Abstract

Knowledge from past disasters can inform and support recovery, yet these insights are not always readily accessible to recovery practitioners. To bridge this gap, effective collaboration is needed to produce practical, evidence-based resources. This was the focus of the Recovery Capitals (ReCap) project, a collaboration between researchers and practitioners across Australia and Aotearoa New Zealand. This paper presents a critical case study of the participatory processes involved in developing a recovery capitals framework and associated resources. The framework is based on an existing Community Capitals Framework that emphasises the social, natural, political, built, human, financial and cultural strengths and resources within communities. The Recovery Capitals Framework arose through applying the Community Capitals Framework to disaster recovery, with conceptual adaptations to reflect shared values, diverse perspectives and collective knowledge of recovery. The lessons learnt from this international and researcher-practitioner collaboration are analysed, and the application of principles of equity, inclusion and community-led recovery is evaluated. Shortcomings and innovations are examined in how resources were tailored to the cultural contexts of each country, and reflections are presented from the perspectives Indigenous and non-Indigenous contributors. These lessons can inform future collaborations that support inclusive, holistic and evidence-informed recovery efforts.

Recovery Capitals: a collaborative approach to post-disaster guidance

Peer Reviewed

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Introduction

Experiences following a disaster can affect long-term recovery just as much as the disaster itself. Efforts to support disaster recovery play a critical role in shaping these experiences (Bryant *et al.* 2020, Lock *et al.* 2012). Research from past events provides insights into risk and protective factors during recovery. Good decision-making and recovery actions can be enhanced through awareness of these lessons among recovery practitioners (a term used to broadly encompass anyone with a role in recovery such as policy makers, on-the-ground staff and volunteers and those whose core work is unrelated to disasters). This is particularly important given the surge workforce required after events, which means that many people involved in providing support may have little prior recovery experience (Brady 2018). However, knowledge from disaster research does not magically flow into practice (Owen, Krusel & Bethune 2020). Effort and innovation are required to share knowledge and to support the training of practitioners as efficiently as possible post-disaster and, ideally, prior to events.

Collaboration between researchers and practitioners is increasingly promoted within the emergency management sector to enable 'evidence-informed practice' (Owen, Krusel & Bethune 2020). Yet the value of researcher-practitioner collaboration also exists in opportunities for the conduct and outputs of research to be *practice-informed*. Practitioners offer highly valuable insights and contributions to the design and dissemination of knowledge-translation materials. Comprehensive researcher-practitioner engagement throughout a project gives access to a broader set of practitioner knowledge. For disaster recovery research, this includes practitioner understanding of processes and principles of community recovery, what works and where challenges lie. However, there is a gap in the literature analysing such processes of researcher-practitioner collaboration and examining impacts on project outcomes.

This paper presents a critical case study of the collaborative processes within the Recovery Capitals (ReCap) project. The aim of ReCap was to support the planning of recovery activities after disasters by providing evidence-based

guidance. ReCap was underpinned by the ethos of participation and collaboration, with insights flowing among researchers and recovery practitioners. ReCap also involved collaboration between Australia and Aotearoa New Zealand; 2 countries with much in common as well as important differences. We analysed how these processes shaped the project outputs and evaluated the application of best-practice principles of participatory health research and disaster recovery work. We also examine how differences in perspectives and contexts were navigated, with a focus on Indigenous peoples of each country. In sharing these insights, this paper informs and encourages future collaborative initiatives particularly among Indigenous and non-Indigenous people within and across countries.

Methods

Theoretical framework

Given the dynamic, interlinked nature of disaster impacts and recovery outcomes, it was important to use a framework that recognises this complexity. From the outset of the project, an existing 'community capitals' approach was identified as a guiding framework. The notion of 'capitals' originates in economics (Storberg 2002) but has been broadened to encompass other dimensions of life and has been applied in fields including community development (Emery & Flora 2006, Pigg et al. 2013), disaster resilience (Mayunga 2007, Miles 2015) and, in more recent years, disaster recovery (García Cartagena 2019, Himes-Cornell et al. 2018, Plodinec 2021, Ripley et al. 2020). Of the numerous variations on capitals frameworks, the Community Capitals Framework outlined by Emery and Flora (2006) was the starting point in this project. This consists of 7 'capitals': social, natural human, political, financial, built and cultural. In this framework, capitals are defined as 'any type of resource capable of producing additional resources' (Flora, Flora & Fey 2004, p.165). While the term 'capitals' is often defined narrowly, especially in economics, this broader view was deemed useful in a disaster recovery context. An adapted version of this theoretical framework was developed as one of the outputs of the ReCap collaboration.

Study design

A participatory-health-research approach was adopted to produce knowledge and action through close collaboration between the researchers and recovery practitioners (ICPHR 2013a). Participatory health research focuses on the co-creation of knowledge and values different forms of knowledge from contributors. It includes a shared commitment to bring benefits for communities (ICPHR 2013a; Onwuegbuzie, Burke Johnson & Collins 2009). The intent of ReCap was to produce a set of resources to support recovery practitioners in their work. Rather than being a linear progression from resource conceptualisation to production then dissemination, the ReCap process was iterative and each of its phases overlapped and informed others with continual collaboration throughout. A case study was applied to analyse and evaluate the approaches used in the project, enabling evaluation of the extent to which it reflected the principles of equity, inclusion and community-led recovery.

Participants

The ReCap project evolved from an earlier project that was relinquished by the original academic leads due to role changes. End users[1] who opted-in to the original project maintained their involvement in this project, including Australian Red Cross as the lead end user. Participation was extended to additional academic and practitioner partners if their expertise addressed a knowledge gap that was identified and/or if there were synergies between their operations and the project. This was an iterative process over the course of the project and membership grew and shifted as people changed roles and their involvement was handed over to new representatives within their organisations. At the time of publication of the ReCap resources, there were approximately 18 academic contributors and 33 practitioner contributors representing government (local, state and national), emergency management agencies, not-for-profit organisations and practitioner training organisations across Australia and Aotearoa New Zealand.

Data collection and analysis

In participatory health research, data collection and analysis involves gathering evidence and knowledge to inform discussion and the co-generation of action and outputs.

> *The process is characterized by a dialogue among participants with different perspectives on the subject under study. The dialogue does not necessarily result in a consensual view, but may reveal and promote several different views resulting in different ways of addressing the health issue at hand.* (ICPHR 2013a, p.20)

To support this process, bimonthly meetings and annual workshops for ReCap contributors were conducted to discuss the project aims, the conceptual framework, sources of evidence and other forms of knowledge, project outputs and knowledge translation at different project stages. These meetings allowed relationships to be built, new insights to be gained and different perspectives to shape the developing resources.

Between these bimonthly meetings, the research team collaborated to gather the evidence and other forms of knowledge and advance the project. This team consisted of 2 researchers from Australia and 3 from Aotearoa New Zealand.

Identified needs for resources

In discussions to plan the content and design of the ReCap resources, practitioners identified 3 main needs.

First was for resources that provided evidence-based guidance on how to apply recovery principles and frameworks in practice. Providing a 'bridge' between principles, evidence and practice would be useful for those new to recovery support roles and those with limited knowledge of relevant research to guide their actions. For experienced practitioners, easy access to relevant evidence would assist them in advocating for certain actions or preparing grant applications.

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1. The term 'end user' refers to people and organisations that will use outcomes of the project.

Second, resources needed to be accessible and engaging. Practitioners identified this as an important aspect especially given the fast-paced and high-pressure contexts in which recovery practitioners operate.

The final need related to advancing the conceptual framing of recovery efforts within the sector and reflecting this within the resources. Since the early-2000s, the 4 recovery environments of social, built, economic and natural have underpinned key strategies and policies across Australia and Aotearoa New Zealand (e.g. Australian Institute of Disaster Resilience 2018, National Emergency Management Agency 2020). While practitioners acknowledged the value of this framing for organising resources and delineating responsibilities, there are limitations. For example, the notion of 'environments' was perceived as a passive framing, lacking emphasis on the strengths that exist within communities and how they can be developed. Some participants felt there was insufficient attention and nuance in the framework regarding the different elements within 'social environment'. This aligns with the recent inclusion of some form of 'cultural' environment in some versions of the environments framework (e.g. Bushfire Recovery Victoria 2020, Ripley *et al.* 2020). Practitioners also expressed concern that, despite efforts to promote holistic and coordinated approaches to the environments (e.g. Australian Institute of Disaster Resilience 2018, p.54), in practice, the environments framework often perpetuates siloed approaches that are at odds with the holistic and integrated ways that people and communities enact and experience recovery. Based on these reflections, evidence-based and engaging resources that reflected more nuanced, strength-based and holistic conceptualisations of recovery were the goal.

Recovery Capitals Framework

An initial intention was to directly apply the Community Capitals Framework as the basis for the ReCap resources, and indeed that framework provided opportunities to address several of the issues identified by practitioners. For example, in response to concerns about the limitations of a single social environment, the Community Capitals Framework recognises political, cultural and human as well as social capitals (Figure 1). Further, in contrast to the notion of different domains or environments of recovery, the concept of capitals emphasises the strengths, assets or resources within communities, framing these as dynamic. The Community Capitals Framework underscores how capitals fluctuate over time and influence each other (Emery & Flora 2006, Pigg *et al.* 2013). Practitioners found this to be valuable in encouraging active efforts to recognise and foster recovery capacity.

Yet the Community Capitals Framework alone did not address all the conceptual matters of concern. Discussions generated rich insights into how the Community Capitals Framework could be adapted to enable a better response to needs in ways that aligned with the ReCap collective knowledge of recovery and shared principles and values, including equity and community-led recovery. The resulting Recovery Capitals Framework (RCF) includes definitions of each capital (see Appendix A) that were developed through synthesis of literature (Emery, Fey & Flora
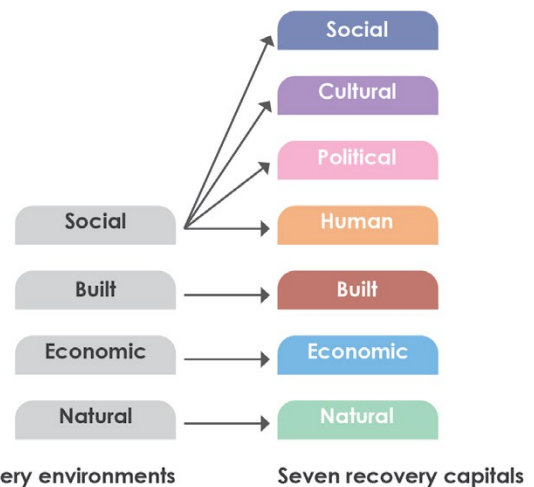

Figure 1: The 4 recovery environments framework mapped onto the 7 capitals in the Community Capitals Framework and Recovery Capitals Framework.

2006; García Cartagena 2019; Himes-Cornell *et al.* 2018; Jacobs 2011; Mayunga 2007; Plodinec 2021; Stofferahn 2012) and practice experience. In this way, the process of collaboration enabled a wide range of knowledge, experience and values to be integrated into project outputs. The *Guide to Disaster Recovery Capitals* (ReCap Guide) (Quinn *et al.* 2021) summarised the adaptations featured in the RCF, which will be discussed further in the following sections.

Multiple levels and contexts

The RCF encompasses the notion of capitals at all levels (e.g. people, households and communities), in contrast to the Community Capitals Framework (Emery & Flora 2006), which focuses on capitals as community-level constructs. The RCF draws from a socio-ecological model (Bronfenbrenner 1998) to explore the multiple dimensions and levels of recovery in terms of time, people and place, and the interactions between these. The RCF highlights diversity among people, communities and disaster contexts.

Community-led and equitable approaches

Another key adaptation relates to the notion of capitals. Equitable, sustainable and community-led approaches to recovery are important principles and there was concern that the Community Capitals Framework may be applied in ways that are inconsistent with these principles. The concept of capitals has been critiqued for how it potentially represents an economic framing (e.g. commodification) of social life (Storberg 2002). Some practitioners were concerned that the notion of capitals could be used as a tool for top-down, externally driven decision-making based on objective assessments of community assets and needs, leaving little room for people and communities to shape their recovery based on what is important to them. Further, a capitals lens is often applied with the unexamined assumption that capital accumulation is inherently worthwhile (García

Cartagena 2019, p.46). ReCap contributors recognised that, in some cases, a person's or a community's efforts to accumulate capital at a given point in time may be detrimental to some people or purposes across place and time.

ReCap therefore explicitly treated capitals as useful and worthy of attention because of the purposes they can serve, rather than as ends in themselves. These purposes may be whatever is important to a person or community, aligning with community-led recovery principles. In this way, rather than being a tool for external assessments of assets and needs, a capitals approach can assist each person or community to assess what strengths and resources they already have and identify priorities for enhancing their capitals to support their recovery based on what is important to them.

Considering disaster recovery in a general sense, ReCap contributors identified that the desired purpose of capitals is to support the wellbeing of affected communities. Therefore, within the RCF, capitals are defined as the resources that can be maintained, increased and drawn upon to support wellbeing. Accordingly, within the ReCap Guide, there is evidence to illustrate how a capital could influence wellbeing directly or indirectly by interacting with other capitals. Issues in the distribution of capitals within and between communities in the RCF and ReCap Guide situate differences in social power alongside discussion of strengths, vulnerability and structural inequities. The input of Indigenous contributors and others with experience in fields relating to social justice was instrumental in navigating these complex matters.

In recognition of the importance of community-led and context-appropriate approaches, we did not make universal recommendations or prescriptions for recovery efforts. Instead, the ReCap Guide summarises evidence from past disasters, accompanied by considerations to prompt recovery workers to reflect on the implications for their efforts and contexts.

Inter-relatedness

Some capitals literature explores the inter-connectedness of different capitals (e.g. Emery & Flora 2006, Pigg *et al.* 2013) while other studies treat capitals as mostly independent (e.g. Mayunga 2007). Considering practitioner concerns about siloed approaches to recovery, an holistic approach to the capitals was especially important in the RCF. Inter-connectedness formed the basis of the structure and design of the ReCap Guide and decisions about what evidence to include. For each capital, there is a section on how it can influence other capitals and/or wellbeing.

Highlighting the connections between capitals still required separating them in the first instance. This proved problematic when attempting to map evidence against the framework, as few things sit neatly within one of the 7 capitals. The process of collectively defining the 7 capitals revealed competing perspectives on the capitals categories. Collaboration enabled a refined definition of each capital to be developed as well as a nuanced understanding of capitals overall. In particular, the contributions of Indigenous people provided a more holistic

worldview. Although ReCap ultimately retained the 7 capitals as categories for their usefulness in structuring the resources, it is recognised that a more deeply holistic perspective is likely to better align with how people and communities experience recovery.

Developing, piloting and refining the resources

Based on the RCF and the needs expressed by practitioners, a set of user-friendly resources was produced, piloted and refined.[2] These include:

- the ReCap Guide (in hard copy, PDF and as interactive webpages) – Australia and Aotearoa New Zealand editions
- a series of recovery stories told by people with personal and professional experience of disasters
- a set of activities and presentation slides to assist the application of the content from the ReCap Guide in practice, pre- and post-disaster
- the Indigenous Peoples and Recovery Capitals (Australia) resource.

This project took an all-hazards approach and was supported by contributors from Australia and Aotearoa New Zealand with experience of different hazards that affect urban, rural and remote areas. It was not within the scope of this project to review of all the literature relating to the 7 recovery capitals, so research the team had been involved in or was familiar was principally used. This represented the core contemporary recovery research in Australia and Aotearoa New Zealand, and a selection of key evidence from the USA, Japan, Sri Lanka, Canada and elsewhere was also included. This evidence was used to identify links between the capitals and influences on wellbeing before findings were grouped into themes and distilled into messages (with sources cited). Gaps in evidence were addressed by inviting new collaborators with relevant expertise or conducting targeted literature searches.

As the summaries of evidence were developed for the resources, practitioner input was incorporated regarding the formats, language and focus that would be most useful and appropriate for the intended audiences. Visual elements emerged as an important aspect and we engaged 3 artists, 2 graphic designers, 2 video producers and web developers to deliver the resources in engaging formats. The diverse perspectives of ReCap contributors confirmed that simple images could convey different things to different people and not always in helpful ways. The visual elements were refined to align with the RCF values of equity and diversity.

Practitioner involvement maximised the piloting, uptake and dissemination opportunities. Close collaboration enabled the early release of the pilot ReCap Guide based on practitioner advice that this would be helpful in efforts to respond to disasters during 2020, including the COVID-19 pandemic. This enhanced the all-hazards approach of the guide and allowed for adjustments to ensure the relevance of messages.

2. The ReCap resources are available at https://recoverycapitals.org.au/.

Many potential uses of the ReCap Guide and other resources were discussed. The original intent was for the resources to be useful in recovery, but many practitioners observed that they could also be highly valuable in preparedness and pre-event recovery planning. Thus, supplementary resources such as the 'Applying ReCap' activities were produced to help people use the resources in a range of ways.

Discussion

The participatory-health-research approach adopted for this project enabled different forms of expertise and knowledge to be drawn on that greatly enhanced the outputs from the project. Contemporary knowledge-translation literature advocates for close involvement of practitioners throughout research projects, to maximise uptake of research outputs (Baumbusch *et al.* 2008; Owen, Krusel & Bethune 2020). In the ReCap project, involvement of practitioners in every step of the project helped foster an awareness of the resources and a sense of shared ownership. This was instrumental in gaining support from partner organisations to provide in-kind support to the piloting process, securing additional funding and ensuring sustainability of the resources beyond the funded period with the resources hosted on partner websites.

There is emerging literature in the disasters sector exploring the value of participatory processes in conceptual development (e.g. Sharifi *et al.* 2017). The ReCap case study builds on these developments by demonstrating that involving practitioners early in a knowledge-translation project creates opportunities for conceptual co-design. This resulted in the RCF, an unanticipated output of the ReCap project that makes a contribution to the sector as well as enhances the resources produced from the project.

To evaluate the extent to which this participatory approach enabled the RCF principles of equity, inclusion and community-led recovery to be applied, we asked: 'who was included as a ReCap contributor and which groups were left out of the process?' We also analysed the challenges, learning and innovations that emerged from the process of adapting the ReCap Guide to the sociocultural contexts of Australia and Aotearoa New Zealand, with particular attention to the role of Indigenous contributors in each country.

Issues of inclusion

Issues of equity and diversity were discussed throughout the project, with contributors recognising that some groups are often overlooked in recovery decision-making and research including refugees and migrants, Indigenous peoples, people with disabilities, people experiencing homelessness and children and young people. Some exceptions include research with people from migrant and refugee backgrounds following the Christchurch earthquakes (Marlowe 2015) and Indigenous perspectives on disaster recovery from Australia and Aotearoa New Zealand (Kenney & Phibbs 2014; Williamson, Markham & Weir 2020). Marck and colleagues (2021) examined the impact of the Australian bushfires and pandemic on people with multiple

sclerosis and Gibbs and colleagues (2013) explored children's experiences of recovery using case studies from both countries. The experience of ReCap contributors in supporting diverse communities was helpful in reflecting the principles of equity and diversity.

Nonetheless, creating resources that are appropriate to all people and communities was limited by the fact that the makeup of the ReCap contributor group did not reflect the diversity and intersectionality in the peoples of Australia and Aotearoa New Zealand. This is consistent with the issues of representation in the emergency management sector in both countries (Young *et al.* 2021). By inviting contributors through existing professional networks on an informal and ad hoc basis, the ReCap participatory process departed from the participatory-health-research principle of actively encouraging and enabling people from a wide range of backgrounds and identities to take part (ICPHR 2013b). Participatory health research offers an opportunity for diverse and potentially marginalised perspectives to be recognised and included in knowledge and action (Wallerstein 2006). However, if those perspectives are missing, misunderstood or misrepresented there is potential for harm and, what Bordieu (1996) described as symbolic violence.

When the ReCap Guide was piloted in Australia, feedback was sought from organisations representing or working with under-represented groups such as people with disability and this led to important adaptations. We intend to pursue opportunities to transform the resources into a wider range of accessible formats, and earlier involvement of people with disability may have enabled this to occur within the original project timeframe.

While the principles of community-led recovery (Dibley *et al.* 2019) were embedded in the ReCap Guide, the collaborative process of developing the guide was not in itself community-led. Although some researchers and practitioners had experienced disasters, all were contributing in a professional capacity and we did not attempt to engage community members as contributors. This decision was made on the basis that the resources were designed for recovery workers rather than community members. It is acknowledged in hindsight that it would have been worthwhile to engage community members as integral ReCap contributors for several reasons. First, the National Principles for Disaster Recovery (Community and Disability Minister's Advisory Council and Government 2009) highlights the importance of community-led approaches that elevate community member voice and agency in matters concerning their recovery. This is relevant to the ReCap project because it aimed to influence community experiences by guiding the approaches of recovery workers. Second, comments were made on the potential usefulness of the resources to community members as well as recovery workers. Indeed, the lines between these identities are increasingly blurred, for example, through the increasingly prominent role of community recovery committees and employing local people in recovery roles. As the language and design of the resources was intended to be accessible and engaging to recovery workers, it should also be useful to community members. Third, engagement with community

members would increase opportunities for involvement of groups that are under-represented in the recovery workforce.

Sociocultural adaptations

In part, the approaches taken to tailoring the resources to Australian and Aotearoa New Zealand reflect the social, cultural and political circumstances in each country. They also arose from the identities and positionalities of researchers (Carter *et al.* 2014) and the interactions between the researchers. Researchers in Australia and one of the Aotearoa New Zealand researchers were white and the 2 researchers who led the adaptation of the ReCap Guide for the Aotearoa New Zealand context identify as Māori.

Perspectives from Aotearoa New Zealand

The Aotearoa New Zealand team had a strong commitment to Māori flourishment and worldviews, which underpinned the inception of the Aotearoa New Zealand version of the ReCap Guide. As the project progressed, the different ways of engaging with and representing Indigenous peoples in Australia and Aotearoa New Zealand seemed starkly incompatible. In Aotearoa New Zealand, Māori are valued as tangata whenua (Indigenous peoples of Aotearoa New Zealand, recognising deep connection to the land) and there is a growing commitment to te reo Māori (language) revitalisation. While relationships between Māori and non-Māori in Aotearoa New Zealand remain problematic (Eklington *et al.* 2020), a treaty has facilitated collaboration, which is not the case in other countries such as Australia. At times, the Māori researchers felt challenged and uncomfortable with the approaches taken in the development of the ReCap resource. However, shared values and principles of respectful dialogue, contemplation and engagement alongside regular meetings enabled relationships to flourish and there was a genuine willingness to partner in ways that supported the uniqueness of the nations. This enabled the team to discuss these disjunctions and find ways to navigate the situation. This led to changes in the approach to the Australian resources, yet the need to tailor a version of the ReCap Guide for Aotearoa New Zealand remained. This acknowledged the cultural specificities relating to Indigenous peoples of each country such as using different language for how people care for and relate to the land (e.g. use of 'Country' and 'kaitiakitanga').

In te ao Māori (worldview) and beyond, extrapolating complex and interconnected elements of the world and applying it specifically to the recovery phase of a disaster can be artificial and, as such, difficult to represent. Each of the capitals required different conceptualisations and understandings from a Māori perspective. For example, 'natural' capital needed to represent the deep relationship that Māori have with the land, which means that natural hazard impacts can be deeply wounding and distressing. As the caretakers of Aotearoa New Zealand (kaitiakitanga), a disaster influences experiences of wellbeing. Similarly, with 'cultural' capital, Māori have inherent values of caring for people and showing hospitality (manaakitanga). They are not individualistic in their ways of being as demonstrated time and again when Māori communities open their doors and

support all people during times of distress. Another important element was the role of social-power relations during recovery processes. With a history of colonial abuse, 'political' capital needed to represent the importance of Māori authority (rangatiratanga) and that any partnership should be a genuine collaboration whereby Māori have agency to care for themselves. The Māori researchers are committed to advocating against inequity (e.g. financial, social, built) and this aligns with research (King *et al.* 2018; Lambert 2015; Phibbs, Kenney & Solomon 2015) showing the value of Māori ways of being in response and recovery, particularly following the 2010–11 Canterbury earthquakes and 2016 Kaikōrua earthquake. This body of research included the importance of Māori history, knowledge of the land and whānau (community-based social practices).

As the collaboration and consultation processes with Aotearoa New Zealand practitioners evolved, there was a need to reflect biculturalism with supporting visuals. Thus, original artwork that supported Māori knowledges and inclusive recovery practices was developed. To do this, artwork by a Māori artist steeped in Māori history and customs (pūrākau, tikanga) was incorporated. The artist demonstrated insight and knowledge in translating western ideas into Māori images. For example, political is represented as a debate (whaikōrero) (Figure 2) and financial as the concept of trade (Figure 3).

A further aspect to being culturally accountable, was to have the Aotearoa New Zealand guide translated into te reo Māori to support language revitalisation and treaty relationships. The translation is about the concepts and not literal meanings.

Figure 2: Central 'political' image by Ariki Arts depicts the origins of whaikōrero (speech making or debate), which is one of the core political structures in te ao Māori.

Source: Guide to Disaster Recovery Capitals, Aotearoa New Zealand edition (Campbell & Blake 2021, p.25)

Figure 3: Central 'financial' image by Ariki Arts depicts resources traded between land and sea and the older means of exchange before the introduction of currency.

Source: Guide to Disaster Recovery Capitals, Aotearoa New Zealand edition (Campbell & Blake 2021, p.18)

Perspectives from Australia

Throughout the project, concerns from practitioners (Indigenous and non-Indigenous) were expressed about the lack of awareness within the recovery workforce of considerations in working with Aboriginal and Torres Strait Islander peoples affected by disasters. As non-Indigenous scholars, the efforts of the Australian researchers to address this were influenced by colleagues in Aotearoa New Zealand and Aboriginal colleagues in Australia.

Consistent with participatory-health-research literature, the collaborative process brought different perspectives forward, forcing assumptions to be challenged and generating new ways of seeing and acting (ICPHR 2013a). The Australian researchers deeply valued the opportunity to learn and grow through discussions with the Aotearoa New Zealand researchers and Māori emergency managers and leaders throughout this project. This was a source of inspiration which supported them to harness their concern with the lack of inclusion and attention to Aboriginal and Torres Strait Islander peoples into tangible—albeit preliminary—action within the ReCap project.

Contextual factors meant that the Australian approach could not mirror the Aotearoa New Zealand version. For example, given that about 260 Indigenous languages exist across Australia (Wurm 2019), pursuing translations was not feasible. Further, there has been very limited attention to the experiences and roles of Indigenous communities in disaster recovery in Australia, despite growing recognition of traditional land management practices, including in post-disaster policies and inquiries (Williamson, Markham & Weir 2020) and research. This was a challenge as to how to reflect diversity and equity through an evidence-based set of resources when the existing literature itself systematically neglected certain perspectives and experiences. One agreed approach was to focus on these perspectives (including Indigenous peoples, refugees and migrants) in producing ReCap 'recovery stories', which were not directly based in published evidence.

During 2020, there were opportunities for new collaborations with Indigenous people to advance a more substantive approach. The 2019–20 summer bushfires prompted policy responses such as the inclusion of Aboriginal Culture and Healing as one of the Bushfire Recovery Victoria 5 'lines of recovery'[3], along with commentary and research on the unique impacts on Aboriginal and Torres Strait Islander peoples and the historical neglect of these issues (e.g. Williamson, Weir & Cavanagh 2020; Williamson, Markham & Weir 2020). These insights were incorporated into the pilot Australian ReCap Guide[4], in direct collaboration with the academic leading that research and advocacy. This developed into ongoing collaborative efforts to address these research gaps, as another example of relationships initiated or deepened through ReCap.

There was a need for further adaptations to the ReCap Guide and the need for a specific resource focusing on Indigenous peoples. The Indigenous Peoples and Recovery Capitals resource (Quinn, Williamson & Gibbs 2021), developed with input from Indigenous people and organisations, identified strengths that can be drawn on in recovery. This was framed within holistic notions of the 7 recovery capitals.

Artwork was an important aspect in this resource and in the adaptations to the ReCap Guide. Mirroring advice from Aotearoa New Zealand researchers, feedback was that the visual design of the pilot guide did not convey relevance for Indigenous audiences. A Yaegl artist developed icons and artwork (Figure 4) to give an Indigenous interpretation of the recovery capitals and a holistic understanding of interrelatedness. The flowing water illustrates the capitals as connected and also as part of the river and part of each other.

Although it was complex to navigate, the integration of artwork from 2 artists (one Indigenous and one non-Indigenous) within a single resource, insights from ReCap contributors and artists enabled what the ReCap contributors feel to be an appropriate and cohesive result. Importantly, practitioners affirmed that within the Australian emergency management context, such an approach would be an effective way of conveying the relevance of the guide to all users.

Future directions for collaboration

The ReCap resources were launched and disseminated progressively throughout 2021, with a high level of uptake by partner organisations reflecting the participatory approach (ICPHR 2013a). This also signifies the next phase of opportunities to collaborate with new people and organisations in applying the resources in practice, as well as possibilities for further resource development. Building on the benefits of researcher-practitioner and international collaboration, the inclusion of community members in future work is required. Additional resources should be co-developed with the many groups of people who experience marginalisation before, during and after disasters.

3. The Bushfire Recovery Victoria 5 'lines of recovery' are 'People and wellbeing', 'Aboriginal culture and healing', 'Environment and biodiversity', 'Business and economy' and 'Buildings and infrastructure'.

4. Pilot Australian ReCap Guide, at www.phoenixaustralia.org/disaster-hub/wp-content/uploads/2021/01/ReCap_pilot_guide.pdf.
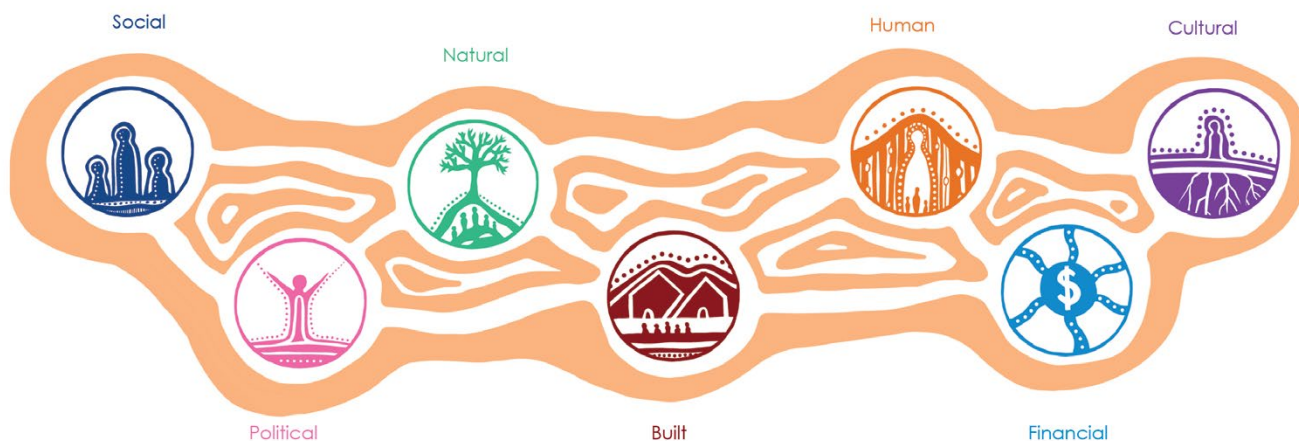
Figure 4: Artwork by Frances Belle Parker illustrating the interrelatedness of the 7 recovery capitals.

Source: Guide to Disaster Recovery Capitals, Australian edition (Quinn *et al.* 2021, p.7)

Ongoing empirical research into their recovery experiences should be conducted in appropriate ways to address gaps in knowledge and practice. This may include the creation of new formats of the ReCap Guide, such as an oral version to improve accessibility for people who are vision impaired.

In Australia, preliminary efforts within this project to improve the relevance of resources highlighted the dearth of evidence and resources that exist and the need for support for emergency management organisations to provide services that are culturally safe and appropriate. In Aotearoa New Zealand, the drive for ongoing and authentic treaty relationships is necessary for collaborative and inclusive recovery practices. Māori researchers and practitioners continue to work towards this.

Conclusion

This project represents an approach to enhancing the knowledge and capabilities of people with existing or emerging recovery support roles, pre- and post-disaster. It centred on collaboration between researchers and practitioners in Australia and Aotearoa New Zealand and between Indigenous and non-Indigenous contributors. By embedding authentic collaboration throughout the process, the ReCap project benefited from diverse practitioner and researcher insights about resource needs, content and design. This produced a high degree of practitioner engagement in the pilot and uptake of the resources. An unanticipated outcome of the early establishment of collaboration was the conceptual co-design process, resulting in the RCF. By evaluating the ReCap participatory processes against the RCF principles of equity, inclusion and community-led recovery, this case study identified shortcomings and improvements that can be brought forward to inform future collaborative processes.

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Appendix: ReCap definitions of recovery capitals

Social capital	Social capital refers to the connections, reciprocity and trust among people, groups and organisations. There are 3 main types of social capital: • Bonding social capital refers to strong, close ties between family, kin and friends, who are usually similar in terms of background and shared identity. • Bridging social capital refers to relationships and associations between a broader range of people, institutions and acquaintances. These looser ties (referred to as 'weak' or 'thin' ties) cut across race, gender and class. • Linking social capital connects people with those in power (authority figures, decision-makers, institutions, agencies) and brings capacity to leverage resources, ideas and information. Social capital is not only the existence of ties but also their mobilisation to facilitate access to resources. This can occur through collective action and there is overlap with political capital, although political capital also encompasses a broader dimension of influence over decision-making. **Individual and community levels:** Social capital is a resource that accrues specifically to individuals as a result of their networks or as a group-level asset (e.g. levels of trust and social cohesion) that provides benefits to a community's members irrespective of their own social ties. Some authors emphasise one or another of these constructions of social capital while others suggest synthesising the 2 whereby social capital comprises both group-level assets (e.g. community norms) and individual-level assets (e.g. membership of networks). The latter approach was taken in the ReCap project.
Human capital	Human capital refers to the skills and abilities of people and within organisations, as well access to outside resources and knowledge to increase understanding and to identify promising practices. It includes education, health (including mental health), physical ability, cultural competencies, disaster-related knowledge from experience and leadership skills and experience.
Political capital	Political capital refers to the power to influence decision-making in relation to resource access and distribution and the ability to engage external entities to achieve local goals. It includes agency, voice, justice, equity, inclusion, legislation, regulation, organisational frameworks, governance, leadership and policy. Political capital operates within groups as well as externally and exists both formally and informally. It also includes effective leadership (e.g. principles of inclusive and participatory decision-making and focusing on assets) and opportunities for people to express their viewpoints and to participate in collective actions that improve wellbeing.
Cultural capital	Cultural capital refers to the way people understand and know the world, and how they act within it. It includes ethnicity, stories, traditions, spirituality, habits, heritage, language, symbols, mannerisms, preferences, attitudes, orientations, identities, norms, values, cultural artefacts and sites and the process and end products of cultural and artistic pursuits. Cultural capital influences what voices are heard and listened to, which voices have influence in what areas and how creativity, innovation and influence emerge and are nurtured. It includes local understandings, subcultures and attitudes relating to disasters, which are shaped by collective experiences of disasters. It also includes gender roles in disaster contexts, and connection to place, land, Country and te taiao.
Natural capital	Natural capital refers to natural resources, beauty and the overall health of ecosystems. It includes air, land, soil, water, minerals, energy, weather, geographic location, flora, fauna and biodiversity. It is related to concepts of Country and te taiao. Ecosystems provide benefits to human health and wellbeing and support economies, as well as supporting nature. Natural capital includes assets of a particular geography regardless of whether they are native, 'untouched', introduced or artificially altered.
Built capital	Built capital refers to the design, building and maintenance of physical infrastructure in a community (or accessible to people living in the community) including its function and aesthetic value. It includes critical facilities and services, housing, public buildings, vehicles, roads, equipment, information technology, communications, water and energy infrastructure. Physical infrastructure is shaped by regulatory mechanisms and the ways in which they are implemented and responded to.
Financial capital	Financial capital refers to the availability of and access to financial and economic resources that influence the ability to prepare for and recover from events and that support the development of other forms of capital. This includes savings, income, assets, investments, credit, insurance, government support, emergency grants, donations, loans, consumption and distribution of goods and services, poverty, socioeconomic status, employment and economic activity. Financial and economic capital may be considered in relation to the resources available to individual people, households and communities with interactions across these levels. Community financial and economic capital includes resources available to invest in capacity building, to underwrite businesses development, to support civic and social entrepreneurship and to accumulate wealth for future community development.