




BMJ Open Enhancing Aboriginal and Torres Strait Islander research trial leadership and participation: insights from the initial stages of the Australian Fans in Training Project in the Northern Territory of Australia

Bryce Brickley ,^{1,2} Jason Bonson,^{1,2} Joshua Danvers,³ John Ah Mat,³ Patrick Stephensen,³ Matthew David McDonald,⁴ Eleanor Queded ,⁴ Andrew Maiorana ,⁵ Toby Pavey,⁶ Lee Wharton,⁶ Evelyn Bennett,⁷ James A Smith^{1,2}

To cite: Brickley B, Bonson J, Danvers J, *et al.* Enhancing Aboriginal and Torres Strait Islander research trial leadership and participation: insights from the initial stages of the Australian Fans in Training Project in the Northern Territory of Australia. *BMJ Open* 2025;**15**:e095720. doi:10.1136/bmjopen-2024-095720

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<https://doi.org/10.1136/bmjopen-2024-095720>).

Received 28 October 2024
Accepted 04 July 2025



© Author(s) (or their employer(s)) 2025. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ Group.

For numbered affiliations see end of article.

Correspondence to

Dr Bryce Brickley;
bryce.brickley@flinders.edu.au

ABSTRACT

Introduction Advancing equity, diversity and inclusion in health research trials is essential for improving health outcomes among priority populations. While evidence increasingly highlights the importance of cultural diversity in research trial leadership and participation, evidence-based strategies for enhancing this remain limited. This article outlines approaches to strengthen Aboriginal and Torres Strait Islander involvement in health research trials, drawing on insights from community engagement at the Darwin (Northern Territory) trial site of the Australian Fans in Training (Aussie-FIT) project.

Methodology Community engagement at this site aimed to (1) build mutually beneficial relationships with community leaders, specifically Aboriginal and Torres Strait Islander men; (2) codesign engagement standards to enhance the quality of engagement with these leaders and more broadly with local community members and stakeholders. A culturally diverse community advisory group was established, which codesigned engagement standards tailored to community needs and preferences.

Strengths and limitations While the codesigned standards supported Aboriginal and Torres Strait Islander trial leadership and participation during the trial, the extensive consultation needed to build cross-cultural relationships and develop the standards meant they were finalised only after trial recruitment had ceased. As a result, researchers were unable to fully implement them in the early stages of the trial.

Conclusions This paper shared and critically discussed approaches used in the early stages of the Aussie-FIT trial to foster more equitable and inclusive practices in research trials. Implementation of these approaches and community-informed recommendations has the potential to enhance research quality, build trust with priority populations and address participation inequities, thus supporting effective trial design and improved health outcomes.

Trial registration number This trial is registered with the Australian New Zealand Clinical Trials Registry (ACTRN12623000437662).

INTRODUCTION

Community members must be represented and actively involved in research trials. Effective community engagement in, and leadership of, research trials will lead to studies that align with community needs and preferences, while building trust and fostering genuine partnerships between researchers, health services and community.^{1 2} Community involvement (the term preferred by Australian Fans in Training (Aussie-FIT) Northern Territory (NT) community advisors over ‘patient and public involvement’) refers to the active process of working with members of the public to shape how research is planned, managed, designed, conducted and disseminated.³ High-quality community involvement and leadership in research trials can improve access to culturally diverse population groups, promote equitable participation and enhance the impact of research outcomes for diverse communities.⁴

Aboriginal and Torres Strait Islander peoples’ participation in research trials

Australia’s First Nations Peoples—Aboriginal and Torres Strait Islander people—belong to diverse cultures that have existed for over 65 000 years.⁵ They account for just 3.8% of the Australian population.⁶ Their cultures offer many protective health assets, including resilience, a strong sense of identity and deep connections to community, spirit and country. Despite these resources, Aboriginal and Torres Strait Islander people experience some of the poorest health outcomes of any population group in Australia.^{7 8}



Increasing Aboriginal and Torres Strait Islander people's participation and leadership in health research offers an opportunity to improve health outcomes and contribute towards closing the gap.⁹ Research led by Aboriginal and Torres Strait Islander people can strengthen the evidence base for culturally appropriate interventions and inform public health policy and practice. This is particularly important for subgroups that face unique health challenges and remain under-represented in research. One such group is Aboriginal and Torres Strait Islander men, whose health and well-being have been significantly underfunded.¹⁰

Aboriginal and Torres Strait Islander men have distinct epistemologies (knowledges), ontologies (ways of being) and axiologies (values), which must be considered in culturally safe research design and conduct. The randomised controlled trial (RCT) often considered the 'gold standard' in Western research can conflict with Aboriginal and Torres Strait Islander ways of knowing, being and doing and may cause harm if not appropriately adapted. When these cultural differences are overlooked, research risks alienating Indigenous participants, producing ethically promised findings and reinforcing systematic inequalities rather than addressing them.

A recent review examined 73 research trials in Aboriginal and Torres Strait Islander settings.¹¹ It assessed ethical quality based on adherence to best-practice principles promoted by Australian national research bodies (eg, National Health and Medical Research Council (NHMRC) and Australian Institute for Aboriginal and Torres Strait Islander Studies).¹¹ These included community involvement, external governance and endorsement by Aboriginal and Torres Strait Islander organisations.¹¹ There was a range of ethical standards within the reviewed studies, reflecting the varied cultural values, customs and needs of the communities involved.¹¹ A key challenge identified was ensuring Aboriginal and Torres Strait Islander leadership and involvement throughout the entire research process.¹¹ This diversity presents a practical challenge for researchers, who must continually realign ethical approaches to suit the specific cultural context and priorities of each unique group of participants. Another review of 240 studies synthesised common strengths—such as community engagement and attention to local culture—and recurring limitations, including poor communication, inadequate involvement and funding constraints.¹² These findings highlight the ongoing need for stronger guidance to support Aboriginal and Torres Strait Islander health research trial leadership and participation.

Deep community engagement is essential in the planning and delivery of research trials involving Aboriginal and Torres Strait Islander peoples. The NHMRC's *Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders*¹³ provides vital direction for conducting research that is ethical, inclusive, respectful and culturally safe. It identifies six core values: spirit and integrity, cultural continuity, equity, reciprocity, respect and responsibility,

which emphasise the importance of engaging in ways that reflect and honour the unique cultures, lived experiences and knowledge systems of Aboriginal and Torres Strait Islander communities.

A growing body of evidence supports the principles and essential components of community engagement in research^{14–17} and offers guidance on enhancing cultural diversity in trials.^{4,18} While several frameworks exist, many lack detailed direction on how to put ethical principles into practice. This presents challenges for research teams seeking to establish meaningful partnerships with culturally diverse communities.^{17,19} Without clear and practical strategies, Aboriginal and Torres Strait Islander peoples are likely to remain under-represented in research trials²⁰ and the resulting research may risk being culturally unsafe, irrelevant or ineffective.

Context

Aussie-FIT trial

The Aussie-FIT programme is a 12-week health behaviour change programme for men aged 35–75 years, delivered in sporting clubs.²¹ Pilot studies of Aussie-FIT in Western Australia showed promise for weight loss and lifestyle improvements among men living with overweight and obesity.²² A randomised controlled hybrid type 2 effectiveness-implementation trial is now being conducted. This trial aims to evaluate the programme's effectiveness towards improving health behaviours and cardiovascular health outcomes among men with, or at risk of cardiovascular disease. In parallel, the trial will test implementation processes in three diverse Australian cities: Perth (Western Australia), Darwin (NT) and Brisbane (Queensland).²¹

NT population, health and service context

The NT is sparsely populated and is home to approximately 232 000 residents, less than 1% of the country's population.²³ About 40% of the population lives in the capital city of Darwin, while 60% lives in remote or very remote areas.²³ Of the male population in Darwin, approximately 35 000 are aged between 35 and 75 years.²⁴ Approximately 10.6% of Darwin's population identify as Aboriginal and Torres Strait Islander—three times the national average.²⁵

The NT has the highest rates of cardiovascular mortality in Australia,²⁶ with significant sex, gender and cultural inequities. Men are particularly affected, as coronary heart disease mortality rates among NT men are four times higher than in women.²⁷ Aboriginal and Torres Strait Islander men experience coronary heart disease mortality rates 2.7 times higher than their non-Indigenous counterparts.²⁷ Furthermore, the onset of cardiovascular disease for Aboriginal and Torres Strait Islander people tends to occur 10–20 years younger than among non-Indigenous Australians.²⁸ These health disparities informed the selection of the NT as a trial site, responding to the need to increase Aboriginal and Torres Strait Islander males' access to health research trials.²⁹

There is a clear service gap in the NT for evidence-based health promotion and behaviour change programmes for men. To address this gap, scaling programmes from other contexts with an established evidence base can be more efficient than developing new interventions, while ensuring they are adapted to meet local needs and contexts, informed by genuine community engagement and participation.³⁰ Guidance on adapting programmes to new contexts highlights the importance of involving communities and stakeholders. A rigorous adaptation process can improve programme responsiveness to the needs of vulnerable groups, enhancing both programme effectiveness and relevance to health equity.^{30–33} Similarly, the process of cultural adaptation of interventions in this context is underpinned by Aboriginal and Torres Strait Islander participation and leadership.³⁴

Aims

This article aims to describe practical, community code-signed recommendations to strengthen Aboriginal and Torres Strait Islander male leadership and participation in health research trials.

METHODOLOGY

This article focuses on engagement with the *Aussie-FIT NT Community Advisory Group*, including key interactions and outcomes within early stages of the NT arm of the Aussie-FIT trial.²¹ A codesign approach³⁵ informed this process, aligned with programme adaptation guidance for Aboriginal and Torres Strait Islander contexts.^{30–34} The term codesign describes active collaboration between stakeholders in generating solutions to identified challenges.³⁵ Activities included a rapid desktop review of literature, consultations and meetings with community advisors. This work led to the codesign of standards for community engagement and recommendations to improve Aboriginal and Torres Strait Islander leadership and participation within the Aussie-FIT NT trial site. This article was codeveloped with NT community advisors (JD, JAM and PS) who have reviewed, provided feedback and approved the article for submission.

Reflexivity

The lead author (BB) is a non-Indigenous male researcher based in Darwin, who worked closely with JB, an Aboriginal and Torres Strait Islander coinvestigator throughout the codesign process. This involved critically reflexive cross-cultural engagement and debriefing, resulting in two-way learning and relationship building. Recognising the importance of power-sharing and cultural safety, shared decision-making was prioritised, including co-authoring this manuscript with community advisory group members.

Community advisory group

To guide culturally and contextually appropriate research, five community members were purposefully recruited

through the research team's networks. To ensure diverse representation, eligibility criteria included lived experience with heart disease or its risk factors, relevant expertise and/or involvement in local sporting clubs.³⁶ Membership was also guided by input from community members. All appointments required approval from JAS (NT chief investigator). The group included two Aboriginal and Torres Strait Islander, one Australian South Sea Islander and two non-Indigenous men. The community advisory group was to be actively engaged throughout the trial, and key roles and responsibilities included optimising programme enrolment and screening procedures, supporting recruitment and retention strategies and informing research translation efforts. These were outlined in the group's terms of reference (online supplemental file 1).

Community advisors expressed their desired level of influence and involvement in the trial. They wanted to be involved as advisors and collectively agreed to be referred to as the Aussie-FIT NT community advisory group. This responsive and pragmatic approach instilled a sense of community engagement during the trial, including advice on best participant engagement methods and creating future opportunities for community advisors to act as coresearchers if they choose to do so. Language plays a crucial role in building trust and demonstrating respect. The choice of terminology and roles, sometimes diverging from standard conventions in medical literature, reflects the advisors' preferences and underscores the importance of using language that aligns with their values and expectations.

Community engagement standards

The Aussie-FIT NT community engagement standards were codesigned during the trial in an iterative manner, as shown in [figure 1](#). This process involved engagement beyond the project's biannual community advisory group meetings and informed local trial conduct in real time.

A rapid desktop review of literature was conducted in the first phase of the trial using the Flinders University library catalogue and Google web searches to identify peer-reviewed and grey literature articles. Search terms included 'community engagement', 'patient and public involvement', 'stakeholder engagement', 'research trials', 'quality', 'principles' and 'values'. These terms were refined to include a focus on working with Aboriginal and Torres Strait Islander populations. The reference lists of identified articles were reviewed to identify additional relevant literature. Data were extracted on engagement approaches, key principles and considerations to enhance the quality of engagement. The literature highlighted the importance of having community engagement standards to support quality engagement. However, existing community involvement frameworks are not easily adaptable to culturally diverse contexts. As such, researchers in these settings would benefit from coproducing their own standards with the focus population.³⁷ Key principles and procedures identified in the literature to enhance

Trial Phase 1: Community Engagement and Program Adaptation



Trial Phase 2: Implementation



Figure 1 Community engagement standards codesign timeline. NT, Northern Territory.

quality engagement included early and explicit planning, sharing power and ownership, transparency and integrity, and investing time and resources into building and maintaining relationships.^{12 16 38} A joint understanding of expectations and roles was also emphasised.^{12 16 38} Furthermore, flexibility, time and empowering approaches are essential when working cross-culturally and/or with Aboriginal and Torres Strait Islander populations.^{39 40} Principles and procedures of community engagement were also collated for potential inclusion in these standards, if deemed appropriate by community members. These were considered alongside other recommendations for improving cultural diversity within the trial.

The standards were refined through face-to-face meetings and ongoing discussions via email and phone with community advisors. Decision-making was shared and guided by consensus within the advisory group. The

Aussie-FIT NT community engagement standards, codesigned with community advisors, are shown in figure 2. They include guiding values and principles that shape how researchers interact with community members and stakeholders. The standards include operating procedures for before, during and after community advisory group meetings.

The process of codesigning community engagement standards played a key role in building relationships and trust between the research team and community advisors. These standards have been implemented in the early stages of the Aussie-FIT NT trial with mixed success. Positives of these engagement efforts include the establishment of partnerships with Aboriginal and Torres Strait Islander-led local health organisations, which enhanced trial accessibility and participation among Aboriginal and Torres Strait Islander men. In addition, two Aboriginal

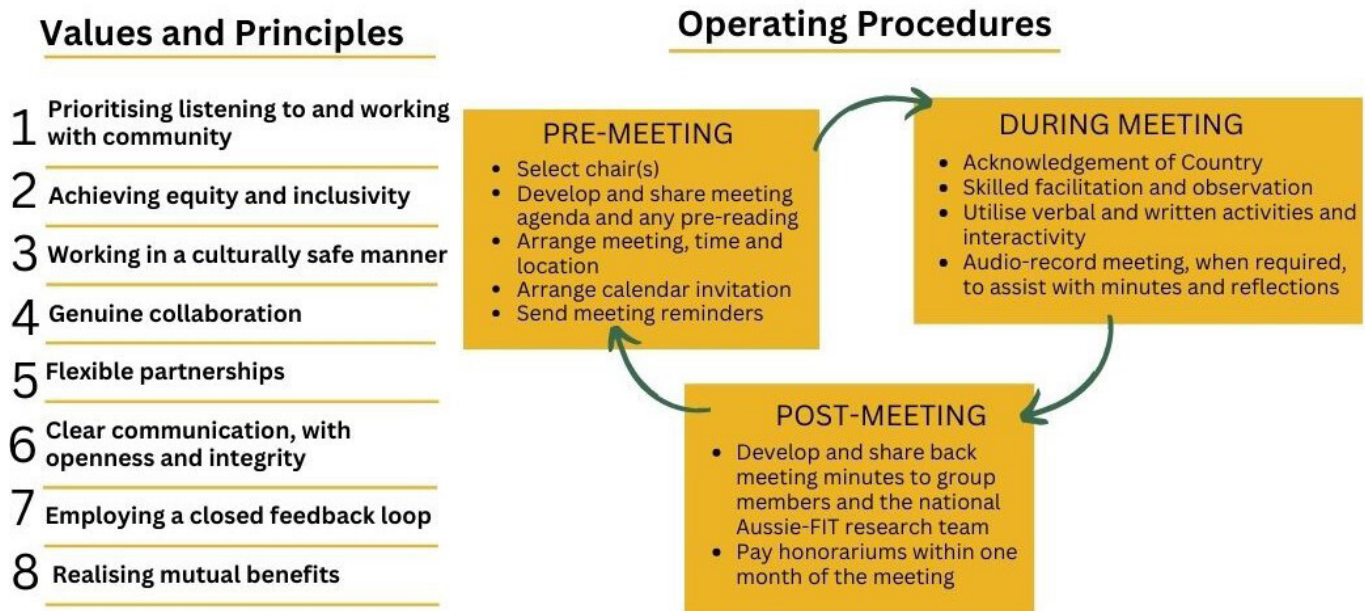


Figure 2 Community Engagement Standards. Aussie-FIT, Australian Fans in Training.

and Torres Strait Islander coaches were successfully recruited and trained, as guided by the community engagement standards.

However, challenges were encountered in the implementation of the standards within the constraints of the research design. For example, community advisors advocated for flexibility in trial randomisation (ie, group allocation to immediate Aussie-FIT programme start or 6-month waiting list control) to allow Aboriginal and Torres Strait Islander men to participate together. However, this advice conflicted with the RCT design and protocol aligned with contractual funding commitments and was unable to be implemented. This conflicted with the values: *listening to and working with the community and achieving equity and inclusivity*. In a different example, one Aboriginal and Torres Strait Islander community member expressed interest in taking part in the study but had a range of complex health comorbidities (eg, end-stage renal failure on dialysis) and lacked social support. While we strived for equity and inclusion, there was a lack of resources available to support this potential participant towards trial enrolment. The codesigned community engagement standards will be implemented and continuously refined throughout the current Aussie-FIT trial and future related research in the NT context.

Community-informed recommendations

The literature search, community collaboration and reflection conducted during the early stages of the trial informed recommendations to enhance Aboriginal and Torres Strait Islander trial leadership and participation. These recommendations were implemented early in the trial and are presented in [table 1](#).

DISCUSSION

This article provides insights from community engagement activities in the early stages of the Aussie-FIT NT trial and aims to foster greater Aboriginal and Torres Strait Islander leadership and participation in research trials. Aboriginal and Torres Strait Islander researchers and advisors shaped codesigned community engagement standards and recommendations that can inform how research trials are designed and implemented in culturally diverse contexts. Applying these community engagement approaches in culturally diverse trial sites may help build trust and reduce participation inequities, addressing a global need to improve Indigenous men's health and cultural diversity in research. In agreement with wider literature,⁴¹ this paper emphasises the importance of trusted relationships with community leaders and/or stakeholders to address challenges in balancing culture, ethics and methods in cross-cultural research contexts.

Before the trial began, Aussie-FIT NT community advisors raised concerns about randomisation conflicting with cultural values and community needs. However, as NT recruitment was part of a multistate/territory randomised trial, the contracted trial design could not be changed, limiting Aboriginal and Torres Strait Islander leadership and participation at this point. Although this specific issue was not remediable, discussion of the recruitment protocol with the community advisors illuminated the importance of ensuring that the standards of practice for the remainder of the trial centred on meaningful engagement, trusted relationships and community-led decision-making in culturally responsive research issues. In a previous trial involving Aboriginal and Torres Strait Islander participants,⁴² randomisation was seen as

**Table 1** Aussie-FIT Northern Territory (NT): community-informed recommendations for improving Aboriginal and Torres Strait Islander leadership and participation in the trial

Community-informed recommendation	Aussie-FIT NT implementation example
Before the start of the trial, establish Aboriginal and Torres Strait Islander research trial leadership mechanisms.	Supported by an Aboriginal and Torres Strait Islander community and engagement manager (JB), a local community advisory group was established pretrial consisting of a majority of Aboriginal and Torres Strait Islander people. All advisors contributed to the refinement of, and endorsement of, a terms of reference for a 2-year partnership.
Before the start of the trial, increase the representation of cultural diversity of research staff and collaborators, prioritising Aboriginal and Torres Strait Islander people.	During the first year of the trial, Aboriginal and Torres Strait Islander coinvestigators were recruited and supported the trial. Aboriginal and Torres Strait Islander research assistants were recruited to assist with data collection. In the second year of the trial, non-Indigenous, culturally diverse postgraduate students were recruited to conduct research projects related to the trial.
Throughout the trial, ensure trial staff are culturally aware by implementing oversight structures and providing opportunities for the research team to develop cultural awareness.	Collaboration with community advisors informed an ethical review of the trial protocol by an Aboriginal and Torres Strait Islander subcommittee. A senior Torres Strait Islander researcher served as a cultural mentor, supporting all team members. Community engagement advisors at participating institutions were also consulted and they shared advice and relevant literature on working with culturally diverse populations. After commencing in his role, the trial coordinator completed additional training on cross-cultural research and engagement. Similar opportunities were provided for other non-Indigenous collaborators throughout to enhance cultural awareness and cross-cultural research skills.
Throughout the trial, engage and build partnerships with community organisations that work with culturally diverse groups.	Consultation with community advisory group members occurred about which community organisations to engage, and discussion of potential shared values and goals. Advisors facilitated introductions with identified organisations and the research team. Semistructured interviews were conducted pretrial with community members and stakeholders informing which community organisations to engage and advising on relevant engagement strategies. The research team worked on ongoing consultation and partnerships with these organisations.
Throughout the trial, enhance the quality of Aboriginal and Torres Strait Islander community involvement. This includes building deeper community relationships by spending time together, building trust, fostering meaningful engagement and empowering active research participation.	To improve the quality of involvement, we codesigned standards for community engagement in partnership with community advisors. Community advisors were remunerated in line with the community engagement policy of the primary trial site's institution. Additional funding was obtained through the NT's participating institution's community engagement-focused microgrants scheme in 2023 and 2024.
Throughout the trial, leveraging external resources to strengthen the capabilities of culturally diverse community members.	Researchers leveraged resources from other organisations and funded projects in a mutually beneficial and opportunistic manner. For example, in the first year of the project, community advisors were invited to an Aboriginal and Torres Strait Islander research and evaluation workshop, funded through a different project. In the spirit of reciprocity and capacity building, attendance aimed to empower community members' research engagement. External resources were also leveraged to support Aboriginal and Torres Strait Islander research staff development.
Throughout the trial, acknowledge and respond to the varying levels of expertise among community and stakeholders, facilitating two-way learning.	In recognition of their cultural knowledge, diverse skills and lived experiences, community advisors were recognised as experts. During collaborative activities, researchers positioned themselves as learners. Researchers employed individualised engagement approaches with mutually agreed on expectations tailored to meet the unique needs and preferences of community members. Training opportunities were available to community advisors on request, enabling them to enhance their research skills and knowledge if desired.
Throughout the trial, actively engage in community spaces and places outside of the research.	Research team members actively participated in partner sporting clubs outside of the trial, which increased visibility and facilitated closer relationships with community organisations, delivery personnel and some participants, helping to build rapport and enhance understanding of local contextual factors. Community encouraged research team members to take advantage of any informal interactions that occur in these settings to foster deeper connections.

Continued

Table 1 Continued

Community-informed recommendation	Aussie-FIT NT implementation example
Throughout the trial, practise ‘respectful persistence’ (a term used by community advisors) and manage personal responses related to community engagement.	Community advisors emphasised the importance of respectful persistence when engaging with the community, acknowledging that the diverse needs of community members may sometimes conflict with research timelines. Advisors encouraged researchers to be patient, flexible and adaptable in their engagement process. If any experiences caused angst, community members advised being resilient and avoiding projecting frustrations onto the community.
Throughout the trial, be transparent and honest, including about benefits for the research team.	Community advisors valued transparency and honesty from the research team, particularly regarding how their expertise contributed to the researchers’ career advancement, such as publishing papers. This openness strengthened the partnership, with community advisors supporting funding applications for future research.

disempowering and unethical, and despite abandoning it mid-study, the trial became unviable and was later defunded. In contrast, Dissanayake *et al*⁴³ codeveloped an RCT with a local steering group, including senior elders in remote NT. When community needs shifted post funding, the team removed randomisation, allowing the trial to proceed and remain viable.⁴³ These examples highlight the importance of early engagement, trusted relationships and community-led decision-making in culturally responsive research.

We codesigned these standards and recommendations to support the NT Aussie-FIT trial site. While designed and implemented in a study with men, these engagement processes may also be relevant to trials with women and other genders. However, adapting the approach would require working closely with communities again. These standards may continue to make a difference and be sustained.⁴⁴ The research team and community advisory group have discussed continuing to use them in future NT research. Future research via this partnership will establish Aboriginal and Torres Strait Islander research leadership, leading to ongoing community benefits. Participation and leadership within this trial have helped early career researchers grow, informing more culturally appropriate trial planning and conduct, and improved cross-cultural research skills and knowledge. There is an opportunity for future research to comprehensively explore the use, impacts and sustainability of community engagement standards across a range of research projects.

Limitations and challenges

As the standards and recommendations were codesigned through authentic and locally relevant engagement, we did not provide a pre-hoc coproduction method. In addition, because the NT was a new Aussie-FIT trial site, there were inadequate resources to complete this community engagement before the trial commenced, given the time and investment required for working in cross-cultural contexts.⁴¹ Because these standards were finalised after recruitment, they had limited influence on cultural diversity within the recruitment phase of the Aussie-FIT trial.

Rigid trial design, due to contracts, limited how we could respond to participants’ needs early on. Future

research should ensure Aboriginal and Torres Strait Islander participation and leadership from the funding acquisition phase, fostering trial designs that align with local values and embrace Indigenous ways of knowing, being and doing. However, achieving this requires systemic change, where the academic community and funding bodies reconsider the prioritisation of RCTs in Indigenous settings, which often is a barrier to important trials being conducted.

Local contextual factors posed challenges to Aboriginal and Torres Strait Islander research trial participation in the early stages of the Aussie-FIT NT trial. Sustaining community engagement within trial timelines was challenging due to competing priorities such as cultural obligations, family, employment and seasonal commitments. Located in the tropics, the trial site also experienced active monsoons, adding further challenges to sustained engagement and the implementation of the standards with community organisations and trial participants. To mitigate these challenges, the research team implemented community advisors’ recommendations, including remaining as flexible as possible, employing various engagement methods, such as phone calls, emails and informal face-to-face meetings, to improve community access.

CONCLUSIONS

The approach to developing context-specific and population-specific community engagement standards outlined in this paper can be applied to future research in settings with diverse populations, advancing equity, diversity and inclusion in research trials. The community-informed recommendations for improving Aboriginal and Torres Strait Islander research leadership and participation should inform trialists in other contexts of the importance of fostering cultural safety and trust within the context of a research trial. They can also help make trials more inclusive worldwide. Future research should seek to evaluate the use and impacts of implementing these engagement standards, specifically on Indigenous male health and trial quality.

Author affiliations

¹College of Medicine and Public Health, Flinders University, Darwin, Northern Territory, Australia

²Flinders Health and Medical Research Institute, Darwin, Northern Territory, Australia

³Aussie-FIT Northern Territory Community Advisory Group, Darwin, Northern Territory, Australia

⁴School of Population Health, Curtin University, Perth, Western Australia, Australia

⁵School of Allied Health, Curtin University, Perth, Western Australia, Australia

⁶School of Exercise and Nutrition Sciences, Queensland University of Technology, Brisbane, Queensland, Australia

⁷College of Medicine and Public Health, Flinders University, Adelaide, South Australia, Australia

X Bryce Brickley @BryceBrickley, Matthew David McDonald @mdmcdonald89 and Eleanor Qusted @EIQusted

Acknowledgements We acknowledge the Northern Territory (NT) stakeholders and community advisors and community advisors at other sites for their support of the Australian Fans in Training project. We thank Associate Professor Kootsy Canuto and Mr Cameron Stokes and Ms Gracie Ah Mat for their support and guidance with community and stakeholder engagement in the NT. We thank the Curtin enAble Institute and Flinders University Consumer Engagement Research Support teams for their guidance. We thank Mr Neil Wharton for his ongoing support and contributions.

Contributors EQ, TP, AM and JAS conceived the Aussie-FIT project and obtained the project funding in collaboration with other investigators. All authors significantly contributed to this project, specifically, BB and MDM contributed to the literature search. BB and JB coordinated community engagement activities. BB obtained further project funding to support the community engagement activities. BB, JB, JD, JAM, PS, MDM, JAS and EQ contributed to the coproduction and implementation of the community engagement standards. All authors drafted the article, read, edited and approved the final version. BB is responsible for the overall content as guarantor.

Funding This work was supported by a 2021 Behaviour Change Strategic Grant (Award ID number 106534) from the National Heart Foundation of Australia. It was also supported by Consumer and Community Involvement Microgrants awarded in 2023 and 2024 from the Flinders Health and Medical Research Institute.

Competing interests None declared.

Ethics approval This study involves human participants and was approved by the human research ethics committee of the Northern Territory Department of Health and Menzies School of Health Research: 2023-4527. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iDs

Bryce Brickley <http://orcid.org/0000-0002-7093-7793>

Eleanor Qusted <http://orcid.org/0000-0002-6211-9045>

Andrew Maiorana <http://orcid.org/0000-0002-0681-1707>

REFERENCES

1 McKenzie A, Bowden J, Zalberg JR, *et al*. A snapshot of consumer engagement in clinical trials in Australia: results of a national survey

- of clinical trial networks and research organisations. *Res Involv Engagem* 2022;8:3.
- 2 Selman LE, Clement C, Douglas M, *et al*. Patient and public involvement in randomised clinical trials: a mixed-methods study of a clinical trials unit to identify good practice, barriers and facilitators. *Trials* 2021;22:735.
- 3 Harrison JD, Auerbach AD, Anderson W, *et al*. Patient stakeholder engagement in research: A narrative review to describe foundational principles and best practice activities. *Health Expect* 2019;22:307–16.
- 4 Dawson S, Banister K, Biggs K, *et al*. Trial Forge Guidance 3: randomised trials and how to recruit and retain individuals from ethnic minority groups-practical guidance to support better practice. *Trials* 2022;23:672.
- 5 Dudgeon P, Wright M, Paradies Y, *et al*. The social, cultural and historical context of aboriginal and torres strait islander Australians. In: *Working together: aboriginal and torres strait islander mental health and wellbeing principles and practice*. 2010: 25–42.
- 6 Australian Bureau of Statistics. Estimates of aboriginal and torres strait islander Australians Canberra. 2021. Available: <https://www.abs.gov.au/statistics/people/aboriginal-and-torres-strait-islander-peoples/estimates-aboriginal-and-torres-strait-islander-australians/latest-release/#cite-window1>
- 7 Australian Institute of Health and Welfare. Deaths by suicide among first nations people. 2023 Available: <https://www.aihw.gov.au/suicide-self-harm-monitoring/data/populations-age-groups/suicide-indigenous-australians>
- 8 Australian Institute of Health and Welfare. Aboriginal and torres strait islander health performance framework - summary report. Canberra AIHW; 2023. Available: <https://www.indigenoushpf.gov.au/report-overview/overview/summary-report/5-tier-2-%E2%80%93-determinants-of-health/employment>
- 9 Dudgeon P, Kelly K, Walker R. Closing the gaps in and through Indigenous health research: Guidelines, processes and practices. *AAS* 2010;81–91.
- 10 Canuto K, Prehn J, Canuto K, *et al*. Further investment in Aboriginal and Torres Strait Islander men's health research funding is urgently required. *Aust N Z J Public Health* 2023;47:100025.
- 11 Luke J, Verbunt E, Bamblett M, *et al*. Is all that glitters gold? Assessing the quality and ethics of 'gold standard' randomised controlled trials conducted in Aboriginal and Torres Strait Islander settings. *First Nations Health and Wellbeing - The Lowitja Journal* 2023;1:100007.
- 12 McGuffog R, Bryant J, Booth K, *et al*. Exploring the Reported Strengths and Limitations of Aboriginal and Torres Strait Islander Health Research: A Narrative Review of Intervention Studies. *Int J Environ Res Public Health* 2023;20:3993.
- 13 National Health and Medical Research Council. Ethical conduct in research with aboriginal and torres strait islander peoples and communities: guidelines for researchers and stakeholders. National Health and Medical Research Council; 2018. Available: <https://www.nhmrc.gov.au/about-us/publications/ethical-conduct-research-aboriginal-and-torres-strait-islander-peoples-and-communities> [accessed 12 Dec 2024]
- 14 Gamble C, Dudley L, Allam A, *et al*. Patient and public involvement in the early stages of clinical trial development: a systematic cohort investigation. *BMJ Open* 2014;4:e005234.
- 15 Stampfer O, Mittelstaedt G, Vásquez VB, *et al*. Guidance for Genuine Collaboration: Insights from Academic, Tribal, and Community Partner Interviews on a New Research Partnership. *Int J Environ Res Public Health* 2019;16:5132.
- 16 National Health and Medical Research Council, Consumers Health Forum of Australia. Statement on consumer and community involvement in health and medical research. 2016. Available: <https://www.nhmrc.gov.au/about-us/publications/statement-consumer-and-community-involvement-health-and-medical-research> [accessed 12 Dec 2024]
- 17 Morley C, Jose K, Hall SE, *et al*. Evidence-informed, experience-based co-design: a novel framework integrating research evidence and lived experience in priority-setting and co-design of health services. *BMJ Open* 2024;14:e084620.
- 18 Brijnath B, Muoio R, Feldman P, *et al*. 'We are not invited': Australian focus group results on how to improve ethnic diversity in trials. *J Clin Epidemiol* 2024;170:111366.
- 19 Liabo K, Boddy K, Bortoli S, *et al*. Public involvement in health research: what does 'good' look like in practice? *Res Involv Engagem* 2020;6:11.
- 20 MacDonald J, Young M, Barclay B, *et al*. The participation of Aboriginal and Torres Strait Islander parents in Australian trials of parenting programs for improving children's health: a scoping review. *Med J Aust* 2024;220:331–5.

- 21 McDonald MD, Brickley B, Pavey T, *et al.* Scale-up of the Australian Fans in Training (Aussie-FIT) men's health behaviour change program: a protocol for a randomised controlled hybrid effectiveness-implementation trial. *BMJ Open* 2023;13:e078302.
- 22 Kwasnicka D, Ntoumanis N, Hunt K, *et al.* A gender-sensitised weight-loss and healthy living program for men with overweight and obesity in Australian Football League settings (Aussie-FIT): A pilot randomised controlled trial. *PLoS Med* 2020;17:e1003136.
- 23 Australian Bureau of Statistics. 2021 census: northern territory Canberra. 2022. Available: <https://www.abs.gov.au/census/find-census-data/quickstats/2021/7>
- 24 Australian Bureau of Statistics. Region summary: darwin. 2024 Available: <https://dbr.abs.gov.au/region.html?lyr=sa4&rgn=701>
- 25 Australian Bureau of Statistics. Darwin: 2021 census aboriginal and/or torres strait islander people quickstats. 2021 Available: <https://abs.gov.au/census/find-census-data/quickstats/2021/IREG703>
- 26 Australian Bureau of Statistics. Causes of death, Australia. 2023. Available: <https://www.abs.gov.au/statistics/health/causes-death/causes-death-australia/latest-release>
- 27 National Heart Foundation of Australia. The heart truth - northern territory. 2024 Available: https://assets.contentstack.io/v3/assets/blt8a393bb3b76c0ede/blt9e3dfb0ff015ad91/66b4355edad6e918cd50731f/Heart_Foundation_NT_Election_Submission.pdf
- 28 Australian Institute of Health and Welfare. 1.05 cardiovascular disease. 2023. Available: <https://www.indigenoushpf.gov.au/measures/1-05-cardiovascular-disease> [accessed 12 Dec 2024]
- 29 Trial Forge. How should a trial team make a decision about the ethnic groups that are important for their trial? 2024. Available: <https://www.trialforge.org/wp-content/uploads/2024/07/How-to-make-a-decision-on-ethnicity-11-07-2024-1.pdf>
- 30 Moore G, Campbell M, Copeland L, *et al.* Adapting interventions to new contexts-the ADAPT guidance. *BMJ* 2021;374:n1679.
- 31 Pfadenhauer LM, Gerhardus A, Mozygemba K, *et al.* Making sense of complexity in context and implementation: the Context and Implementation of Complex Interventions (CICI) framework. *Implement Sci* 2017;12:21.
- 32 O'Neill J, Tabish H, Welch V, *et al.* Applying an equity lens to interventions: using PROGRESS ensures consideration of socially stratifying factors to illuminate inequities in health. *J Clin Epidemiol* 2014;67:56-64.
- 33 Jull J, Whitehead M, Petticrew M, *et al.* When is a randomised controlled trial health equity relevant? Development and validation of a conceptual framework. *BMJ Open* 2017;7:e015815.
- 34 Opozda MJ, Bonson J, Vigona J, *et al.* Navigating the cultural adaptation of a US-based online mental health and social support program for use with young Aboriginal and Torres Strait Islander males in the Northern Territory, Australia: Processes, outcomes, and lessons. *Int J Equity Health* 2024;23:165.
- 35 Vargas C, Whelan J, Brimblecombe J, *et al.* Co-creation, co-design, co-production for public health - a perspective on definition and distinctions. *Public Health Res Pract* 2022;32:3222211.
- 36 Mahony M. Advancing clinical trial engagement, involvement, and participation for people from culturally and linguistically diverse backgrounds. Australian Clinical Trials Alliance; 2023. Available: https://clinicaltrialsalliance.org.au/wp-content/uploads/2023/05/20230502_ACTA_CALD-in-Clinical-Trials-Reccomendations.pdf [accessed 12 Dec 2024]
- 37 Greenhalgh T, Hinton L, Finlay T, *et al.* Frameworks for supporting patient and public involvement in research: Systematic review and co-design pilot. *Health Expect* 2019;22:785-801.
- 38 McClean J, Trigger K. Not just tea and biscuits; the Gold Coast Primary Health Network process of designing, implementing and operating a Community Advisory Council. *Aust J Prim Health* 2017;23:504-8.
- 39 O'Brien P, Prehn R, Rind N, *et al.* Laying the foundations of community engagement in Aboriginal health research: establishing a community reference group and terms of reference in a novel research field. *Res Involv Engagem* 2022;8:40.
- 40 Milroy H, Kashyap S, Collova J, *et al.* Co-designing research with Aboriginal and Torres Strait Islander consumers of mental health services, mental health workers, elders and cultural healers. *Aust J Rural Health* 2022;30:772-81.
- 41 Liamputtong P. Doing research in a cross-cultural context: methodological and ethical challenges. In: *Doing cross-cultural research: ethical and methodological perspectives*. 2008: 3-20.
- 42 Sibthorpe BM, Bailie RS, Brady MA, *et al.* The demise of a planned randomised controlled trial in an urban Aboriginal medical service. *Med J Aust* 2002;176:273-6.
- 43 Dissanayake HU, Gurruwiwi G, Dhurrrkay J, *et al.* Improving cardiometabolic risk factors in Aboriginal and Torres Strait Islander people in northeast Arnhem Land: single arm trial of a co-designed dietary and lifestyle program. *Med J Aust* 2025;222:183-90.
- 44 Moore JE, Mascarenhas A, Bain J, *et al.* Developing a comprehensive definition of sustainability. *Implement Sci* 2017;12:110.