing is and how to achieve it. Proponents of the social constructivism perspective highlight the importance of looking beyond so-called 'objective' or deterministic approaches to wellbeing, and understanding the built environment as known and experienced by different user groups (Diener 2009).

These two ideas have both been criticised for not fully accounting for the diversity of user experiences and conceptions of wellbeing in relation to the built environment. Other perspectives that prioritise the interactions of people with their environment are therefore helpful to consider. For example, a sociotechnical approach to the built environment places the emphasis on understanding complex social interactions that people have with technologies or infrastructures (Guy 2006; Hinton 2010), including housing as the critical infrastructure for wellbeing (O'Sullivan et al. 2023). These technologies or infrastructures mediate or act as gatekeepers to the relationships people have with services such as energy or water, or environmental features including harbours, rivers, forest parks or coastal areas that are situated within or adjacent to the built environment where they live. The functioning of the built environment is assessed at different organisational levels and by many different actors that have different relationships and interests shaping their interactions with the infrastructures that combine to make up cities (Geels 2004; Patorniti et al. 2017).

A comparable perspective is that of relational urbanism, which emphasises the importance of relationships between people and the spaces, places and ideas that shape everyday lived experiences of the city. Massey's (2004, p. 3) influential concept of '[t]hinking space relationally' has reverberated through the social sciences and human geography, seeding variants of 'thinking the city relationally' (Jacobs 2012, p. 418) and exploring new ways to test, express, find, keep or create relationships in urban places (McFarlane 2021). In other words, this perspective explores the built environment's role within dynamic relationships that go 'beyond the strong structuralist programme' that used to underly and can still dominate 'influential approaches and issues in urban research' (Farias 2010, p. 1). It champions 'new insights' by engaging with new 'theoretical tools' – such as the *Whakawhanaungatanga Māori Wellbeing Model* presented in this paper – to better understand, prioritise and nurture relationships between people and between people and the built environment.

In practice, the many factors that combine to create or transform environments in which individuals, whānau and communities experience everyday life – and that, therefore, shape their quality of life and wellbeing – are influenced by both their physical surroundings and by the social and cultural networks and frameworks they are part of. A particularly important aspect of these environments is housing and the related infrastructures and processes that support its creation. As previously noted, home is the place where people spend most of their time (Baker et al. 2007). For Māori, and other peoples, home environments – both as physical entities and as social and cultural settings, extend beyond the physical dwelling to include the surrounding natural and built environment. Incorporating the wider community and landscape in the conceptions of 'home' underscores the many and varied relationships that individuals, their whānau and communities experience with other places and people, and are

therefore critical for supporting health and wellbeing by reinforcing identity, belonging and sense of place. This kind of nuanced approach focusing on relationships is what we are advocating for in our *Whakawhanaungatanga Māori Wellbeing Model*.

Key concepts informing the Whakawhanaungatanga Māori wellbeing model

Consistent with increasing interest in wellbeing across many disciplines, as both a research topic and a targeted outcome in policy and practice – and with growing consideration of the wellbeing and cultural needs of Indigenous peoples, particularly in relation to housing and urban environments (Anderson and Collins 2014; Anderson et al. 2016; Riva et al. 2021; Boulton et al. 2022; Rogers and McAuliffe 2023) – the number and range of Māori wellbeing frameworks and models developed in Aotearoa in recent years has grown significantly. They build on many earlier models such as the Whare Tapa Whā model (Durie 1985), the Te Wheke model (Pere 1984) and Te Pae Māhutonga (Durie 1999). These earlier models set the foundational structure for many subsequent models and frameworks across a wide range of disciplines and contexts in Aotearoa, including those developed at the urban/built environment and Māori wellbeing nexus; see, for example Te Ao Tutahi (McNeill 2009) and the Meihana Model (Pitama et al. 2007).

We also draw on more recent work across the Māori wellbeing spectrum including frameworks, models and approaches to Māori health and wellbeing within urban settings. These include: Te Aranga Cultural Landscape Principles (Hoskins 2008); Mauri Model Decision Making Framework (Morgan 2004); Developing Māori Urban Design Principles (Awatere et al. 2010); Ngā Pou Mauriora: A conceptual framework for understanding urban Māori wellbeing (Waa et al. 2017); Te Aranga Principles (Hoskins and Kake 2013; Paul and Kake 2019; Menzies et al. 2022b); the Whenua-Whānau-Whanaungatanga Model (Durie 2019) and; Whiti Te Rā: A guide to connecting Māori to traditional wellbeing pathways (McLachlan 2021). We are further informed by the expanding literature highlighting connections between whanaungatanga and hauora (Rata and Al-Asaad 2019; Greaves et al. 2021).

Interweaving this literature derived from Te Ao Māori with the wider wellbeing literature summarised earlier in this section, we have identified seven key concepts fundamental to understanding the relationship(s) between Māori wellbeing and the built environment. We believe these ideas could usefully inform research and practical approaches to Māori wellbeing and the built environment, as well as, to some extent, wellbeing of the wider population; thus, we have used them to inform and define our model. We provide examples for each of these concepts below to suggest how they might be embodied in processes and outcomes to support the wellbeing of Māori and others in relation to housing and urban development. While the concepts we have identified are particular to the bicultural context of Aotearoa, we acknowledge that there may be synergies with other concepts – especially those derived from Indigenous cultures. In this way, we imagine our model could be of value internationally to researchers and housing and urban development actors working elsewhere. In contexts outside of Aotearoa, our model could be used as a starting point for discussions regarding how to engage with Indigenous knowledge in relation to housing and urban development processes, design, construction, management and evaluation.

Concept 1: relationships are a primary determinant of Māori wellbeing

Cultural connections (tūhononga) and relationships or social connections (whanaunga-tanga[2]), and the process of forming and maintaining relationships (whakawhanaunga-tanga) and the networks they form, are fundamental to how Māori conceive of and experience the world. Whanaungatanga are essential within Māori communities, providing the foundation for working together to achieve a sense of unity, belonging, connection and cohesion (IMSB 2019). Relationships are not limited to the living (hunga ora), they can be with tūpuna (ancestors) who have passed on or with aspects of the environment (e.g. awa, moana, whenua, ngahere, rākau). They underpin an individual's sense of purpose, belonging, identity and social and legal rights and responsibilities, all of which influence wellbeing in different ways (Houkamau and Sibley 2010; Wolfgramm et al. 2020). In other words, there is a critical link between whanaungatanga and hauora, the Māori philosophy of holistic wellbeing (Greaves et al. 2021). As such, relationships are a primary determinant of wellbeing for Māori; and their nature, quality and control are at the heart of Te Ao Māori and expressed in taonga tuku iho,[3] tikanga (customary system of values and practices) and kawa (marae[4] customary protocols).

> Connection (tūhononga) reflects the importance of connection and the collective to Māori and is grounded in the integral importance of the relationships Māori individuals have to place (wāhi), ancestors (tūpuna), family (whānau), and social connection (whanaunga-tanga). (Menzies et al. 2022a, p. 1068)

Relationships are dynamic and multifaceted, with spiritual, social, physical and mental/psychological dimensions, that can underpin and reinforce cultural beliefs, values, and practices and strengthen the bond and identity of parties (Wilson et al. 2021). From a Te Ao Māori perspective, all dimensions of a relationship should be nurtured to ensure the mauri (life force or essence, vitality) of a relationship maintains a dynamic yet balanced state (Durie 2003). However, while wairua (the spirit or the soul) is the cornerstone of kaupapa Māori (foundational principles), until recently wairua was not given as much attention as other dimensions of hauora (e.g. physical, mental, social, whānau), especially in research and academia (McNeill 2009). Acknowledging and effectively including this holistic view of wellbeing and the practice of wairuatanga (spirituality or spiritual practices) and related tikanga in built environment development processes and design would establish a foundation for better Māori wellbeing outcomes associated with housing and urban development. Indeed, it would facilitate whakawhanaungatanga (the process of establishing, building and maintaining relationships), which is critical for ensuring healthy connections and relationships that support identity, belonging, community cohesion, and the creation of opportunities for tikanga, especially for people who may feel disconnected from their neighbourhood or local community.

We suggest that housing and associated built environments can support relationships and relationship-building – and, therefore, wellbeing – through, for example, including locally relevant and meaningful Māori symbols (iconography) in/on dwellings, landscapes and infrastructure to demonstrate relationships with the local environment, hapū/iwi (extended family group/tribe) and ancestors and events. This can be enhanced by ensuring the history and whakapapa (genealogy) of the kāinga (settlement) and whenua (land) are known to residents and opportunities for them to be involved in tikanga Māori are created.

Concept 2: wairuatanga – spirituality as the foundation of Māori wellbeing

In traditional Māori society, relationships were primarily framed by wairuatanga – spiritual practices that acknowledge connections between past, present and future events as well as relationships with ancestors (tūpuna), the natural world (te taiao) and deities or higher spiritual powers (atua). Actively listening, observing, acknowledging, learning from, enhancing and perpetuating these connections and relationships in daily life, as well as in more formalised practices is the basis of Māori wellbeing. In his article on Te Whare Tapa Whā, Durie (1985) showed that spirituality was an essential component of Māori health and wellbeing alongside tinana (physical), hinengaro (mental) and manawa (emotional) aspects of a person. Indeed, he argued that 'without a spiritual awareness, the individual is considered to be lacking in wellbeing and more prone to disability and misfortune' (Durie 1985, 483). In their research exploring how Māori health practitioners conceptualise and talk about health, Cram et al. (2003) found that wairua is the most widely mentioned aspect of Māori health and wellbeing.

Positive associations between wellbeing and spirituality are increasingly evident in empirical studies and wellbeing models. In some of these, wairuatanga is the primary concept and the core source of wellbeing (Nelson-Becker and Moeke-Maxwell 2020; NZ, The Treasury 2021a). Menzies et al. (2022a) found tūhononga (connections) with place, ancestors, family, and other social connections were crucial components for brain health and cognitive functioning. They also found connections to be highly important as they provided an opportunity and place for wairuatanga.

As such, there are many good reasons why spirituality should be considered in housing and urban development processes, and why we include wairuatanga in our model. As Valentine et al. (2017) report, wairuatanga has always been fundamental to the lived experience, health and wellbeing of Māori. And, despite the impacts of colonisation, Māori still see themselves as very much part of an eco-spiritual world with a shared ancestry (Nelson-Becker and Moeke-Maxwell 2020).

Physical and social environments greatly influence wairuatanga. They can provide places for spiritual expression, which not only supports cognitive health; through spiritual expression, identity and roles as Māori within the community can be developed and affirmed (Menzies et al. 2022b). Importantly, the built environment can either enable and support these relationships and processes or inhibit them. Housing developments and associated neighbourhoods and urban environments can support wairuatanga through the provision of areas such as lookouts or observation points that provide a unique visual and/or physical connection to natural environmental features (e.g. stars or whetū, awa or rivers, maunga or mountains, roto or lakes, moana or oceans) and/or other sites of cultural significance, where individuals or a group can conduct tikanga and spiritually connect with te taiao and associated atua and/or past events or people. Information identifying wairuatanga sites and dates of events and other opportunities to learn about and engage in tikanga Māori and Māori spiritual practices would benefit this aspect of Māori wellbeing in housing developments.

Concept 3: focus on whānau and kāinga

Whānau are the centre of both Māori housing and Māori wellbeing strategies in Aotearoa (TPK 2016; Te Tūāpapa Kura Kāinga 2022). As Durie (2019) notes, and as is

corroborated by many others, the focus of Māori housing should be on whānau – whānau aspirations, whānau priorities, whānau participation in Te Ao Māori, and Te Ao (the whole world). For Māori, connections and relationships with whānau across all ages is important for whānau wellbeing. The design and placement of housing, including the design of surrounding neighbourhoods and urban environments, should therefore be inclusive of multi-generational cohorts and reflect whānau cultural needs (Olin et al. 2022).

For whānau Māori, housing is framed by the notion of kāinga rather than a narrower focus on the physical dwelling alone. As Durie notes (2019, p. 57), houses have universal functions – to protect, shelter and provide comfort; yet, for Māori, housing has additional dimensions embodied in the term kāinga – 'a house or a group of houses built around cultural values that connect with tikanga Māori, with the land on which kāinga stand, with whānau and local communities'. Kāinga encompasses both the physical elements of a dwelling as well as the socio-cultural elements that physically and spiritually connect the whare (house) to the whenua, whānau and others. While still an important part of whānau wellbeing, the physical dwelling does not have the same sense of familiarity nor provide for deeper connectedness that kāinga does. As research by Boulton et al. (2022, p. 51) reveals:

> [W]hen a physical building was discussed, it was in light of how the building allows or hinders the ability of whānau Māori to discharge their cultural practices, such as demonstrating manaakitanga (hospitality) and tautoko (support) to others. Implications of this are that dwellings must be sufficiently big enough or flexible enough to meet not only the needs of the immediate inhabitants, but also any visitors who may require temporary housing during times of crisis (e.g. hospitalisation for loved ones, tangihanga). (Boulton et al. 2022, p. 51)

Designers and decision-makers can support Māori wellbeing by rethinking housing through a 'whānau-centred' and 'kāinga' lens. Such a lens would prioritise inter-generational and flexible housing designs for whānau Māori, ensure placements allow for close proximity to other whānau members, support networks and transport options, and use cultural designs to speak to the environment, important historical events and ancestors. Ensuring the dwellings and whenua are appropriately blessed during hand-over processes and inclusion of spaces (or easy access to opportunities) for creative and learning activities will also support the wellbeing of whānau Māori.

Concept 4: the role of tikanga in defining and managing relationships for wellbeing

We also draw attention to the critical role(s) of tikanga in wellbeing. Tikanga are described variously as Māori customary practices, cultural protocols, societal lore, and behavioural guidelines for living and interacting with others. Tikanga are based on mātauranga Māori (Māori knowledge), experience and learning between generations, and is rooted in logic and common sense relevant to the local context. As such, tikanga can vary amongst different groups and settings (Stats NZ 2020).

Tikanga not only articulate and reinforce values, connections and identity, they are also used to maintain balance between the different forces present in relationships (e.g. between tāngata Māori, and between Māori and the external world) and steer the

relationships toward healthy outcomes. While the values that underpin tikanga are constant, tikanga Māori are adaptable and can be applied to new situations:

> Tikanga Māori accompanies Māori wherever they go and whatever they do. Tikanga are more than just rules. They are best described as a form of social control and can guide the way relationships are formed, provide ways for groups to interact, and even guide the way people identify themselves. (Mead 2016, p. 355)

Tikanga are relevant to all domains in our model; however, we are emphasising that opportunities for tikanga need to be created and the concept of tikanga needs to be normalised and practised in the Whakawhanaungatanga Domain of our model (see section 'The model') if Māori wellbeing is to be supported. Examples of values and principles expressed through tikanga relevant to the relationships Māori establish in built environments include:

- Rangatiratanga: Exercising authority, showing leadership, wisdom and guidance.
- Kotahitanga: Working together and being unified in decision making, purpose and action.
- Kaitiakitanga: actively nurturing and maintaining the mana and mauri of Te Taiao.
- Wairuatanga: Giving sustenance to one's wairua (soul/spirit), connecting emotionally and mentally with the universe and the world beyond the physical.
- Manaakitanga: Having respect and regard for all people (past and present), showing kindness and generosity of spirit and action to others.
- Mātauranga: Using placed based knowledge and practices.
- Rangimārie: Showing tolerance, and being at peace with yourself and the environment.
- Rerekētanga: Accepting and supporting diversity.

Those responsible for managing housing – including public housing – or providing care or support services for people in their own homes could better facilitate wellbeing of Māori residents by engaging with Māori community leaders to understand where and how they can support the use of tikanga at hui, formal occasions and significant events in the Māori and mana whenua calendars. Partnerships with local marae or wānanga to develop opportunities for public housing residents to learn about tikanga would also support better Māori wellbeing outcomes.

Concept 5: balance (Whakatautika) between mauri noho and mauri ora

Together with the notion of forming and maintaining dynamic relationships is the notion of balance and harmony, another key feature of Te Ao Māori and evident in many models of Māori wellbeing. Indeed, balance and imbalance in relationships are the foundations of wellbeing and illness in Te Ao Māori (Durie 2003). Order and balance within Māori society is maintained through relationships based on reciprocity, mutual obligation and regard. These values are inherent in Māori spirituality, tikanga and kawa, all of which are designed to maintain balance between the different aspects of wellbeing (physical, mental, spiritual, social and whānau).

The notion of balance is associated with a key idea underpinning our model: that wellbeing is a dynamic multi-dimensional state spanning a continuum from mauri noho

(stagnancy and diminished life force) to mauri ora (vitality and enhanced life force) (Logan 2022). Where relationships are positive and in accordance with tikanga and Māori values, the potential to move toward a state of mauri ora is increased. Conversely, where positive relationships with people, the environment and the economy are denied, fragmented, lost, inappropriate or not in accordance with tikanga and Māori values, the movement toward a state of mauri noho occurs.

Housing should support occupants to move towards mauri ora, through facilitating positive relationships and living in accordance with tikanga in their home spaces. The ability for residents to restore and maintain a healthy balance in relationships is dependent on applying the right tikanga at the right time. If residents are not familiar with tikanga, they would benefit from access to experienced tikanga practitioners and opportunities to learn about tikanga. Housing providers could enhance Māori wellbeing by facilitating this.

Concept 6: identity and cultural landscapes: acknowledging relationships with te whenua, te taiao and ngā tūpuna

Identity is a fundamental component of wellbeing, especially with regard to mental health and wellbeing. People who feel secure in their identity, especially their cultural identity, are more likely to report a complete sense of wellbeing (Regional Public Health 2010; Williams, Clark Lewycka 2018). According to Durie (2003), feeling secure in cultural identity depends not only on access to culture and heritage, but also on the opportunity for cultural expression and cultural endorsement within society's institutions. While Māori face challenges on both scores (Durie 2003), these can be overcome by incorporating mana whenua, mātāwaka, taura here and taunga hou[5] (Waa et al. 2017) in kāinga and urban landscape development processes and decisions.

A concept important within our model and the urban context is that of cultural landscape – a geographic area that includes cultural and natural resources associated with an historic event, activity, person or group of people (Field 2009). This term draws on a key idea from Te Ao Māori: all physical landscapes and the natural environment are inseparable from atua (gods), tūpuna (ancestors), events, occupations, and cultural practices and where the past, present and future coalesce (Hoskins 2008). Physical landscapes are imbued with spiritual, emotional and psychological dimensions which provide multiple connections and literally ground Māori in specific places. Inherent in this cultural conceptualisation of landscapes is that the self is intrinsically linked to the natural world in mind, body and spirit and through whakapapa, which sees the unique features and dimensions of landscapes in specific place intimately woven into identity, a sense of place and turangawaewae.[6] From a Māori perspective, identity, spirituality and the natural environment tend not to be conceptualised as separate entities (Houkamau and Sibley 2010). Hence Māori are not just from a specific place, they are part of that place connected through multi-dimensional relationships as expressed through tikanga and terms like 'mana whenua' and 'tāngata whenua'.[7]

Architects, landscape architects and urban designers can support Māori wellbeing in housing developments by ensuring key cultural and physical features and events are identified, protected and where appropriate, accessible and celebrated. Facilitating residents – including public housing residents – to be involved in kaitiakitanga activities (to care for physical spaces and the environment around their homes and communities)

with mana whenua and tāngata whenua would support relationship building within whānau, and with the community as well as enhancing connections with the local environment.

Concept 7: Te Ūkaipō – a cultural spring to restore and nourish Māori wellbeing

Closely associated with cultural landscapes and an important factor in Māori wellbeing is Te Ūkaipō. Te Ūkaipō refers to a source of sustenance, origin or home which embodies 'the culmination of turangawaewae, papakāinga, and ahi kā[8] in the sense that it was seen as the place of ultimate nourishment. This is the place that literally and spiritually feeds the body, mind and soul' (Boulton et al. 2021, pp. 9–10). However, importantly, both urban and tribal-based Māori describe 'home' in similar ways as Boulton et al. explain (2021, p. 11):

> While the concept of ūkaipō was not specifically named by all the participants, it is interesting to note that the sum of what is needed to feel truly 'at home', whether in the urban or in a tribal environment, was yet linked to everything that ūkaipō represents. When participants spoke of what they needed, they spoke of needing belonging, connection, and authenticity.

In Waa et al. (2017) 'Ūkaipōtanga' is a metaphorical term highlighting the importance of proximity to, and connecting with Māori cultural institutions such as marae and kura (schools) in urban environments for creating greater resilience and strengthening Māori identity and belonging. Given the majority of Māori live in urban settings away from their tribal lands, urban ūkaipō have a particularly important role in nurturing and sustaining tikanga, mātauranga, identity, belonging and spiritual, mental and whānau wellbeing. Yet, we acknowledge that for Māori living in urban environments away from their tribal lands, or indeed for those who have been disconnected from their tribal lands and culture for generations, connecting with urban ūkaipō may be challenging for a range of reasons.

Ūkaipō are an essential component and a foundation of wellbeing for Māori regardless of where they live. It is important that Māori in urban contexts have a place to go or be, particularly a place (or places) that can provide a sense of belonging and is emotionally, physically and culturally restorative and identity affirming. As such, housing developers and managers should identify urban ūkaipō – such as marae, wānanga (place of learning), kura, kāinga, whānau – close to the development, and if necessary, initiate, encourage and facilitate a relationship with public housing residents.

The model

A Whakawhanaungatanga Māori wellbeing model

Drawing on the ideas presented above, we have developed a model to support the wellbeing of Māori – and potentially others – in relation to housing and urban environments (Figure 1 below). The model emphasises **whakawhanaungatanga** as the key process in developing better wellbeing outcomes for whānau Māori in built environments. Whakawhanaungatanga denotes the activity and process of forming and maintaining relationships and strengthening connections, not only with te hunga ora (living people), but also with te hunga mate (the wairua of people who have passed on), and the non-human world of atua (deities or higher spiritual powers), animals, plants, and inanimate things.

Figure 1. A Whakawhanaungatanga Māori Wellbeing Model.

At the core of the model are whānau (family/families). Whānau are represented as being nestled within a set of relationships with three primary pou (pillar or support) of Māori culture: whenua, kāinga and marae. This collective of Māori social and cultural institutions are represented as existing within a broader network of relationships. These relationships cross space and time, emotionally, spiritually and physically connecting everything in the universe (e.g. atua, stars, the land, sea and sky, people/kin, plants and animals) in a shared ancestry or whakapapa.

Our model highlights three relationships areas (indicated by the two-way arrows) where the work of re-balancing, forming, strengthening and maintaining connections and relationships to better enable wellbeing should be focussed. The three relationship areas are between those living in housing and:

1. **Te Ao Tāngata** – whānau, people in the community or elsewhere, tūpuna or others who have passed on;
2. **Te Taiao** – landscapes, nature, the environment including the built environment; and
3. **Te Ao Ōhanga** – local/community economy, cottage industries, processes of local exchange and sharing, community work and skill development that may sit outside mainstream economy.

Overlaying this ecosystem of relationships, we have arranged our model into three domains represented by three concentric circles: (1) Te Ūkaipō, (2) Whakawhanaunga-tanga and (3) Wairuatanga (Figure 1). While the domains are interconnected and inter-dependent, the boundaries conceptually represent a nested hierarchy of influence. The Domain of Wairuatanga is ever-present and influences everything including Te Ao Tāngata, Te Taiao and Te Ao Ōhanga, and the inner domains of Whakawhanaunga-tanga and Te Ūkaipō. Similarly, there is a distinction between the domain of Whaka-whanaungatanga and domain Te Ūkaipō. Within the domain of Te Ūkaipō relationships are based on Te Ao Māori, whereas in the domain of Whakawhanaunga-tanga relationships and approaches to wellbeing are negotiated or imposed, and in the lived reality of many urban Māori are predominantly based on non-Māori constructs in non-Māori settings.

The domain of Te Ūkaipō – the heart of Te Ao Māori

Whānau are at the centre of our model and are immersed in a strong and active cultural context defined by relationships with and between three cultural institutions: marae, kāinga and whenua. These relationships are traditionally whakapapa-based and at the heart of Te Ao Māori. We are calling this the Domain of Te Ūkaipō, the place-based socio-culture foundation for interacting with each other and the wider world. Te Ūkaipō is a place of healing and sustenance, where whānau tikanga and cultural relation-ships are expressed, learnt, practised and sustained and where wellbeing is nurtured and restored – a place where Māori can be Māori.

The domain of Whakawhanaungatanga – a negotiated space

Whakawhanaungatanga is the key concept in our model. It is depicted as occurring in the Domain of Whakawhanaungatanga where tāngata Māori actively interact with the exter-nal world and build relationships as individuals and whānau from a sound cultural base (i.e. Te Ūkaipō). The Domain of Whakawhanaungatanga is where the activity of forming and maintaining relationships and discovering similarities takes place. It is a negotiated space that, depending on the parties and their respective characteristics, results in the for-mation of different types of relationships (resulting in different wellbeing states for the parties involved – from mauri noho to mauri ora).

Connections and relationships, represented by the two-way arrows, symbolise the dynamic forces flowing between people and the material and spiritual worlds of Te Taiao, Te Ao Tāngata and Te Ao Ōhanga. Māori values expressed through tikanga and framed by wairuatanga are used to balance and mediate these dynamics. A funda-mental feature of our model is the idea that the processes of forming and maintaining relationships within the Domain of Whakawhanaungatanga (including the Domain of Te ūkaipō) are guided by tikanga. Thus, the two-way arrows indicate that relationships are: (1) dynamic, (2) multi-dimensional and (3) capable of moving people from a state of mauri ora to a state of mauri noho (and vice versa). Tikanga helps to balance these forces to achieve a state of mauri ora and wellbeing.

As noted earlier, the majority of work of re-balancing, forming, strengthening, and maintaining connections and relationships to achieve better wellbeing outcomes for

Māori, takes place in the Domain of Whakawhanaungatanga. Our model shows the three broad relationship areas where this effort should be directed.

The Domain of Wairuatanga – a spiritual embrace

In our model, the Domain of Wairuatanga acknowledges the intrinsic place of spirituality in all aspects Te Ao Māori and Māori wellbeing. Wairua exists in all people and expressing wairuatanga through appropriate tikanga and taonga tuku iho provides a strong foundation for other dimensions of wellbeing and demonstrates and reinforces relationships to place, people and events. Wairuatanga is learnt and sustained in Te Ūkaipō. Increasing opportunities to express wairuatanga in the Domain of Whakawhanaungatanga and the three broad relationship areas will enable better wellbeing outcomes for Māori.

Application of the model

Māori wellbeing and the built environment – key questions to guide application of the model

A key aim of this paper is to provide a resource to guide how the model can be practically applied, so that researchers and actors in the housing and urban development sector can approach and incorporate Māori wellbeing into their respective research projects (i.e. in the design and development of housing and surrounding environments, in public housing provision, and in housing and urban research design, implementation, outcomes and dissemination). To help interpret and apply the concepts from our model consistently, we have developed a set of questions to guide practice and research approaches to Māori wellbeing in a housing and urban context. While our priority is to provide a model and suggest approaches for implementation that will support wellbeing for Māori, the application of our model (with appropriate consideration and adaption) should have positive impacts on other populations. The questions are arranged according to the seven key concepts presented above, and the two broad categories of environmental influences on wellbeing noted earlier in the paper: (1) the physical environment, and (2) the social and cultural environment.

While these questions were developed for those working in or investigating housing or home and urban environments, they could be considered and adapted for wider use by other researchers or those working in policy or practice. For example, our use of words like 'kāinga' and 'urban development' could be swapped out for 'parks', 'transport', 'energy', 'water', 'waste management', 'community facilities' or other infrastructural components and environmental aspects forming comprehensively designed neighbourhoods and places, to assist with research, policy, practice and implementation.

Application of A Whakawhanaungatanga Māori wellbeing model for research about public housing and urban regeneration

While our model is presented here as a new resource to help guide researchers and actors in the housing and urban development sector, we ourselves – together with our

colleagues in a team of approximately 40 researchers and support staff – are also in the process of applying the model to more effectively incorporate Māori wellbeing into our investigation of public housing in Aotearoa. By way of highlighting the model's potential and encouraging its practical uptake, we briefly introduce our research programme here. It is an example of one way in which the model can be applied to help improve wellbeing outcomes in relation to housing and urban environments, particularly for Māori.

As part of broader efforts to improve the quantity and quality of housing in Aotearoa, understanding whether investment in public housing and surrounding neighbourhoods is progressing the Government's wellbeing and carbon goals is of broad interest. Funded between 2020 and 2025 through the Ministry of Business, Innovation and Employment (MBIE)'s Endeavour Fund, the New Zealand Centre for Sustainable Cities has developed a partnership-based research programme in response to this interest. The Public Housing and Urban Regeneration: Maximising Wellbeing Research Programme[9] ('the Programme') examines and compares how seven public housing provider organisations plan, design and deliver housing and urban regeneration projects with respect to wellbeing and carbon emissions. The overarching aim is to understand how public housing providers understand and approach tenant, whānau and community wellbeing; and to explore if, and how, development (and post-development) processes are designed to maximise wellbeing and manage sustainability challenges. Our partnership approach ensures that research findings are shared with housing providers in a timely and iterative way to inform their decision-making about policy, resourcing, design, and management in ways that (as the Programme's name suggest) can maximise wellbeing outcomes.

As well as working in partnership with housing providers, researchers in the Programme work collaboratively across seven workstreams,[10] including a Te Ao Māori workstream, made up of a kāhui (group) of six Māori researchers from a variety of disciplines. The kāhui Māori facilitate one of the main aims of the Programme – to make Te Ao Māori central to the research and incorporate Te Tiriti o Waitangi principles across the Programme's many interconnected research projects. Māori feature prominently in the public housing system in Aotearoa, making up around 35% of public housing tenants and 50% of those on the public housing waiting list (Amore et al. 2018; HUD 2019), while making up only 17% of the general population of Aotearoa (Stats NZ 2022). However, little is known about how public housing providers understand, approach, and facilitate wellbeing for their Māori tenants, or what the wellbeing outcomes are for Māori tenants, their whānau and communities. Given this, and in light of Waitangi Tribunal inquiries WAI2575 and WAI2570 on health and housing (Came et al. 2020), there is a need to better understand public housing and urban planning, development and design frameworks and processes and their effects on Māori wellbeing, alongside the wellbeing of others (Walker and Barcham 2010; Boulton et al. 2022). The Programme aims to contribute to this understanding and provide an evidence base to inform policy, resourcing, design, and management decisions concerned with the wellbeing of Māori (and other) public housing tenants, their whānau and communities.

To support this kaupapa and to ensure consistency across the Programme's various research disciplines, *A Whakawhanaungatanga Māori Wellbeing Model for Housing and Urban Environments* – as presented in this paper – was developed and is being applied alongside two parallel wellbeing frameworks also developed within the

Programme that reflect the ethno-cultural makeup of public housing tenancies: (1) *Public Housing and Urban Regeneration: An Inclusive Wellbeing Framework* (Grimes et al. 2023); and (2) *Pacific Worldviews for Public Housing and Urban Renewal* (Teariki et al. 2023). Our model is being used alongside the complementary frameworks by all Programme researchers to guide how they approach and incorporate Māori wellbeing into their respective workstreams' research and, ultimately, to forefront evidence that can contribute to improved wellbeing outcomes for Māori living in public housing. This mahi (work) is part of our journey as a research group to give effect to Te Tiriti o Waitangi as a diverse group of tāngata Tiriti (non-Māori Treaty partners) and tāngata whenua (Māori Treaty partners) working together as housing and urban health researchers to improve equity and Māori wellbeing outcomes. While it is too early in our research to communicate findings about the wellbeing of Māori in relation to public housing, various Programme researchers will publish these findings over coming years. We anticipate this evidence will inform our housing provider partners' on-going efforts to meet Te Tiriti obligations, and that it will be of interest beyond our partners to others seeking wellbeing outcomes for Māori and others in relation to public housing and associated urban environments.

Application of A Whakawhanaungatanga Māori wellbeing model to public housing provision

In Aotearoa, public housing is provided by the Government and community agencies to support universal wellbeing goals, so that those otherwise unable to establish a home are given an opportunity to do so (Boulton et al. 2022; NZ, The Treasury 2021b). Under the Treaty of Waitangi (Te Tiriti o Waitangi) the Government has a responsibility to ensure Māori participate in decisions concerning the allocation of State resources that affect Māori health and wellbeing (Came et al. 2020), including the provision of housing. This responsibility is particularly important in the context of public housing, where Māori are disproportionately represented (Amore et al. 2018; HUD 2019; Stats NZ 2022). However, we acknowledge that public housing providers operate within a political, economic and regulatory environment that limits the extent to which they can affect change. For example, most providers have limited ability to control or shape wider urban environments unless they are of significant scale. The extent to which their approach to tenant wellbeing extends beyond the provision of basic universal needs and incorporates and applies Māori wellbeing concepts and practices, is a central theme in our research.

Nevertheless, within their own organisations and relationships, and other contexts where they can exert influence, there are likely to be areas where public housing providers can make or affect meaningful changes. To restore and support Māori wellbeing, housing providers need to adopt a holistic and Māori-centric view of wellbeing that validates and legitimises Te Ao Māori principles, values and relationships. We have identified a number of areas where we believe this work could be directed (which can be prompted through questions listed in Table 1):

1. Facilitate or support relationship-building activities with Te Ao Tāngata, Te Taiao and Te Ao Ōhanga, and the creation of physical and social environments within

Table 1. Questions to guide research and implementation to support the wellbeing of Māori – and possibly others – in housing and urban environments.

Physical Environment	Social and Cultural Environment
1: Relationships are a Primary Determinant of Māori Wellbeing	
• Do kāinga and urban design and development enable positive relationships with whānau and te ao whānui, including with nga tāngata, te taiao and te ōhanga? • Do kāinga and urban design address all dimensions of whānau wellbeing – *spiritual, mental, social, whānau, and physical?* • Are toi/tohu/kupu (artwork/signage/words) and te reo Māori included in/on kāinga and infrastructure to demonstrate relationships with the local environment, hapū/iwi and important ancestors and events? • Traditional Māori 'art' is imbued with meaning and symbolism and forms an important part of Māori identity and culture. Are Māori art and signs visible and used to tell locally relevant stories and reinforce Māori identity? • Are kāinga designed from a multi-generational perspective?	• Are kāinga and urban planning, design, development and management informed by the views of mana whenua and mātāwaka? • Are mana whenua and mātāwaka groups equitably involved in governance, planning and design? • Are kāinga and urban design and development supported by appropriate cultural practices, ceremonies and rituals – e.g. karakia (prayers or incantations), blessings, rāhui (restrictions) – as determined by Māori? • Is the history and whakapapa of the kāinga and whenua known to public housing residents? • Are place-based stories and pūrākau (legends) associated with the street, neighbourhood, and community available and known to residents and community? • Do residents/whānau have equal decision making around locational choices?
2: Wairuatanga – Spirituality as the Basis for Māori Wellbeing	
• Do dwellings, infrastructure and shared spaces include features that represent, reflect and enable the spiritual relationships mana whenua and other Māori (mātāwaka – taura here, taunga hou) have with the te whenua, te taiao, ngā tūpuna and marae? • Are there obvious physical and sensory links to te whenua, te taiao, ngā tūpuna and marae in urban design, the provisioning of communal spaces and the design of kāinga?	• Are tikanga Māori and spiritual practices encouraged and an accepted part of the community? • Is information and other opportunities to learn about tikanga Māori and Māori spiritual practices available to the community? • Are there opportunities to be involved in Te Ao Māori within the community – i.e. te reo, toi whakaari (performing arts), marae sports, pōwhiri (formal welcoming ceremonies), kaupapa te taiao (environmental conservation projects)?
3: Focus on Whānau and Kāinga	
• Are kāinga located to support whānau relationships and prevent isolation? • Do kāinga and urban environments include spaces that can be used by whānau for creative activities? • Are there common areas for sport and collective recreation (cycling, bush walks)? • Does provisioning include spaces that enable sharing and support between neighbours and at the community scale? • Are kāinga warm, dry, safe, whānau-centric, beautiful and relate to the physical landscape – sun, wind, rain, landforms, maunga, awa, roto, moana – and amenities and services? • Does design, location and orientation enable opportunities for physical connection with te whenua, te taiao and ngā tūpuna? • Are there spaces and places available for gathering, learning and manaakitanga?	• Are tenants informed and aware of the history of whenua on which the kāinga stands? • Are tenants informed and aware of the history of the whare/kāinga? • Does building or renovating kāinga occur within a framework shaped around: ○ whānau – the people who will live in the kāinga, ○ whenua – the land on which kāinga will stand, ○ whanaungatanga – the connections that will enable the kāinga to flourish? • Are mana whenua and mātāwaka involved with whānau in ceremonies to bless the whenua and kāinga?
4: The Role of Tikanga in Defining and Managing Relationships for Wellbeing	
• Is the use and learning of tikanga supported through the creation of enabling physical environments and places where physical, mental and spiritual connections can occur?	• Do social and cultural environments enable and support the use and learning of tikanga? • Do social and cultural environments acknowledge, enable and support cultural practices that reflect spiritual, mental and physical relationships mana

Table 1. Continued.

Physical Environment	Social and Cultural Environment
1: Relationships are a Primary Determinant of Māori Wellbeing	
• Are urban form, infrastructure and common areas designed to enable the spiritual and physical relationship mana whenua and other Māori have with te whenua, te taiao and ngā tūpuna (mātāwaka – taura here, taunga hou)? • Are there visible signs of kaitiakitanga? • Are there accessible areas where food can be produced and/or mahinga kai (gardens or food-gathering places) are established, protected and enhanced?	whenua and other Māori have with te whenua, te taiao and ngā tūpuna? • Do mana whenua and other place-based 'authorities' visibly recognise and support the relationships mātāwaka (taura here, taunga hou) have with the local environment and place?
5: Balance (Whakatautika) between Mauri Noho and Mauri Ora	
• Do kāinga and urban design address all dimensions of whānau wellbeing: *spiritual, mental, social and physical?* • Are urban form, infrastructure and common spaces designed and managed to enable the spiritual, mental, and physical relationship mana whenua and other Māori have with te whenua, te taiao and ngā tūpuna (mātāwaka – taura here, taunga hou)?	• Do social and cultural environments enable and support the use and learning of tikanga? • Do social and cultural environments acknowledge, enable and support cultural practices that reflect spiritual and physical relationships mana whenua and other Māori have with te whenua, te taiao and ngā tūpuna?
6: Identity and Cultural Landscapes: Acknowledging Relationships with Te Whenua, Te Taiao and Ngā Tūpuna	
• Do kāinga, urban form, infrastructure and common spaces include features that represent, reflect enable the spiritual and physical relationship mana whenua and other Māori (i.e. mātāwaka – taura here, taunga hou) have with te whenua, te taiao and ngā tūpuna? • Are there obvious physical and sensory links to te whenua, te taiao, ngā tūpuna and marae in urban design, the provisioning of communal spaces and the design of kāinga?	• Are a Te Ao Māori cultural landscape approach and principles the foundation of urban development strategies and design? • Do a Te Ao Māori cultural landscape approach and principles underpin the location, orientation and design of the kāinga? • Is the practice and learning of tikanga within the community supported and evident? • Do mana whenua and other place-based 'authorities' visibly acknowledge and enable the relationships mātāwaka, taura here, taunga hou have with te whenua, te taiao and ngā tūpuna hou?
7: Te Ūkaipō – A Cultural Spring to Restore and Nourish Māori Wellbeing	
• Are physical or virtual ūkaipō present, maintained and accessible in public housing developments? • Are toi/tohu/kupu Māori included in/on kāinga and infrastructure to demonstrate relationships with the local environment, hapū/iwi and important ancestors and events? • Traditional Māori art is imbued with meaning and symbolism and forms an important part of Māori identity and culture. Are Māori art and signs visible and used to tell locally relevant stories and reinforce Māori identity?	• Are tino rangatiratanga (self-determination and autonomy) and mātauranga Māori evident in public housing developments? • Are residents encouraged to create, develop and/or use physical or virtual ūkaipō? • Do mana whenua and other local authorities support Māori to access and connect with an ūkaipō?

dwellings, properties, landscapes and public spaces that enhance and validate Māori culture, worldviews and history.

2. Ensure that all dimensions of Māori wellbeing are addressed and balanced, and that public housing managers and residents can access support in the form of tikanga practitioners who have skills to restore the balance between mauri noho and mauri ora.

3. Bring tikanga Māori into the kāinga development process and create opportunities (places and spaces) for tikanga to be learnt and practiced.
4. Incorporate wairuatanga in housing and urban development processes by removing political, physical and social barriers to spiritual expression, and by replacing these barriers with opportunities to normalise, learn and practice Māori spirituality.
5. Take a whānau-centric approach to wellbeing when designing and managing dwellings and urban spaces occupied by Māori. 'Building or renovating kāinga should occur within a framework shaped around whānau' (Durie 2019, p. 57).
6. Consider the physical dwelling as a living entity with a mauri that requires care, that reflects or speaks to the surrounding whenua, taiao and tūpuna. Apply appropriate tikanga (e.g. karakia) to uplift the mauri of kāinga. Inform tenants of the history of the whenua and kāinga and involve them in blessings and other tikanga and ceremonies associated with uplifting the mauri of the kāinga.
7. Create physical and social environments that explicitly acknowledge mana whenua and mātawaka relationships with te whenua, te taiao and ngā tūpuna. Support opportunities to use te reo on signage and restore ancestral mana whenua names (and important mātāwaka names) to connect historical narratives and natural features within the public realm, and create new names and signs, agreed with mana whenua.
8. Identify and support ūkaipō within the community and help Māori residents to connect with them.

Practical application of the model using the question prompts to guide public housing providers from the design phase through to development, implementation, and ongoing housing provision, can help to address these areas of focus and improve Māori wellbeing. By increasing equity and raising Māori wellbeing, we expect that the wellbeing of other community members will also be positively influenced. Further, while these concepts are from Te Ao Māori, as outlined in the literature review above, many of these concepts are similar to or may have synergies with those from other cultures and contexts; as such, they are concepts that can underpin and help support the wellbeing of other people. We hope that this guide can therefore serve as a starting point for those seeking to improve wellbeing through housing and urban development in other cultures and settings, particularly settler-colonial settings where Indigenous approaches and outcomes should be prioritised.

Discussion and conclusions

Our literature review of wellbeing in relation to the built environment and Te Ao Māori wellbeing perspectives reveals that wellbeing is inherently complex and the outcome of multiple dynamic elements which must be integrated and continually negotiated and balanced. Our review also highlights that wellbeing is influenced by both the physical environment (built and natural landscapes) and the social and cultural environment. Approaches to Māori wellbeing are based on a Māori worldview and Māori values and, as such, are holistic, whānau-centric and underpinned by wairuatanga. Relationships and the process of forming and maintaining relationships are fundamental mechanisms through which Māori wellbeing can be achieved. Connection with ūkaipō and use of tikanga are important for enabling Māori wellbeing in housing developments and

urban environments, for both mana whenua and mātāwaka groups, as they create places and moments of meaning for Māori and support, restore, affirm one's sense of identity and belonging and help to balance relationships. Undertaking housing and urban development from a kāinga perspective rather than a dwelling perspective, can provide opportunities for whānau to strengthen inter-generational connections, reinforce cultural and spiritual relationships and identities, and support the revitalisation of te reo Māori.

In our model, we have prioritised whakawhanaungatanga as a key process in enabling Māori wellbeing in housing and urban environments. We have identified three broad relationship areas where the work of re-balancing, forming, strengthening and maintaining connections and relationships to better enable wellbeing should be focussed. The three relationship streams are between whānau and people living in housing and; Te Ao Tāngata, Te Taiao, and Te Ao Ōhanga. For Māori wellbeing to improve, Māori-controlled activities and practices that typically occur in the Domain of Te Ūkaipō must flow into the into the Domain of Whakawhanaungatanga. However, the reality for many Māori in public housing and other housing or urban environments more generally is that the Domain of Whakawhanaungatanga is not controlled by Māori nor does it serve Māori interests. Currently much of the culture of relationship building in both public and private rental housing is dominated by transactional and functional requirements, which tend to serve those who subscribe to it and externalise wellbeing. As such, Māori wellbeing and the potential for wellbeing become unbalanced and is diminished as mauri flows toward the mauri noho (illness) end of the continuum. This would not likely be the case, or the extent to which this has occurred would not be as significant, if the intent of Te Tiriti o Waitangi was effectively incorporated and actioned in housing and urban development processes and decisions.

Importantly, approaches to create or transform environments should be de-centralised, and community representatives should be enabled and supported at all levels to participate in development processes effectively and equitably. If undertaken in this way, place-based connections, relationships and tikanga (which are often invisible to non-Māori) important for the wellbeing of mana whenua and mātāwaka will be brought into te ao marama (the world of light) and managed. This requires meeting Te Tiriti o Waitangi obligations in housing and urban development approaches and regulations to enable the needs and values of mana whenua and other Māori living in housing (mātāwaka), and particularly public housing developments, to shape the physical and socio-cultural environments to support their wellbeing.

While our model necessarily prioritises Te Ao Māori and Māori wellbeing as a means of promoting equity and improving hauora through housing and urban environments – including public housing environments where Māori are over-represented – appropriate consideration and adaption of these concepts to other populations and places is likely to support and improve wellbeing for other people more broadly. Access to housing and ability to establish home (kāinga), is a basic need for supporting health and wellbeing; and in urban environments, housing acts as a connecting node for infrastructures that radiate out in support of thriving individuals, whānau, communities and cultures. Establishing and maintaining relationships between people, their families, their home spaces, and their wider environments, communities, and cultures is widely acknowledged not only in relation to Indigenous peoples, but also more broadly as critical for supporting health and wellbeing in many settings. We hope that the model presented here may

prove a useful guide for implementation of measures to strengthen those complex and essential relationships that must be established, nurtured and maintained in a place to improve wellbeing for Māori and others in relation to that place.

Notes

1. Te Tiriti o Waitangi (The Treaty of Waitangi), signed in 1840, provides the basis for partnership and engagement between Māori (the Indigenous people of Aotearoa) and the Crown (the Government) where both parties have interests.
2. Whanaungatanga is a very important cultural value for Māori (Greaves et al. 2021); it has even been referred to as 'the basic cement that holds things Māori together' (Ritchie 1992, p. 6). Although its meaning is complex and cannot be captured fully in English translations, we use it in this paper to mean relationships based on shared ancestry, experiences and/or purpose that carry obligations and responsibilities for reciprocal caring and support. The concept is often extended to include non-kin community members while still upholding the notion of mutual care and common purpose (O'Connell et al. 2018).
3. Taonga tuku iho are treasures – such as te reo (the Māori language) and tikanga – passed down from tūpuna (ancestors).
4. Marae are traditional gathering places for formal meetings and discussions.
5. Mana whenua are those who hold traditional authority over a location; mātāwaka are those who migrate to urban areas and their descendants; taura here are those who continue to actively associate with their iwi or hapū of origin iwi whilst living elsewhere; taunga hou are those who identify as Māori who live outside their traditional tribal area and through decision or circumstance no longer actively associate with their iwi or hapū of origin.
6. Turangawaewae refers to standing in a place where one has the right to stand – place where one has rights of residence and belonging through kinship and whakapapa.
7. Mana whenua refers to authority in a location, as compared with tāngata whenua, which is a broader concept referring to the local people, usually by some ancestral link (Kohu-Morris 2020).
8. Papakāinga refers to Māori collective housing usually located on whenua Māori; and ahi kā (burning fires) is a cultural principle referring to the visible occupation and use of whenua that establishes and reinforces rights and authority over the whenua (mana whenua).
9. For more information about the Public Housing and Urban Regeneration: Maximising Wellbeing Research Programme, see the New Zealand Centre for Sustainable Cities website: https://www.sustainablecities.org.nz/our-research/current-research/public-housingurban-regeneration-programme.
10. The Programme's seven workstreams: Governance, Wellbeing, Housing Design and Quality, Community Formation and Urban Design and, Transport, Energy and Te Ao Māori.

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