Received: 4 January 2023 | Revised: 23 May 2023 | Accepted: 26 May 2023

DOI: 10.1111/cdoe.12881

COMMUNITY DENTISTRY AND ORAL EPIDEMIOLOGY WILEY

ORIGINAL ARTICLE

Journeying towards decolonising Aboriginal and Torres Strait Islander oral health re-search

Joanne Hedges | Brianna Poirier | Gustavo Soares | Dandara Haag | Sneha Sethi | Pedro Ribeiro Santiago | Madison Cachagee | Lisa Jamieson

Indigenous Oral Health Unit, Australian Research Centre for Population Oral Health, Adelaide Dental School, University of Adelaide, Adelaide, Australia

Correspondence
Brianna Poirier, Indigenous Oral Health Unit, Australian Research Centre for Population Oral Health, Adelaide Dental School, University of Adelaide, Adelaide SA 5005, Australia.
Email: brianna.poirier@adelaide.edu.au

Abstract

Objectives: Arguably, the deficit narrative of oral health inequities, perpetuated by colonial re-search agendas, media and sociopolitical discourse, contributes to oral disease burden and fatalism among Aboriginal and Torres Strait Islander Peoples. There remains a need to evolve the way oral health is understood, in a manner that reflects the lived experiences of Aboriginal and Torres Strait Islander Peoples.

Methods: This paper proposes decolonising methodologies as a strategy to ensure oral health re-search creates more equitable oral health outcomes and realities for Aboriginal and Torres Strait Islander Communities. Anchored by a critical reflection of the failure of dominant oral health inequity re-search practices to address Indigenous oral health, both in Australia and internationally, we propose five explicit pathways for decolonising Aboriginal and Torres Strait Islander oral health re-search.

Results: We argue the need for (1) positionality statements in all re-search endeavours, (2) studies that honour reciprocal relationships through the development of proposals that ask questions and follow models based on Traditional Knowledges, (3) the development of culturally secure and strengths-based data capturing tools, (4) frameworks that address the intersection of multiple axes of oppression in creating inequitable conditions and (5) decolonising knowledge translation techniques.

Conclusion: Importantly, we recognize that re-search will never be entirely 'decolonised' due to the colonial foundations upheld by academic institutions and society more broadly; however, as oral health re-searchers, we ascertain that there is an ethical compulsion to drive decolonising re-search pursuits that produce equitable oral health outcomes for Aboriginal and Torres Strait Islander Communities.

KEYWORDS
Aboriginal and Torres Strait Islander, decolonising methodologies, oral health

1 | WELCOME

Aboriginal and Torres Strait Islander Peoples are among the most re-searched* populations in the world.[1] Despite significant financial investments by the Australian government both in re-search funding and service provision intended to improve Aboriginal and Torres Strait Islander health, vast inequities† persist.[2,3] Evidently, attempting to 'solve' inequitable health outcomes within systems that created and maintains these inequities, in alignment with the colonial agenda, remains largely unsuccessful in Australia, and indeed globally.[4,5] Re-search process are embedded in a history of appropriation, exploitation, misrepresentation and unethical practices that have been damaging to Aboriginal and Torres Strait Islander Communities.[6–9] The generation, validation and dissemination of knowledge through re-search process within colonial institutions enables control of dominant ideologies and discriminatory way of knowing that subordinate traditional knowledges.[6,10] The failure of colonial re-search practices to adequately address Aboriginal and Torres Strait Islander experiences of inequitable health is intrinsically linked to the power and control held by those who determine which knowledge and re-search processes are valuable. In the context of oral health, this fundamental relationship is further entangled by the influential biomedical origins of dentistry.[11]

Critically, Indigenous scholars have acknowledged the shortcomings and inabilities of colonial re-search practices to honour Community values and ensure meaningful benefits for those involved for some time.[6,9,12–15] We pay our gratitude to the strong and innovative Indigenous scholars who continue to provide the revolutionary leadership necessary for the disruption of colonial re-search practices and the emergence of decolonising methodologies. Within this article, we understand decolonising methodologies as those that, '*work toward disassembling (especially White) settler supremacy by de-centering and dismantling colonial institutions, modalities, systems, structures, and ways of knowing and being that continue to dispossess Indigenous peoples of their lands, families, homes, languages, and rights*',[16] and as processes that '*center politics of Indigenous identity and Indigenous cultural action*'.[9] We also work from the assumption that all strategies presented herein, and indeed any decolonial re-search pursuit, is grounded in self-determination[17] for Aboriginal and Torres Strait Islander Peoples and prioritizes Indigenous data sovereignty.[18]

As a re-search team working in the field of Aboriginal and Torres Strait Islander oral health, we are constantly pushing against colonial processes to do work that honours Community values. Therefore, this critical essay was undertaken to provide us with an opportunity to reflect on our collective strategies to decolonising re-search and present an argument for the need to uptake similar strategies among other oral health inequity re-search programs. Community Dentistry and Oral Epidemiology is a leading journal in the field of dental public health, where interdisciplinary re-searchers and clinicians come together to share innovative ways in which they are working to address oral health inequities. Many population-based interventions aimed at mitigating racially based oral health inequities‡ are published herein, and we contend that decolonisation is a critical step in the fundamental framing of oral health inequities, but also in the proposition, development, and implementation of interventions.[19,20] We remain dubious that re-search can be entirely decolonised given its colonial roots, and continued colonial, biomedical, and neoliberal influences. However, it is clear that our approaches to re-search need to evolve in a way that better reflects the realities of individuals and Communities so that we are better placed to meaningfully address oral health inequities.

1.1 | Positioning ourselves

We would like to position ourselves in relation to the work presented herein.[14,15,21] As a team of both Indigenous and non-Indigenous re-searchers, we share the immense privilege of working alongside Aboriginal and Torres Strait Islander Communities across Australia. We are part of an interdisciplinary oral health re-search unit that has successfully worked in partnership with Aboriginal and Torres Strait Islander Communities for over 10 years. Our relationships have contributed to the successful funding of longitudinal cohort studies, randomized controlled trials, and co-designed programs of re-search. Our shared values and commitments to equity, social justice, and self-determination underpin our roles within the Communities we are honoured to partner with. As a team, we understand reflexivity as the never-ending examination and negotiation of our practices, judgements, and beliefs. We believe reflexivity is a non-negotiable aspect of our work, particularly for our non-Indigenous team members, and we take seriously the interrogation of non-Indigenous involvement in Aboriginal and Torres Strait Islander oral health re-search. It is through the continuous processes of reflexivity, that we grapple with our ability to do this work in a meaningful way and push each other to sit with discomfort whilst examining our personal and collective intentions.

1.2 | Our approach to re-search

We hold six core values at the centre of all re-search undertaken by our team: respect, relationships, advocacy, reciprocity, time, and gratitude.[22] Each decision is considered in consultation with Aboriginal and Torres Strait Islander leadership, and we acknowledge the spaces that we have been invited to work within as sacred. We also understand the responsibility we have in telling comprehensive, truthful, and strengths-based stories about Aboriginal and Torres Strait Islander experiences of oral health. Arguably, the deficit narrative of oral health inequities (as opposed to asset/strengths-based approaches) and the subjugation of Traditional Knowledges, perpetuated by colonial re-search agendas, media, and sociopolitical discourse, contributes to oral disease burden and fatalism (i.e. the belief that events are predetermined and humans are powerless to change them) among Aboriginal and Torres Strait Islander Peoples.[20] This work proposes decolonising methodologies as a strategy to ensure oral health re-search creates more equitable oral

health outcomes and realities for Aboriginal and Torres Strait Islander Communities. We invite you to join us on five pathways that we see as crucial on the journey towards decolonising Aboriginal and Torres Strait Islander oral health re-search[1]: positionality statements in all re-search endeavours,[2] studies that honour reciprocal relationships through the development of proposals that ask questions and follow models that are based on Traditional Knowledges,[3] the development of culturally-secure and strengths-based data capturing tools,[4] frameworks that address the intersection of multiple axes of oppression in creating inequitable conditions, and[5] decolonising knowledge translation techniques.

2 | PATHWAYS TOWARDS DECOLONISING ABORIGINAL AND TORRES STRAIT ISLANDER RE-SEARCH

2.1 | Reflexivity and positionality

Aboriginal and Torres Strait Islander oral health re-search is predominantly clinical and epidemiological in nature; though these are crucial elements, by design, the influence of culturally-bound social constructs are usually overlooked and misunderstood.[23,24] It is not common practice for oral health re-searchers to self-situate or follow collective reflexive processes and, the small proportion of re-searchers who do position themselves culturally and socially receive significant resistance from the rigid colonial re-search systems we operate within. Reflexivity is a complex yet critical construct derived from social, cultural, political and historical contexts; influenced by individual, relational, institutional, logical, emotive, theoretical, ontological and epistemological parameters.[25] Critically, vast ontological (i.e. what is real, the nature of reality) and epistemological (i.e. how can we know reality, the nature of knowledge) differences exist between Traditional Knowledges and Western academic knowledge; such as the centrality of relational knowing, the importance of intuitive insights, and the suspension of judgement within Indigenous ways of knowing.[6,26,27] As such, failing to position one's self and continuously practice reflexivity, risks ignoring the limitations of one's own understanding of the world.[28] Finlay and colleagues,[29] highlight the influence of comprehending paradigms which underlie the re-search outputs produced, which is largely influenced by individual sociocultural standpoints and participant re-searcher dynamics. Whilst identity is often defined as the individual characteristics of a person, identity also speaks to who people are and are becoming; identities are dynamic and responsive to our social environments.[28] Rather than seeing this as being dichotomous, it is critical to emphasise the importance of exploring who we are within the space created by re-search. Positionality serves a twofold purpose in that it assists readers with aspects of re-search transparency, as well as the re-searcher, with establishing essential self-reflexivity.[29] Establishing collective positionality as a team through every day conversations further encourages individual reflexivity but also initiates the practice of collective reflexivity as a group.[30]

Aboriginal and Torres Strait Islander oral health re-search involves investigating social constructs as culturally-bound phenomena,[31] which are more than often influenced by sociopolitical discourses.[32] Positionality and reflexivity are of paramount importance to account for the perplexing nature of this convoluted relationship. Due to the impact of these oral health re-search outputs on policy and advocacy, it becomes the re-searcher's responsibility to convey the results responsibly whilst self-situating themselves culturally, socially and politically, ensuring respectful examination and interpretation of findings within the social world investigated. As one seeks to understand the other, there is a need to begin with one's own story—being as explicit as possible about one's social background, political and ideological assumptions[19] as well as emotions and feelings[20] throughout the re-search process.[21,22] Although treatment of positionality mainly centres on its role in guiding emerging re-searchers (e.g. graduate student re-searchers) in practices of reflexivity,[23,24] the impact of these decolonial re-search practices are influential and beneficial for all re-searchers, irrespective of career stage. Whilst any description of positionality is potentially useful to the reader, there is a greater depth of insight in cases where the re-searcher explains how they perceive their influence on the re-search context and those within it. In this sense, addressing positionality is not merely an acknowledgment of where one is positioned, but also an awareness of how that positioning informs the re-search. Additionally, Smagorinsky and colleagues have emphasised the importance of an exhaustive clear description of the re-search tools used to answer a re-search question; this would serve as a valuable guide that grounds the re-search within the re-searcher's epistemology.[25] By making evident and centring Traditional Knowledges within re-search practices, ideologies of an impartial and unprejudiced re-searcher interpreting findings are revealed to be both inadequate and limiting. Oral health re-searchers working in partnership with Communities should identify the necessity of understanding the relationality between all entities in Aboriginal and Torres Strait Islander ways of knowing, being and doing.

With this understanding at the heart of oral health re-search endeavours, Community priorities can be acted upon and more truthful representations of the lives of Aboriginal and Torres Strait Islander Peoples are able to be brought to the fore. An *'explicit self-aware meta-analysis,'*[29] involving immersive and thorough self-examination,[33] interrogating personal opinions and subsequent impacts on re-search interpretations should now be deemed as a fundamental step towards decolonising oral health re-search. Rigorous, regular and reflective positioning processes are essential to highlight and reinforce accountability on an individual level and re-search teams as a collective.

2.2 | Relationships and Traditional Knowledges

Adopting a decolonial stance to Aboriginal and Torres Strait Islander oral health re-search challenges academics highly trained in the biomedical traditions to embed principles of reciprocity,

self-determination and relational accountability throughout the research process.[34] Re-searchers based in colonial institutions willing to contribute to a decolonial oral health re-search agenda are compelled to produce science that is grounded in continuous engagement, dialogue and partnership with Aboriginal and Torres Strait Islander Peoples. Rather than conforming to existing re-search guidelines and practices, re-searchers and institutions are urged to creatively explore new pathways to discovery and co-creation alongside Aboriginal and Torres Strait Islander Communities.[35] Navigating these journeys can be both fulfilling and challenging experiences as settler academics are required to relinquish control and oversight of re-search processes to Aboriginal and Torres Strait Islander Communities. This can be achieved by promoting an intercultural, dialectical tension between Western and Aboriginal and Torres Strait Islander epistemologies.[36] Rather than pretentiously attempting to incorporate Indigenous methodologies to re-search, given the limited capabilities of non-Indigenous re-searchers to fully engage with Traditional Knowledges, settler academics must focus on building genuine and relational connections with Aboriginal and Torres Strait Islander Peoples, including cultural leaders, researchers, Communities, Aboriginal Community Controlled Health Organisations and political leaders.[34]

Shifting from consultation to co-design processes in partnership with Aboriginal and Torres Strait Islander Peoples involves a radically collaborative approach to re-search that recognises participants as Knowledge Keepers and Communities as active leaders in the process of scientific inquiry. This shift subverts dominant colonial practices by promoting re-search *with* Aboriginal and Torres Strait Islander Peoples rather than re-search *on* Aboriginal and Torres Strait Islander Peoples.[9] The development of appropriate co-design processes should be context and place-specific, honouring the unique relationships built with communities, Elders, families and local organisations.[34] A single, standard framework for the co-creation of re-search projects with Aboriginal and Torres Strait Islander Peoples risks reinforcing existing power imbalances in re-search under false claims of collaborative approaches. Respecting the diversity of Aboriginal and Torres Strait Islander Communities and honouring self-determination are tenets of decolonial re-search, which implies the need to 'co-design the co-designing process.' In other words, academics and institutions are required to move beyond simply identifying local priorities and engaging with Knowledge Keepers across all stages of re-search, to actively discussing the governance structures, models, levels of engagement and cultural protocols preferred by each Aboriginal and/or Torres Strait Islander Community. Inventive mechanisms of Community governance have been increasingly adopted in Aboriginal and Torres Strait Islander health re-search,[37–39] including in the dental literature. For instance, it may be necessary to identify who or which collective bodies are entitled to speak on behalf of the Community, the ideal ratio of Community members to re-searchers to be included in the study's governance committee, the role and responsibilities of all parties, and which translational re-search outcomes are best aligned with the interests of Knowledge Keepers, Communities and partner organisations. Protocols can be developed in collaboration with the involved Communities to protect data sovereignty—from the development of measures that reflect Communities' values and priorities to procedures adopted during data collection, data management, analysis, interpretation, dissemination and data ownership.

2.3 | Data capturing tools

When conducting assessment in oral health re-search, one main practice is to develop instruments to measure health and oral health processes that cannot be directly observed (such as oral health-related quality of life), referred to as 'constructs'. The notion of *instrument validity* refers to whether an instrument measures the health or oral health 'construct' it is supposed to measure.[40] When considering cultural differences, there are three ontological approaches regarding the transferability of constructs across cultures. We reject the first position of *absolutism*, which postulates that constructs are universal, unaffected by cultural differences and therefore automatically valid in all cultures.[23,41] The second approach is *relativism*, which proposes that constructs only exist within a specific culture and should be understood exclusively in terms of cultural specificities.[41] There is strong re-search evidence indicating that certain constructs from non-Indigenous cultures may not be meaningful for Aboriginal and Torres Strait Islander Peoples. For example, in Australia, Aboriginal and Torres Strait Islander Peoples have argued that the Western construct of 'mental health' insufficiently explains their experiences of well-being, which encompass holistic aspects such as connection to Country, Community and spirituality, among others.[42] Failing to consider the holistic nature of Aboriginal and Torres Strait Islander well-being has led to the development and application of inappropriate instruments.[43,44] In alignment with decolonial aspirations, instruments developed for Aboriginal and Torres Strait Islander re-search must capture integral constructs in a meaningful way, which includes instruments that differ in design and presentation than those commonly applied in colonial re-search settings, such as pictorial or activity based measures that require engaged participation. Finally, *universalism*, posits that certain constructs are 'common' to human life but their *expression* can be distinct across cultures.[41] Evidence indicates that certain constructs seem to be meaningful for both Aboriginal and Torres Strait Islander Peoples and non-Indigenous populations. For instance, re-search has indicated that the EQ-5D-5L, a quality of life instrument originally developed for non-Indigenous populations, reliably captures measures such as pain and mobility for Aboriginal and Torres Strait Islander Peoples.[45] Critically, the authors emphasise that these measured components do not fully reflect quality of life for Aboriginal and Torres Strait Islander Peoples as the instrument was not developed in alignment with Aboriginal and Torres Strait Islander experiences, nor does it prioritise Traditional Knowledges.[45,46] Other colonial instruments have proven applicable to Aboriginal and Torres Strait Islander Communities, including oral health-related quality of life,[47] stress,[48] depression[49] and social support,[50] among others.[51] In these

cases, there is an overlap of certain components of the construct across cultures (i.e. the role of pain in reducing quality of life for both Aboriginal and Torres Strait Islander and non-Indigenous populations), whilst there are also components that are unique to a certain culture (i.e. the relationship between quality of life and connection to Country for Aboriginal and Torres Strait Islander Peoples).[46]

We contend that many constructs are unique to Aboriginal and Torres Strait Islander cultures and that the development of culturally secure measures should be the *re-search priority*, conforming to a *relativist* perspective. We also acknowledge that certain constructs can be meaningful to the human experience, across different cultures, aligning with *universalist* perspective. We caution that instruments measuring shared components across cultures will likely only partially capture the 'shared' experience, and therefore Aboriginal and Torres Strait Islander led investigation into the cultural security and validity of these constructs, is needed. Notably, when considering the meaningfulness of construct across cultures, Traditional Knowledges must be privileged and evidence from quantitative re-search methods[52] should *always* be considered together with theoretical understandings, and qualitative evidence (e.g. Community consultation). Beyond these considerations, our fundamental recommendation is that decolonising assessment in oral health re-search requires first decolonising the concept of validity. Validity (derived from the Latin word Validus meaning 'strong, powerful, effective') was established in the 16th century to justify what counts as evidence to support the social and epistemic hierarchies of knowledge created by the empire, as part of the colonial difference.[53] Unsurprisingly, assessment has historically been employed to reinforce colonial norms.[54] A decolonial approach means that assessment in oral health re-search (and practices such as cross-cultural assessment[55]) should *never* be used to maintain and conform to colonial systems of knowledge, but to centre and privilege Aboriginal and Torres Strait Islander perspectives and leadership.[53,56,57] A decolonial perspective on validity also takes into account the role political power plays in oppression, liberation and wellness ('psychopolitical validity')[58] when developing psychological questionnaires.[59] Fundamental to this discussion, we caution re-search teams against slipping into 'labelling' and 'othering' practices when utilising data capturing tools in Aboriginal and Torres Strait Islander oral health re-search. These practices not only minimize the value of data captured but instead perpetuate oral health deficit discourses that enable the continuation of vulnerabilisation and disempowerment of Aboriginal and Torres Strait Islander Peoples.[20,60]

2.4 | Intersectional methodologies

Aboriginal and Torres Strait Islander oral health re-search is characterised by an intense and systematic documentation of inequities in oral health outcomes. Whilst this literature has had a crucial role in documenting the magnitude and trends of these inequities for objective and subjective oral health outcomes, studies in the field have been limited in proposing explanations as to why these inequities emerge, representing a challenge in proposing intervention opportunities aimed at mitigating racial-based inequities in oral health.

Studies in the field share the understanding that multiple and interconnected social, economic and cultural factors contribute to the disproportionate oral disease burden experienced by Aboriginal and Torres Strait Islander Peoples in Australia.[61,62] This knowledge is nevertheless limited by the lack of empirical investigations that provide a deeper understanding of these pathways and their interactions in shaping oral health experiences of Aboriginal and Torres Strait Islander Peoples. This is evidenced, for example, by the emphasis on individual socio-economic status (SES) as a key explanatory mechanism of racial oral health inequities. Such assumptions assert that SES is an indicator or proxy for the multiple types of racial-based oppression that Aboriginal and Torres Strait Islander Peoples are exposed to, such as racial-based violence and institutional mistreatment across healthcare, education, criminal justice and welfare systems. This narrative rather sustains racial oppression by ignoring the central theory of the social determinants of health, which posits the imbalance in the distribution of power at individual and contextual levels (rather than focusing only on SES) as the fundamental cause of health inequities. Furthermore, studies that consider other forms of oppression, such as experiences of racial discrimination, fail to explicitly investigate the mechanisms through which racism manifest when combined with other forms of disadvantage. This may include individual SES, gender and sexuality-based oppression, not to mention neoliberal government policies that facilitate, for example, market share of oral health harming products from transnational corporations profiting from sugar-sweetened beverages. All of these mechanisms of oppression both individually and collectively shape the oral health of Aboriginal and Torres Strait Islander Peoples. Such narrow explanations based on the idea that racial inequities emerge from disconnected processes can result in the proposal of interventions that inadequately address the mechanisms responsible for population patterns of oral diseases in Australia and risk sustaining these inequities.

Intersectionality is a theory and analytical perspective developed to explain and counteract mechanisms that enable different social and political identities to operate conjointly to create different levels of privilege, and discrimination.[63–65] This theory originated with the Black feminist movement in the United States, and proposes that different systems of inequities operate through one another to structure patterns of disadvantage across social groups and their related inequities.[66,67] Studies in health sciences have adopted intersectionality not only as an attempt to understand racial health inequities, but to develop meaningful interventions that reflect the unique realities of population groups. According to this perspective, different forms of disadvantage, both at the individual but also at contextual levels, not only have a joint effect on health outcomes, but their health-related impacts are disproportionally larger among low-status groups. Evidence from oral health investigations carried out in the United States have shown, for example, that intersecting forms of individual and contextual oppression, such as low SES, structural racism, area-level socio-economic disadvantage and

structural sexism have a larger effect on oral health outcomes, above and beyond their individual associations.[68] Taken together, these findings suggest that a reduction in racial inequities in oral health cannot be achieved by narrow re-search that focuses on separate factors, without considering the complex lived experiences that predispose Aboriginal and Torres Strait Islander Peoples to greater risk of poor oral health. Whilst there is a growing body of re-search in the broader dental public health literature adopting this framework, Aboriginal and Torres Strait Islander oral health studies have yet to implement an intersectional framework into empirical investigations. Given the interlocking nature of matrices of domination that contribute to structuring the oral health of Aboriginal and Torres Strait Islander Peoples, an intersectional approach may contribute to the knowledge base that is needed for interventions aimed at dismantling discrimination and social injustice and, as a consequence, effectively improving population patterns of oral health.

2.5 | Knowledge sharing techniques

Often when we consider knowledge translation techniques they are seen as a static post-project component. However, from a decolonial view point knowledge translation, or knowledge sharing, should be a continual process throughout the re-search journey with Aboriginal and Torres Strait Islander Communities, as all involved are recognised for their valuable knowledges, experiences and wisdoms. Knowledge sharing is central to any successful re-search pursuit and more importantly, is foundational to establishing trusting relationships and eliminating power differentials.[9,14,15] Prioritising reciprocal relationships throughout the re-search process is necessary to ensure meaningful re-search design, truthful data capturing and respectful sharing of findings. In action this looks like, constant communication with Communities, familiarisation with our team and our values, consultations with cultural leaders and continuous practices of reflexivity. The opportunities to share knowledge about project aims, background information and findings is a critical aspect of our approach to oral health re-search with Aboriginal and Torres Strait Islander Communities that we refer to as Relational Yarning.[22] These relationships are integral to being able to share these stories in a culturally secure and trusting way. The format of sharing project findings should be established by Community governance at the outset of a project to ensure a shared expectation of how the re-search process will benefit Community needs and align with Community values. Each experience of knowledge sharing must be tailored to the unique context and values of a given Community. Decolonial knowledge sharing could look like: yarning circles, multiple day Elder events that allow time for reflection and healing, pictorial representation of findings and sharing of good news stories that challenge misconceptions of Aboriginal and Torres Strait Islander oral health.[14,69–72] In terms of academic knowledge sharing and reporting of findings, as oral health re-searchers we are compelled to justly share the stories Communities have entrusted us with. This includes embedding re-searcher's reflections of knowledge gained through working with Community throughout the storytelling of the findings, considering publishing in alternative formats, working with editorial boards to advocate for the acceptance of Community relevant ways of sharing knowledge and challenging reviewer comments that compromise the values of our re-search team and the integrity of the story we have the privilege of helping tell. Although academic publications may be a necessary component of colonial knowledge production systems, they must never be of greater importance than meaningful knowledge sharing pursuits that have tangible benefits for Community.

3 | REFLECTING ON THE JOURNEY

All the strategies shared herein have evolved from our experiences of struggling to promote decolonising oral health re-search agendas within a system designed to privilege colonial values of re-search and biomedical understandings of disease. This includes not only the theoretical, methodological and practical constraints of colonial re-search design, data collection and translation of findings, but more critically the ways in which re-search is funded and reported. Despite the recent structural changes made by the primary funding agencies in Australia to strengthen an Aboriginal and Torres Strait Islander health agenda, we have yet to see the translation of these changes. Existing funding structures have not been designed to be conducive to the way of doing Aboriginal and Torres Strait Islander re-search, such as providing extra monetary allowance for use of Traditional Languages or sufficient time to design relational projects.[22,73,74] Oral health projects funded within Australia are still in their infancy regarding their ability to identify, capture and meet the social, commercial, political and historical determinants of Aboriginal and Torres Strait Islander oral health. Furthermore, projects that are able to successfully implement a decolonial approach to re-search still rely on colonial processes for their findings to have translatable impacts. Whilst dental caries is among the most prevalent health condition for Aboriginal and Torres Strait Islander Peoples,[75] as well as being a Community-identified area of need,[76] we still do not understand how strong oral health is conceptualised among Communities and how re-search can best align with these understandings to strengthen oral health equity.

Importantly, we recognise that oral health re-search will never be entirely 'decolonised' due to the colonial foundations upheld by academic institutions and society more broadly; however, as oral health re-searchers, we ascertain that there is an ethical compulsion to drive decolonising re-search pursuits that have equitable and achievable oral health outcomes for Aboriginal and Torres Strait Islander Communities. We have outlined five pathways that we believe will help guide decolonising oral health re-search pursuits but we acknowledge that this is only a starting point. It is our hope that oral health re-searchers will utilise these strategies in meaningful ways that are appropriately tailored to the specific Communities, contexts and projects that they have the privilege of collaborating on.

ACKNOWLEDGEMENTS

We would like to acknowledge all Aboriginal and Torres Strait Islander Peoples and Communities whom we have had the immense honour to build relationships with on our journeys towards improved oral health. It is these relationships and experiences that drive our work and inquiry into pathways that demand Aboriginal and Torres Strait Islander health equity. Open access publishing facilitated by The University of Adelaide, as part of the Wiley - The University of Adelaide agreement via the Council of Australian University Librarians.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ORCID

Brianna Poirier https://orcid.org/0000-0002-8257-6104
Dandara Haag https://orcid.org/0000-0001-6722-6635
Sneha Sethi https://orcid.org/0000-0002-3571-5298
Pedro Ribeiro Santiago https://orcid.org/0000-0002-1267-8340
Madison Cachagee https://orcid.org/0000-0001-7114-5408
Lisa Jamieson https://orcid.org/0000-0001-9839-9280

ENDNOTES

* Re-search is used throughout this work, as proposed by Māori scholar Linda Tuhiwai Smith, to insinuate what is truly involved in the 'research' process, pushing our view beyond 'research' as an innocent pursuit of knowledge to a more critical understanding of the active undressing and reduction in human experiences to the level of micro-organisms.[8] We use this terminology throughout to prompt re-searchers to consider what is involved in re-search endeavours and encourage re-search directions that align with decolonising methodologies.

† Whilst terms such as inequity, inequality and disparity are often used interchangeably to denote unfair distribution of poor health outcomes, we employ the term inequity throughout this manuscript in recognition of the unjust, intentional and avoidable poor health outcomes experienced by Aboriginal and Torres Strait Islander Peoples in Australia.[3]

‡ We understand Aboriginal and Torres Strait Islander oral health inequities as a piece of the broader category of racial oral health inequities, where both race and Indigenous status are taken as alternative ways to "delineating collectivities that share ancestral or cultural roots".[19] Critically, we recognize that Aboriginal and Torres Strait Islander oral health inequities have emerged in unique ways and impact Aboriginal and Torres Strait Islander Peoples in distinct manners, which require multifaceted and decolonial solutions.

REFERENCES

1. National Health and Medical Research Council. *Ethical Guidelines for Research with Aboriginal and Torres Strait Islander Peoples*. National Health and Medical Research Council; 2018 https://www.nhmrc.gov.au/research-policy/ethics/ethical-guidelines-research-aboriginal-and-torres-strait-islander-peoples
2. Bond CJ, Singh D. More than a refresh required for closing the gap of indigenous health inequality. *Med J Aust*. 2020;212(5):198-199.e1.
3. Asada Y. A framework for measuring health inequity. *J Epidemiol Community Health*. 2005;59(8):700-705.
4. Poirier B, Sethi S, Haag D, Hedges J, Jamieson L. The impact of neoliberal generative mechanisms on indigenous health: a critical realist scoping review. *Glob Health*. 2022;18(1):1-17.
5. Paradies Y, Harris R, Anderson I. *The impact of racism on indigenous health in Australia and Aotearoa: towards a research agenda*, Discussion Paper No.4, Cooperative research Centre for Aboriginal Health, Darwin. 2008.
6. Kovach M. *Indigenous Methodologies: Characteristics, Conversations and Contexts*. University of Toronto Press; 2009.
7. Glass KC, Kaufert J. Research ethics review and aboriginal community values: can the two be reconciled? *J Empir Res Hum Res Ethics*. 2007;2(2):25-40.
8. Kilian A, Fellows TK, Giroux R, et al. Exploring the approaches of non-indigenous researchers to indigenous research: a qualitative study. *CMAJ Open*. 2019;7(3):E504-E509.
9. Smith LT. *Decolonizing Methodologies: Research and Indigenous Peoples*. Zed Books; 1999.
10. Soenke B. CHAPTER TWENTY-FOUR: knowledge, power and decolonization: implication for non-indigenous scholars, researchers and educators. *Counterpoints*. 2011;379:386-398.
11. Suddick RP, Harris NO. Historical perspectives of Oral biology: a series. *Crit Rev Oral Biol Med*. 1990;1(2):135-151.
12. Brinckley M-M, Bourke S, Watkin Lui F, Lovett R. Knowledge translation in aboriginal and Torres Strait islander research contexts in Australia: scoping review protocol. *BMJ Open*. 2022;12(7):e060311.
13. Laird P, Chang AB, Jacky J, Lane M, Schultz A, Walker R. Conducting decolonizing research and practice with Australian first nations to close the health gap. *Health Res Policy Syst*. 2021;19(1):1-127.
14. Wilson S, Wilson S. *Research Is Ceremony: Indigenous Research Methods*. Fernwood Pub; 2008.
15. Yunkaporta T. *Sand Talk: how Indigenous Thinking Can Save the World*. Text Publishing; 2019.
16. de Leeuw S, Greenwood M. Turning a new page: cultural safety, critical creative literary interventions, truth and reconciliation, and the crisis of child welfare. *AlterNative: Int J Indig Peoples*. 2017;13(3):142-151.
17. Corntassel J. *Re-Envisioning Resurgence: Indigenous Pathways to Decolonization and Sustainable Self-Determination*. Vol 1. University of Victoria; 2012:86-101.
18. Kukutai T, Taylor J. *Indigenous Data Sovereignty: toward an Agenda*. ANU press; 2016.
19. Bastos JL, Constante HM, Jamieson LM. Making science and doing justice: the need to reframe research on racial inequities in oral health. *Community Dent Health*. 2021;38(2):132-137.
20. Poirier B, Hedges J, Jamieson L. The future of aboriginal and Torres Strait islander oral health lies in the footprints of the past: Re-framing oral health discourse. *J Public Health Dent*. 2023;n/a(n/a):12570.
21. Gabrielle R-M. Reflexivity in indigenous research: reframing and decolonising research? *J Hosp Tour Manag*. 2012;19:44-49.
22. Poirier B, Hedges J, Jamieson L. Walking together: relational yarning as a mechanism to ensure meaningful and ethical indigenous oral health research in Australia. *Aust N Z J Public Health*. 2022;46(3):354-360.
23. Kleinman A. Anthropology and psychiatry: the role of culture in cross-cultural research on illness. *Br J Psychiatry*. 1987;151(4):447-454.
24. Summerfield D. 12 cross-cultural perspectives on the medicalization of human suffering. In: Rosen GM, ed. *Posttraumatic Stress Disorder:Issues and Controversies*. John Wiley & Sons Ltd; 2004:233.
25. Mauthner NS, Doucet A. Reflexive accounts and accounts of reflexivity in qualitative data analysis. *Sociology*. 2003;37(3):413-431.
26. Deloria V, Deloria V Jr, Wildcat DR. *Power and Place: Indian Education in America*. Fulcrum Publishing; 2001.

27. Dei GJ, Hall BL, Rosenberg DG. *Indigenous Knowledges in Global Contexts: Multiple Readings of our world*. ERIC; 2000.
28. Moreton-Robinson A. Relationality: a key presupposition of an indigenous social research paradigm. In: O'Brien JM, Andersen C, eds. *Sources and Methods in Indigenous Studies (Routledge Guides to Using Historical Sources)*. Routledge; 2017:69-77.
29. Finlay L. Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qual Res*. 2002;2(2):209-230.
30. Kohl E, McCutcheon P. Kitchen table reflexivity: negotiating positionality through everyday talk. *Gend Place Cult*. 2015;22(6):747-763.
31. Singh A, Harford J, Schuch HS, Watt RG, Peres MA. Theoretical basis and explanation for the relationship between area-level social inequalities and population oral health outcomes—a scoping review. *SSM Popul Health*. 2016;2:451-462.
32. Durey A, McAullay D, Gibson B, Slack-Smith LM. Oral health in young Australian aboriginal children: qualitative research on Parents' perspectives. *JDR Clin Trans Res*. 2017;2(1):38-47.
33. Alvesson M, Sköldberg K. *Reflexive Methodology: New Vistas for Qualitative Research*. Sage; 2017.
34. Carlson E. Anti-Colonial Methodologies and Practices for Settler Colonial Studies. *Settl Colon Stud*. 2017;7(4):496-517.
35. Yunkaporta T, McGinty S. Reclaiming aboriginal knowledge at the cultural interface. *Aust Educ Res*. 2009;36(2):55-72.
36. Haynes E, Marawili M, Mitchell A, Walker R, Katzenellenbogen J, Bessarab D. "Weaving a mat that we can all sit on": qualitative research approaches for productive dialogue in the intercultural space. *Int J Environ Res Public Health*. 2022;19(6):3654.
37. Dimitropoulos Y, Holden A, Gwynne K, Do L, Byun R, Sohn W. Outcomes of a co-designed, community-led oral health promotion program for aboriginal children in rural and remote communities in New South Wales. *Community Dent Health*. 2020;37(2):132-137.
38. Cheng Y-Y, Nunn J, Skinner J, et al. A pathway to precision medicine for aboriginal Australians: a study protocol. *Methods and Protoco*. 2021;4(2):42.
39. Calvin Z, Skinner J, Dimitropoulos Y, et al. The indigenous adolescent Oral health partnership study: a Co-design study protocol. *Int J Environ Res Public Health*. 2022;19(15):9104.
40. Borsboom D, Mellenbergh GJ, Van Heerden J. The concept of validity. *Psychol Rev*. 2004;111(4):1061-1071.
41. Bastos JL, Reichenheim ME, Moraes CL. Measurement instruments for use in Oral epidemiology. In: Peres MA, Ferreira Antunes JL, Watt RG, eds. *Oral Epidemiology*. Springer a textbook on Oral health conditions. Research Topics and Methods; 2021:465-477.
42. Gee G, Dudgeon P, Schultz C, Hart A, Kelly K. Social and emotional wellbeing and mental health: an aboriginal perspective. In: Dudgeon P, Milroy H, Walker R, eds. *Working Together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice*. Australian Government; 2014:55-68.
43. Santiago PHR, Manzini Macedo D, Haag D, et al. Exploratory graph analysis of the strengths and difficulties questionnaire for aboriginal and/or Torres Strait islander children. *Front Psychol*. 2021;12:573825.
44. Chau T, Tiego J, Brown L, et al. Against the use of the strengths and difficulties questionnaire for aboriginal and Torres Strait islander children aged 2-15 years. *Aust N Z J Psychiatry*. 2023;48674231161504.
45. Ribeiro Santiago PH, Haag D, Macedo DM, et al. Psychometric properties of the EQ-5D-5L for aboriginal Australians: a multimethod study. *Health Qual Life Outcomes*. 2021;19(1):81.
46. Smith K, Gilchrist L, Taylor K, et al. Good spirit, good life: a quality of life tool and framework for older aboriginal peoples. *Gerontologist*. 2021;61(5):e163-e172.
47. Santiago PHR, Milosevic M, Ju X, Cheung W, Haag D, Jamieson L. A network psychometric validation of the children Oral health-related quality of life (COHQoL) questionnaire among aboriginal and/or Torres Strait islander children. *PLoS One*. 2022;17(8):e0273373.
48. Santiago PHR, Roberts R, Smithers LG, Jamieson L. Stress beyond coping? A Rasch analysis of the perceived stress scale (PSS-14) in an aboriginal population. *PLoS One*. 2019;14(5):e0216333.
49. Brown AD, Mentha R, Rowley KG, Skinner T, Davy C, O'Dea K. Depression in aboriginal men in Central Australia: adaptation of the patient health questionnaire 9. *BMC Psychiatry*. 2013;13:1-10.
50. Santiago PHR, Smithers LG, Roberts R, Jamieson L. Psychometric properties of the social support scale (SSS) in two aboriginal samples. *PLoS One*. 2023;18(1):e0279954.
51. Le Grande M, Ski C, Thompson D, et al. Social and emotional wellbeing assessment instruments for use with indigenous Australians: a critical review. *Soc Sci Med*. 2017;187:164-173.
52. Meredith W. Measurement invariance, factor analysis and factorial invariance. *Psychometrika*. 1993;58:525-543.
53. Cushman E. Decolonizing validity. *J writ Assess*. 2016;9:2.
54. Ranzijn R, Nolan W. *Psychology and Indigenous Australians: Foundations of Cultural Competence*. Palgrave Macmillan; 2009.
55. Santiago PHR, Sawyer A, Hedges J, Sawyer M, Jamieson L. A Network Cross-Cultural Validation of the Parenting Sense of Competence between Aboriginal and Non-Aboriginal Australians. 2022.
56. Hill JS, Pace TM, Robbins RR. Decolonizing personality assessment and honoring indigenous voices: a critical examination of the MMPI-2. *Cult Divers Ethn Minor Psychol*. 2010;16(1):16-25.
57. Dudgeon P, Bray A, D'costa B, Walker R. Decolonising psychology: validating social and emotional wellbeing. *Aust Psychol*. 2017;52(4):316-325.
58. Prilleltensky I. Understanding, resisting, and overcoming oppression: toward psychopolitical validity. *Am J Community Psychol*. 2003;31(1–2):195-201.
59. Whitbeck LB, Adams GW, Hoyt DR, Chen X. Conceptualizing and measuring historical trauma among American Indian people. *Am J Community Psychol*. 2004;33(3–4):119-130.
60. Macdonald ME, Muirhead V, Doughty J, Freeman R. Critically engaging vulnerability: rethinking oral health with vulnerabilized populations. *Community Dent Oral Epidemiol*. 2022;50(6):469-475.
61. Haag D, Schuch H, Ha D, Do L, Jamieson L. Oral health inequalities among indigenous and non-indigenous children. *JDR Clin Trans Res*. 2021;6(3):317-323.
62. Schuch HS, Haag DG, Kapellas K, et al. The magnitude of indigenous and non-indigenous oral health inequalities in Brazil, New Zealand and Australia. *Community Dent Oral Epidemiol*. 2017;45(5):434-441.
63. Bastos JL, Celeste RK, Paradies YC. Racial inequalities in Oral health. *J Dent Res*. 2018;97(8):878-886.
64. Bastos JL, Constante HM, Celeste RK, Haag DG, Jamieson LM. Advancing racial equity in oral health (research): more of the same is not enough. *Eur J Oral Sci*. 2020;128(6):459-466.
65. Schuch HS, Haag DG, Bastos JL, Paradies Y, Jamieson LM. Intersectionality, racial discrimination and oral health in Australia. *Community Dent Oral Epidemiol*. 2021;49(1):87-94.
66. Collins PH. Annual Review of Sociology. In: Cook KS, Massey DS, eds. *Intersectionality's Definitional Dilemmas*. Vol 41. University of Maryland; 2015:1-20.
67. Elaine Muirhead V, Milner A, Freeman R, Doughty J, Macdonald ME. What is intersectionality and why is it important in oral health research? *Community Dent Oral Epidemiol*. 2020;48(6):464-470.
68. Bastos JL, Constante HM, Schuch HS, Haag DG, Jamieson LM. How do state-level racism, sexism, and income inequality shape edentulism-related racial inequities in contemporary United States? A structural intersectionality approach to population oral health. *J Public Health Dent*. 2022;82(S1):16-27.
69. Bryant J, Bolt R, Botfield JR, et al. Beyond deficit: 'strengths-based approaches' in indigenous health research. *Sociol Health Illn*. 2021;43(6):1405-1421.

70. Tobias JK, Richmond C. Gimiigiwemin: putting knowledge translation into practice with Anishinaabe communities. *Int J of Indi Health*. 2016;11(1):228-243.
71. Poirier B, Sethi S, Hedges J, Jamieson L. Building an understanding of indigenous health Workers' role in oral health: a qualitative systematic review. *Community Dent Oral Epidemiol*. 2022;51:169-179.
72. Fredericks B, Adams K, Finlay S, et al. Engaging the practice of indigenous yarning in action research. *Action Learning and Action Res J*. 2011;17(2):12-24.
73. Harfield S, Pearson O, Morey K, et al. Assessing the quality of health research from an indigenous perspective: the aboriginal and Torres Strait islander quality appraisal tool. *BMC Med Res Methodol*. 2020;20(1):1-9.
74. Griffiths K, Diaz A, Whop LJ, Cunningham J. The health and wellbeing of indigenous and tribal peoples around the globe: ensuring and promoting best practice in research. *MDPI*. 2021;19:261.
75. Nath S, Poirier BF, Ju X, et al. Dental health inequalities among indigenous populations: a systematic review and meta-analysis. *Caries Res*. 2021;55(4):268-287.
76. Poirier BF, Hedges J, Smithers LG, Moskos M, Jamieson LM. Aspirations and worries: the role of parental intrinsic motivation in establishing oral health practices for indigenous children. *Int J Environ Res Public Health*. 2021;18(21):11695.

How to cite this article: Hedges J, Poirier B, Soares G, et al. Journeying towards decolonising Aboriginal and Torres Strait Islander oral health re-search. *Community Dent Oral Epidemiol*. 2023;51:1232-1240. doi:10.1111/cdoe.12881