



Researchers' self-reported adherence to ethical principles in Aboriginal and Torres Strait Islander health and medical research and views on improving conduct: a mixed methods study

Kade Booth^{1,2}, Jamie Bryant^{1,2}, Felicity Collis (Gomeroi)^{1,2} , Catherine Chamberlain (Palawa)^{3,4}, Jaquelyne Hughes (Wagadagam)^{5,6}, Breanne Hobden^{1,2}, Kalinda E Griffiths (Yawuru)^{5,7,8}, Mark Wenitong (Kabi Kabi)⁹, Peter O'Mara (Wiradjuri)¹, Alex Brown (Yuin)^{10,11,12}, Sandra J Eades (Noongar)³, Kelvin M Kong (Worimi)^{1,2}, Raymond W Lovett (Wongaibon Ngiyampaa)^{13,14}, Michelle Kennedy (Wiradjuri)^{1,2} 

The known: Aboriginal and Torres Strait Islander people and communities have led the development and revision of key principles and ethical guidelines for health and medical research.

The new: Key ethical principles are self-reported as not being consistently adhered to in Aboriginal and Torres Strait Islander health and medical research. Aboriginal and Torres Strait Islander researchers, and those with more experience in the field, are more likely than other researchers to report excellent adherence to these principles.

The implications: We identify individual and structural considerations to facilitate ethical practice in Aboriginal and Torres Strait Islander health research and hold those who receive funding for such research to account in terms of their practice within the field.

Ethical standards are at the core of health and medical research. Over decades, Aboriginal and Torres Strait Islander people and communities have developed and revised ethical guidelines to protect themselves from the harms of Euro-Western research practice¹⁻⁴ as a direct response to exploitation and unsafe research practices.^{5,6} Today, all research conducted with Aboriginal and Torres Strait Islander people must be consistent with a range of ethical guidelines, containing key ethical principles and how to apply them, to ensure translational benefit and improvement to health and wellbeing.^{3,7}

The number of Aboriginal and Torres Strait Islander health and medical research outputs has doubled in the past decade,⁸ driven by significant government investment.⁹ This means that more researchers, and more communities, are involved in Aboriginal and Torres Strait Islander health research than ever before. Despite the rapid growth in Aboriginal and Torres Strait Islander health and medical research, no evaluation has been conducted to assess how researchers are upholding ethical guidelines and their concurrent ethical principles in their research practice. Given the critical importance of adherence to ethical standards in ensuring safety, respect, and benefit of research for Indigenous communities, it is essential to assess how principles in these guidelines are being applied in practice to inform the need for systemic change.

In this study, we aimed to examine among researchers who had conducted any health or medical research that included

Abstract

Objectives: To examine researchers' reports of adherence to ethical principles in their most recent research project, including factors associated with higher self-reported adherence, and perceptions of how research conduct could be improved.

Study design: Online cross-sectional survey.

Setting, participants: Researchers who had conducted any health or medical research that included Aboriginal and Torres Strait Islander people or their data.

Main outcome measures: Researchers rated their adherence to 15 ethical principles extracted from ethical guidelines in their most recent research project on a 5-point Likert scale (poor to excellent), and reported what they believe is needed to improve the conduct of Aboriginal and Torres Strait Islander health and medical research.

Results: 391 researchers completed the survey. Those with > 10 years' experience in the field were significantly more likely to self-report adhering to all 15 key ethical principles compared with those with ≤ 5 years' experience. Compared with those with ≤ 5 years' experience, those with 6–10 years' experience were significantly more likely to self-report adhering to: engaging community in identifying research priorities (odds ratio [OR], 2.05; [95% confidence interval (CI), 1.23–3.40]; engaging community in developing the research questions (OR, 2.16; 95% CI, 1.32–3.55); and engaging community in research implementation (OR, 2.10; 95% CI, 1.25–3.54). Aboriginal and Torres Strait Islander participants were significantly more likely to self-report adhering to the following principles than non-Indigenous participants: engaging community in identifying research priorities (OR, 1.90; 95% CI, 1.16–3.10); engaging community in developing the research questions (OR, 2.16; 95% CI, 1.30–3.61); engaging community in research implementation (OR, 1.92; 95% CI, 1.14–3.20); embedding Aboriginal governance, advisory and decision making on the project (OR, 2.10; 95% CI, 1.26–3.50); embedding opportunities in the research for capacity building for communities (OR, 1.70; 95% CI, 1.04–2.77); and enacting Indigenous data sovereignty and governance principles (OR, 1.67; 95% CI, 1.02–2.70). Open-ended responses indicated research conduct could be improved by recognition of community as experts, genuine partnerships and engagement, and pathways for Aboriginal and Torres Strait Islander researchers and support to strengthen the field.

Conclusion: Structural and individual change is required to accommodate community priority setting, governance, consultation, leadership and translation in the conduct of ethical Aboriginal and Torres Strait Islander health and medical research. Such changes should be flexible and responsive to calls made by Aboriginal and Torres Strait Islander researchers and communities.

¹The University of Newcastle, Newcastle, NSW. ²Hunter Medical Research Institute, Newcastle, NSW. ³The University of Melbourne, Melbourne, VIC. ⁴Onemda, the University of Melbourne, Melbourne, VIC. ⁵Flinders University, Darwin, NT. ⁶Royal Darwin Hospital, Darwin, NT. ⁷Menzies School of Health Research, Darwin, NT. ⁸The University of New South Wales, Sydney, NSW. ⁹The University of Queensland, Brisbane, QLD. ¹⁰The Kids Research Institute Australia, Adelaide, SA. ¹¹South Australian Health and Medical Research Institute, Adelaide, SA. ¹²Australian National University, Canberra, ACT. ¹³Yardhura Walani, National Centre for Aboriginal and Torres Strait Islander Wellbeing Research, Australian National University, Canberra, ACT. ¹⁴Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, ACT. [✉ michelle.kennedy11@newcastle.edu.au](mailto:michelle.kennedy11@newcastle.edu.au) • doi: 10.5694/mja2.52570

Aboriginal and Torres Strait Islander people or their data: their self-reported adherence to these ethical principles in their most recent research project, including factors associated with higher self-reported adherence for Aboriginal and Torres Strait Islander participants and those with more years of experience in the field; and their perceptions of how ethical research conduct could be improved.

Methods

Murru Minya is a multifaceted exploration of the experiences and perceptions of Aboriginal and Torres Strait Islander community members, researchers and human research ethics committee members about ethical research practices and processes for applying for and approving Aboriginal and Torres Strait Islander health and medical research. The data obtained from researchers are reported across multiple articles to allow a nuanced exploration of ethical research practices, distinct from ethics processes. The reporting of this study adhered to the CONSolidated critERia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement ([Supporting Information](#)).

Positionality

The concept of ethical practice is not new to Aboriginal and Torres Strait Islander peoples. Our ways of being incorporate a praxis of ethics that connects to our relational world view.¹⁰ We acknowledge that the ways in which this research was conducted are deeply rooted in our lived experience and relationality. Consequently, this intrinsically influences how Aboriginal and Torres Strait Islander people have engaged in the *Murru Minya* study. This work is conducted in line with Rigney's Indigenist methodology and aims to "delegitimize racist oppression in research and shift to a more empowering and self-determining outcome"¹¹ through an exploration of the ways in which research is conducted, as examined by a collective of Aboriginal and Torres Strait Islander researchers.

The study was conceptualised and led by MK (Wiradjuri woman), in partnership with other Aboriginal (FC, CC, KEG, MW, PO, AB, SJE, KK, RL) and Torres Strait Islander (JH) researchers, and supported by non-Indigenous researchers (KB, JB, BH) located across these ancestral lands and geographies. We are situated in a range of settings, including academic and research institutions, community-controlled organisations and clinical settings. As such, we understand the duality and complexity of upholding relational research practices within Euro-Western structures.

This work is grounded in our standpoint which, as described by Martin Nakata "is a distinct form of analysis, and is itself both a discursive construction and an intellectual device to persuade others and elevate what might not have been a focus of attention by others".¹² Through an exploration of the field of Aboriginal and Torres Strait Islander health and medical research, by Aboriginal and Torres Strait Islander researchers, this work re-positions Euro-Western standard practices of research¹³ whereby the predominately non-Indigenous researchers are the subjects to Indigenous research as defined by us.

Study design

A cross-sectional survey was administered from 9 August 2022 to 31 May 2023.

Participant eligibility

Researchers who conducted, published or were awarded funding for Aboriginal and/or Torres Strait Islander health or medical research in the previous 5 years were eligible to participate.

Recruitment

Participants were identified using publicly available information. Firstly, corresponding author contact details for researchers who had published any work relating to Aboriginal and/or Torres Strait Islander health or medical research in the previous 5 years were extracted from a recent systematic review.¹⁴ Secondly, contact details for chief investigators of projects relating to Aboriginal and/or Torres Strait Islander health or medical research, identified in National Health and Medical Research Council (NHMRC) and Medical Research Future Fund awarded funding lists for 2021, 2022 and up to March 2023, were obtained. All identified researchers were emailed a link to an online survey. The survey link was also promoted by the Lowitja Institute and the OCHRe (Our Collaborations in Health Research) network.

Data collection

Participants completed a 74-item author-developed survey that included demographic questions, questions about perceived importance of and self-reported adherence to ethical principles that were derived from ethical guidelines in their most recent project, and a question about what they believe is needed to improve the conduct of Aboriginal and Torres Strait Islander health research.

Survey items were developed following a review of peer-reviewed published literature,^{14,15} a review of ethical guidelines,^{1,3,16,17} and collaborative development by the Aboriginal and Torres Strait Islander investigators team.¹⁸ Survey items were developed by incorporating key ethical principles from ethical guidelines^{1,3,16,17,19} ([Supporting Information](#), table 1).

These principles were used to establish 15 key principles to examine researchers' adherence to the five guidelines. To examine self-reported adherence to ethical principles, participants were asked: "Think about the most recent completed project in Aboriginal and Torres Strait Islander health that you were involved in. For this project, how well did you ...". Participants then rated their adherence to principles in their research using a 5-point Likert scale (poor, fair, good, very good, excellent, not applicable). One open-ended question was included to elicit additional responses about what researchers perceived could be done to improve the conduct of research overall "Do you think there is anything needed to improve the conduct of Aboriginal and Torres Strait Islander research? (eg, particular training, resources, etc)".

Survey items were piloted with a small number of researchers to ensure clarity and gather feedback on content and structure

before being finalised. All participants provided informed consent for participation before commencing the survey and survey responses were anonymous. Data were collected and managed using the REDCap (Research Electronic Data Capture) tool.

Data analysis

Quantitative data were analysed using R 4.4.1 (R Foundation for Statistical Computing). Data are presented as counts and percentages for categorical variables. To understand whether there were differences in self-reported adherence to key ethical principles based on Aboriginal or Torres Strait Islander status or years of experience in Aboriginal and Torres Strait Islander health research, separate ordinal regressions were conducted for each combination of these primary predictors against each of the 15 ethical principles. Aboriginal or Torres Strait Islander status or years of experience was included as a fixed effect. For self-reported adherence to the key ethical principles, missing data was imputed using the *mice* (multivariate imputation by chained equations) package (developed by Stef van Buuren and Karin Groothuis-Oudshoorn). To facilitate the selection of appropriate predictors for the imputation model, the *quickpred* function from the *mice* package was used with a minimum threshold for absolute correlation of 0.35, and a minimum proportion of usable cases of 0.4. This function identifies the most suitable predictors for each variable with missing data. For each outcome, the data provided for imputation included variables for all answers to survey questions, with the exception of open-ended text responses. We specified that all variables that would be included in subsequent analysis must be included in the imputation model, with *quickpred* determining the remaining predictors. Specified variables included age, gender, years of experience in Aboriginal research as a continuous numerical variable, and Aboriginal or Torres Strait Islander status. Based on the maximum percentage of missing data for the outcome of interest (24.3%), 25 data sets were imputed with 20 iterations, using predictive mean matching. A seed of 123 was set for reproducibility. A *P* value of <0.05 was considered statistically significant. Given the exploratory nature of the data, we did not correct for multiple comparisons.

Open-ended responses were analysed in Nvivo 12 (Lumivero) by an experienced qualitative researcher (KB) following the template analysis process.²⁰ Data were developed into themes using collaborative yarning²¹ as used in previous work²² (see [Supporting Information](#), qualitative analysis, for further details).

Ethics approval

This research was developed and implemented following national consultation and collaboration with Aboriginal and Torres Strait Islander researchers, Aboriginal community-controlled health organisation representatives and peak bodies, Aboriginal community members, and the National Health Leadership Forum (now known as the National Indigenous Health Leadership Alliance). The research was conducted in line with key ethical guidelines and principles^{3,16,17,23,24} and reporting guidelines. In lieu of an Aboriginal and Torres Strait Islander-led and nationally endorsed process for ethics approval of national Aboriginal and Torres Strait Islander health and medical research, ethics approval for this phase of the research was obtained from the Aboriginal Health and Medical Research Council of NSW Human Research Ethics Committee (1924/22), Australian Institute of Aboriginal and Torres Strait Islander Studies Research Ethics Committee (EO323-20220414) and

University of Newcastle Human Research Ethics Committee (H-2022-0211) to uphold ethical governance, safety and benefit of the research as determined by Aboriginal and Torres Strait Islander people at a state and national level. All participants provided informed consent for participation.

Results

A total of 802 researchers were emailed a link to the survey and 553 researchers commenced the survey. Questions relating to self-reported adherence to ethical principles were answered in full by 391 participants (70.7% completion rate) who were included in the analysis. Seventy of the included participants (18%) were Aboriginal or Torres Strait Islander and 321 (82.1%) were non-Aboriginal or Torres Strait Islander (some of whom were from another Indigenous population. Participant demographics are provided in [Box 1](#). Participants were predominately non-Indigenous (303, 77.5%), predominately identified as a woman or female (297, 76.0%), primarily undertook research at a university (277, 70.8%), and predominately had not participated in ethics training specifically for undertaking Aboriginal and Torres Strait Islander research (247, 63.2%). The sample was predominately made up of early career (76, 19%), mid-career (59, 15%) and senior career (125, 32.0%) researchers.

Researchers' self-reported adherence to ethical principles

Participants' self-reported adherence to ethical principles in their most recent Aboriginal and Torres Strait Islander health research project are reported in [Box 2](#). All "I am unaware" responses were treated as missing during the imputation process. The percentage of missing responses ranged from 4.1% (16 missing responses for "Engage Aboriginal community in identifying research priorities") to 24.3% (95 missing responses for "Pay community members for sitting fees"). Researchers' self-reports of excellent practice was low across all key principles. The practice self-reported as excellent by the highest number of participants was employing Aboriginal team members (171, 43.7%), and the practice self-reported as excellent by the lowest number of participants was translating findings into policy or practice (86, 22%).

Factors associated with self-reported adherence to ethical principles

A summary of the ordinal regression for self-reported adherence to key ethical principles with years of experience in Aboriginal health research as the predictor is provided in [Box 3](#). Those with >10 years' experience in the field were significantly more likely to self-report adhering to all 15 key ethical principles compared with those with ≤5 years' experience. Compared with those with ≤5 years' experience, those with 6–10 years' experience were significantly more likely to self-report adhering to: engaging community in identifying research priorities (OR, 2.05; 95% CI, 1.23–3.40); engaging community in developing the research questions (OR, 2.16; 95% CI, 1.32–3.55); and engaging community in research implementation (OR, 2.10; 95% CI, 1.25–3.54).

A summary of the ordinal regression for self-reported adherence to key ethical principles with Aboriginal or Torres Strait Islander status as the predictor is provided in the [Supporting Information](#), table 2). Aboriginal and Torres Strait Islander participants were significantly more likely to self-report adhering to the following principles than non-Indigenous participants: engaging community in identifying research priorities (OR, 1.90; 95% CI, 1.16–3.10); engaging community in developing the research questions (OR, 2.16; 95% CI, 1.30–3.61);

1 Demographics of the 391 included participants

Participant characteristics	Aboriginal or Torres Strait Islander	Non-Aboriginal or Torres Strait Islander	Total sample
Participants	70	321	391
Age			
< 25 years	2 (3%)	1 (< 1%)	3 (1%)
25–34 years	15 (21%)	28 (8.7%)	43 (11%)
35–44 years	18 (26%)	78 (24%)	96 (25%)
45–54 years	16 (23%)	103 (32.1%)	119 (30.4%)
55–64 years	15 (21%)	77 (24%)	92 (24%)
≥ 65 years	4 (6%)	34 (11%)	38 (10%)
Gender*			
Woman or female	51 (73%)	246 (76.6%)	297 (76.0%)
Man or male	19 (27%)	71 (22%)	90 (23%)
Non-binary	0	1 (< 1%)	1 (< 1%)
Prefer not to say	0	3 (1%)	3 (1%)
Indigenous identity			
Aboriginal	—	—	69 (18%)
Torres Strait Islander	—	—	1 (< 1%)
Aboriginal and Torres Strait Islander	—	—	0
Other Indigenous population	—	—	18 (5%)
None	—	—	303 (77.5%)
Current role/position [†]			
Higher degree by research student (master's degree or PhD)	13 (19%)	28 (8.7%)	41 (10%)
Early career researcher	14 (20%)	62 (19%)	76 (19%)
Mid-career researcher	6 (9%)	53 (17%)	59 (15%)
Senior career researcher	5 (7%)	120 (37%)	125 (32.0%)
Non-academic role (eg, research assistant, project manager, research consultant)	21 (30%)	31 (10%)	52 (13%)
Clinical position	7 (10%)	14 (4%)	21 (5.4%)
Other	4 (6%)	13 (4%)	17 (4.3%)
Primary place of employment for undertaking research [‡]			
University	49 (70%)	228 (71.0%)	277 (70.8%)
Hospital	5 (7%)	38 (12%)	43 (11%)
Research institute	9 (13%)	71 (22%)	80 (20%)
Government agency	9 (13%)	16 (5.0%)	25 (6%)
Aboriginal community-based organisation	11 (16%)	25 (7.8%)	36 (9%)
Mainstream primary care setting	2 (3%)	4 (1%)	6 (2%)
Non-government organisation	8 (11%)	10 (3.1%)	18 (5%)
Private sector	4 (6%)	5 (2%)	9 (2%)
Other	0	2 (1%)	2 (1%)
Location of primary place of employment			
New South Wales	22 (31%)	90 (28%)	112 (29%)
Victoria	15 (21%)	43 (13%)	58 (15%)
Queensland	16 (23%)	76 (24%)	92 (24%)

1 Continued

Participant characteristics	Aboriginal or Torres Strait Islander	Non-Aboriginal or Torres Strait Islander	Total sample
Northern Territory	5 (7%)	29 (9.0%)	34 (9%)
Western Australia	6 (9%)	39 (12%)	45 (12%)
South Australia	3 (4%)	26 (8.1%)	29 (7%)
Tasmania	1 (1%)	1 (< 1%)	2 (1%)
Australian Capital Territory	2 (3%)	13 (4.0%)	15 (4%)
Outside of Australia	0	4 (1%)	4 (1%)
Partner with Aboriginal community-controlled health organisations for any research			
Never	5 (7%)	37 (12%)	42 (11%)
Sometimes	22 (31%)	103 (32.1%)	125 (32.0%)
Often	23 (33%)	107 (33.3%)	130 (33.2%)
Always	20 (29%)	74 (23%)	94 (24%)
Years of experience in Aboriginal research			
≤ 5 years	25 (36%)	91 (28%)	116 (29.7%)
6–10 years	18 (26%)	91 (28%)	109 (27.9%)
> 10 years	27 (39%)	139 (43.3%)	166 (42.5%)
Funding for the most recent project			
\$0 to \$100 000	38 (54%)	145 (45.2%)	183 (46.8%)
\$100 000 to \$500 000	15 (21%)	58 (18%)	73 (19%)
\$500 000 to \$1 000 000	8 (11%)	43 (13%)	51 (13%)
> \$1 000 000	9 (13%)	75 (23%)	84 (21%)
Time commitment to Aboriginal research over career			
Increased	40 (57%)	169 (52.6%)	209 (53.5%)
About the same	21 (30%)	84 (26%)	105 (26.9%)
Decreased	8 (11%)	58 (18%)	66 (17%)
Other	1 (1%)	10 (3.1%)	11 (3%)
Proportion of research time dedicated to Aboriginal and Torres Strait Islander research			
< 25%	6 (9%)	129 (40.2%)	135 (34.5%)
26–50%	7 (10%)	51 (16%)	58 (15%)
51–75%	9 (13%)	42 (13%)	51 (13%)
76–100%	48 (69%)	99 (31%)	147 (37.6%)
Participated in ethics training for Aboriginal and Torres Strait Islander research			
Yes	29 (41%)	115 (35.8%)	144 (36.8%)
No	41 (59%)	206 (64.2%)	247 (63.2%)

LGBTQ+ = lesbian, gay, bisexual, transgender, queer, and other non-heteronormative or non-binary sexual and gender identity; PhD = Doctor of Philosophy. * Participants were asked to describe their gender (not to be conflated with sex). Response options were: "woman or female"; "man or male"; "non-binary"; "prefer not to say"; and "I use a different term" (with an open-text field). Response options included gender and sex identifiers to allow inclusive participant preference in line with guidelines from leading LGBTQ+ health organisation ACON.²⁵ † Early career researcher defined as ≤ 5 years since PhD completion, mid-career researcher defined as > 5 years but < 10 years since PhD completion, and senior career researcher defined as > 10 years since PhD completion. ‡ Participants could select multiple options for this item. ◆

engaging community in research implementation (OR, 1.92; 95% CI, 1.14–3.20); embedding Aboriginal governance, advisory and decision making on the project (OR, 2.10; 95% CI, 1.26–3.50); embedding opportunities in the research for capacity building for communities (OR, 1.70; 95% CI, 1.04–2.77); and enacting Indigenous data sovereignty and governance principles (OR, 1.67; 95% CI, 1.02–2.70).

Researcher perceptions of what is needed to improve the conduct of Aboriginal and Torres Strait Islander health research

A total of 370 participants provided open-ended responses about what they thought was needed to improve the conduct of Aboriginal and Torres Strait Islander health research. Illustrative

2 Participants' self-reported adherence to key ethical guidelines in their most recent research project (391 participants)

Characteristic	Poor	Fair	Good	Very good	Excellent	Not applicable
Engage Aboriginal community in identifying research priorities	21 (5.4%)	48 (12%)	56 (14%)	131 (33.5%)	119 (30.4%)	16 (4.1%)
Engage Aboriginal community in developing the research questions	25 (6.4%)	65 (17%)	71 (18%)	115 (29.4%)	94 (24%)	21 (5.4%)
Embed Aboriginal governance, advisory and decision making on the project	7 (2%)	31 (7.9%)	66 (17%)	123 (31.5%)	148 (37.9%)	16 (4.1%)
Enact Indigenous data sovereignty and governance principles	18 (4.6%)	53 (14%)	96 (25%)	102 (26.1%)	90 (23%)	32 (8.2%)
Develop research agreements with Aboriginal communities	34 (8.7%)	37 (9.5%)	54 (14%)	109 (27.9%)	92 (24%)	65 (17%)
Embed opportunities in the research for capacity building for Aboriginal communities	27 (6.9%)	42 (10.7%)	55 (14%)	107 (27.4%)	129 (33.0%)	31 (7.9%)
Embed opportunities in the research for capacity building of the research team for research with Aboriginal communities (ie, developing cultural capabilities)	20 (5.1%)	49 (13%)	83 (21%)	118 (30.2%)	97 (25%)	24 (6.1%)
Engage Aboriginal community in research implementation	15 (3.8%)	35 (9.0%)	70 (18%)	100 (25.6%)	127 (32.5%)	44 (11%)
Employ Aboriginal project team members	29 (7.4%)	30 (7.7%)	43 (11%)	87 (22%)	171 (43.7%)	31 (7.9%)
Engage Aboriginal community in the analysis and interpretation of findings	31 (7.9%)	40 (10%)	72 (18%)	100 (25.6%)	109 (27.9%)	39 (10%)
Reimburse costs to communities for partnership and involvement	41 (10%)	41 (10%)	52 (13%)	73 (19%)	119 (30.4%)	65 (17%)
Pay community members for sitting fees (ie, for research meetings)	59 (15%)	38 (9.7%)	40 (10%)	66 (17%)	93 (24%)	95 (24%)
Disseminate results back to the community	18 (4.6%)	40 (10%)	62 (16%)	113 (28.9%)	115 (29.4%)	43 (11%)
Involve community members as co-authors on publications and co-presenters on presentations	36 (9.2%)	38 (9.7%)	41 (10%)	81 (21%)	137 (35.0%)	58 (15%)
Translate the findings into policy and/or practice	19 (4.9%)	49 (13%)	80 (20%)	96 (25%)	86 (22%)	61 (16%)

quotes grouped by themes and descriptions are provided in the [Supporting Information](#), table 3). The following five themes were developed:

- Aboriginal and Torres Strait Islander researchers and communities should be recognised as the experts in the field;
- research must be community-driven and built on genuine partnerships and engagement;
- there are some barriers in developing and upholding the relationships and partnerships necessary for ethical research;
- funding and research timelines need to account for partnerships and be flexible to be responsive to community requests and priorities; and
- pathways, investments and supports are needed to advance and strengthen the field.

Discussion

To our knowledge, this is the first Australian mixed methods study to examine researchers' self-reported adherence to key ethical principles derived from ethical guidelines and explore perceptions of how ethical research practice can be improved in Aboriginal and Torres Strait Islander health. We found that researchers' self-reports of excellent adherence were low

across all key principles. Aboriginal and Torres Strait Islander researchers were more likely than non-Indigenous researchers to self-report upholding key ethical principles that prioritise community needs and leadership. In addition, those who had worked in the field for longer were more likely to uphold all key principles than those with less experience in the field, demonstrating the length of time needed to facilitate relational, ethical and translational research practice. Participants in this study acknowledged the need for Aboriginal and Torres Strait Islander researcher and community leadership in practice, but evidence of this through upholding all ethical principles in their research practice was not reported.

While the recent growth in targeted funding for Aboriginal and Torres Strait Islander health is encouraging,^{8,9} it is essential that researchers who are awarded these grants are held to account in upholding all ethical principles within ethical guidelines developed and reviewed by Aboriginal and Torres Strait Islander people and communities in their practice.¹⁻³ Our study showed that these principles are not consistently being upheld, according to self-reporting by researchers in the field. Less than a quarter of respondents reported excellent practice in translating research findings, involving communities in developing the research questions or upholding data sovereignty. Sustaining respectful and reciprocal relationships and embedding community-led

3 Summary of ordinal regression for self-reported adherence to key ethical research guidelines, with years of experience in Aboriginal and Torres Strait Islander health research as a predictor

Outcome*	Odds ratio (95% CI) [†]	P
Engage Aboriginal community in identifying research priorities		
6–10 years' experience	2.05 (1.23–3.40)	0.006
> 10 years' experience	2.41 (1.46–4.02)	0.001
Engage Aboriginal community in developing the research questions		
6–10 years' experience	2.16 (1.32–3.55)	0.002
> 10 years' experience	3.03 (1.85–4.97)	< 0.001
Embed Aboriginal governance, advisory and decision making on the project		
6–10 years' experience	1.11 (0.67–1.81)	0.70
> 10 years' experience	2.05 (1.26–3.36)	0.004
Enact Indigenous data sovereignty and governance principles		
6–10 years' experience	0.98 (0.60–1.61)	0.95
> 10 years' experience	2.53 (1.54–4.18)	< 0.001
Develop research agreements with Aboriginal communities		
6–10 years' experience	1.45 (0.88–2.41)	0.15
> 10 years' experience	1.95 (1.17–3.24)	0.011
Embed opportunities in the research for capacity building for Aboriginal communities		
6–10 years' experience	1.48 (0.90–2.41)	0.12
> 10 years' experience	2.25 (1.37–3.70)	0.001
Embed opportunities in the research for capacity building of the research team for research with Aboriginal communities (ie, developing cultural capabilities)		
6–10 years' experience	1.48 (0.90–2.40)	0.12
> 10 years' experience	2.03 (1.24–3.36)	0.005
Engage Aboriginal community in research implementation		
6–10 years' experience	2.10 (1.25–3.54)	0.005
> 10 years' experience	2.41 (1.46–3.98)	0.001
Employ Aboriginal project team members		
6–10 years' experience	1.30 (0.77–2.17)	0.335
> 10 years' experience	1.92 (1.15–3.21)	0.012
Involve community members as co-authors on publications and co-presenters on presentations		
6–10 years' experience	1.51 (0.90–2.52)	0.12
> 10 years' experience	2.36 (1.39–3.99)	0.001
Translate the findings into policy and/or practice		
6–10 years' experience	1.28 (0.76–2.20)	0.35
> 10 years' experience	2.12 (1.25–3.61)	0.005

3 Continued

Outcome*	Odds ratio (95% CI) [†]	P
Engage Aboriginal community in the analysis and interpretation of findings		
6–10 years' experience	1.51 (0.90–2.50)	0.12
> 10 years' experience	3.00 (1.80–5.01)	< 0.001
Reimburse costs to communities for partnership and involvement		
6–10 years' experience	1.21 (0.72–2.04)	0.47
> 10 years' experience	1.97 (1.18–3.30)	0.01
Pay community members for sitting fees (ie, for research meetings)		
6–10 years' experience	1.09 (0.65–1.83)	0.74
> 10 years' experience	1.90 (1.14–3.13)	0.013
Disseminate results back to the community		
6–10 years' experience	1.13 (0.68–1.87)	0.64
> 10 years' experience	1.90 (1.15–3.15)	0.013

* Reference category is ≤ 5 years of experience. † Odds of reporting a higher level of adherence to the specific key ethical guidelines. ♦

knowledge translation activities are necessary to work ethically with communities.^{10,26} Knowledge translation is essential and must be accounted for in the research process by researchers when developing and implementing Aboriginal and Torres Strait Islander health and medical research,²⁶ this is critical to transforming the limited benefit reported by communities in research.⁶ Researchers must apply all principles, or they cannot uphold rights and safety in research practice.

Important changes, such as Indigenous Research Excellence Criteria²⁷ as a mandatory requirement for funding, must be supported with evidence of Aboriginal and Torres Strait Islander leadership, partnerships, and a strong track record in Aboriginal and Torres Strait Islander health beyond Euro-Western metrics. Peer-reviewed publications and protocols should evidence ethical research practices, including co-authoring with community and outlining how partnerships will be formalised and upheld. Likewise, evidence of appropriate payments and reimbursement to community for partnership on research, and how research findings will translate into policy or practice, should be articulated and measured alongside scientific rigour. Individual researchers must take responsibility for conducting research that addresses the needs and priorities of community, and effectively translates results. In our study, we found low or not applicable reports of these principles.

Our findings demonstrate that Aboriginal and Torres Strait Islander researchers and those with longevity in the field are more likely to report embedding ethical principles in their research practice. It is therefore imperative that Aboriginal and Torres Strait Islander health is not considered a hobby space for those situated in other areas of health research, and rather an area of expertise that privileges those with experience and accountability in upholding ethical research practice. Institutions and funding bodies have an important role to play in upholding ethical practice by holding researchers to

Continues

account. While priority schemes and targets exist,²⁸ research funding is predominately provided to non-Indigenous researchers working within institutions.²⁹ The allocation of funds through mainstream institutions to non-Indigenous researchers impacts on the conduct of Aboriginal and Torres Strait Islander health and medical research and its constraints by Euro-Western colonial structures and epistemologies. Participants reported barriers and limitations in funding and timeline structures that do not account for the time to maintain respectful partnerships or implement knowledge translation. While we recognise that the onus should ultimately be on the researcher to account for such activities, funding bodies could improve processes to facilitate responsive research. Similar calls have been made in Canada regarding ethical principles and practices, acknowledging the urgency for “the ability to respond to changing community needs and to honour community values”.³⁰ There are opportunities to diversify funding to uphold community-led processes, as implemented by the Lowitja Institute, in administering grant funding; such processes could be expanded to align with funding targets and priorities.

Reassigning funding and power to community-controlled organisations has the potential to address some of the discrepancies in upholding ethical principles identified in our study and affords opportunity to privilege the implementation of high quality, ethical research practice to improve the lives of Aboriginal and Torres Strait Islander people. Such calls align with the endorsed position of Aboriginal and Torres Strait Islander people in 1987, calling for greater control of funding, acknowledging it as: “the most effective way of maintaining appropriate control over the ethical behaviour of Researchers and their initiatives”.³¹ Community-controlled organisations and institutes are best placed to administer, support and oversee responsive research practice, and acknowledge appropriate aspects within grants as led by local communities, such as knowledge translation, reimbursement, governance and partnerships.

In acknowledging the strength and importance of Aboriginal and Torres Strait Islander leadership and expertise in the field, structural and systemic changes are required to enable Aboriginal and Torres Strait Islander leadership and decision making, and to create a more stable workforce with a focus on career longevity and pathways. While it is promising that non-Euro-Western measures of expertise are being acknowledged, such as in NHMRC’s move to increase community-based researchers’ traditional pathways,²⁴ participants in our study call for strategic planning and mechanisms to support Aboriginal and Torres Strait Islander health and medical research, including the growing workforce.

Indigenous experts and leaders have long been at the forefront of research and scholarship,^{10,11,13,21} and our findings reaffirm that Aboriginal and Torres Strait Islander researchers and communities are best placed to drive and deliver ethical research in this field. The ways that Aboriginal and Torres Strait Islander health and medical research is conceptualised, conducted and funded should be determined by community involved to uphold self-determination. Institutional and local-level opportunities should continue to be established as responsive and tailored to community-level needs.

Limitations

The findings of our study should be interpreted with the following limitations in mind. Due to the recruitment strategies used, we are unable to report a study participation rate, which impacts the generalisability of our study findings. Also, self-selection bias may have affected the representativeness of the study sample, as those researchers who chose to participate may have different perceptions and practices compared with those who did not. As a result, our study findings may not reflect the practices and perceptions of all researchers engaged in Aboriginal and Torres Strait Islander research. In addition, the majority of participants were not Aboriginal or Torres Strait Islander, which means that our findings largely reflect the perceptions and practices of non-Indigenous researchers working in this space. Finally, while the survey was developed based on a review of peer-reviewed literature and ethical guidelines and was refined based on community feedback and pilot testing, we do not have quantitative data to assess the validity and reliability of the survey items.

Conclusion

We found that key ethical guidelines, containing key ethical principles, designed for and by Aboriginal and Torres Strait Islander people and communities are not consistently being upheld in research practice. In addition, our study showed that Aboriginal and Torres Strait Islander researchers, and those who have worked longer in the field are more likely to self-report excellent practice in terms of key ethical principles. Aboriginal and Torres Strait Islander health and medical research should not be considered a hobby space for those in other areas of research; rather, it should be conducted by those with relevant expertise and experience in the field. Funding bodies, institutions and researchers share joint responsibility to uphold ethical research practice. Individual and systemic changes must reflect the calls of Aboriginal and Torres Strait Islander people and communities and embed accountability into research practice.

Acknowledgements: We acknowledge that this research was conducted across unceded lands of Aboriginal and Torres Strait Islander peoples and pay respect to the elders and caretakers of the lands, seas, sky and waterways. We acknowledge that Aboriginal and Torres Strait Islander peoples are the knowledge holders and pay respect to their wisdom and processes for knowledge productions and knowledge sharing. We acknowledge Maggie Walter for contributing to the establishment of the study. We also wish to acknowledge the governing body for this project, the National Health Leadership Forum, and thank them for sharing their wisdom and expertise to ensure that this research has tangible benefit and impact for our people.

This project is funded by an NHMRC Ideas Grant (APP2001767) led by the University of Newcastle. This research was supported by funding from the Hunter Medical Research Institute Equity in Health and Wellbeing Research Program. This research was also supported by an Australian Government Research Training Program scholarship. Breanne Hobden is supported by a Colin Dodds Australian Rotary Health Postdoctoral Fellowship (G1801108). Michelle Kennedy is funded by an NHMRC Early Career Fellowship (1158670). Alex Brown is supported by an NHMRC Senior Research Fellowship (GNT1137563). Jaquelyne Hughes is funded by an NHMRC Emerging Leader Fellowship (1174758). Kalinda Griffiths is funded under the UNSW Scientia Program. Funders had no role in the design, implementation or analysis of this research.

Competing interests: No relevant disclosures.

Data statement: In line with Indigenous data sovereignty and Aboriginal and Torres Strait Islander ethical research principles, no data sharing is available from this study. ■

Received 21 June 2024, accepted 25 November 2024

© 2025 AMPCo Pty Ltd.

- 1 Australian Institute of Aboriginal and Torres Strait Islander Studies. AIATSIS code of ethics for Aboriginal and Torres Strait Islander research. Canberra: AIATSIS, 2020. <https://aiatsis.gov.au/sites/default/files/2022-02/aiatsis-code-ethics-jan22.pdf> (viewed June 2024).
- 2 National Health and Medical Research Council. National statement on ethical conduct in human research 2007 (updated 2018) [rescinded]. Canberra: NHMRC, 2007 (updated 2018). <https://www.nhmrc.gov.au/about-us/publications/national-statement-ethical-conduct-human-research-2007-updated-2018> (viewed June 2024).
- 3 National Health and Medical Research Council. Ethical conduct in research with Aboriginal and Torres Strait Islander peoples and communities: guidelines for researchers and stakeholders. Canberra: NHMRC, 2018. <https://www.nhmrc.gov.au/about-us/resources/ethical-conduct-research-aboriginal-and-torres-strait-islander-peoples-and-communities> (viewed June 2024).
- 4 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: 79.
- 5 Bainbridge R, McCalman J, Tsey K, Brown C. Inside-out approaches to promoting Aboriginal Australian wellbeing: evidence from a decade of community-based participatory research. *Int J Health Wellness Soc* 2011; 1: 13-27.
- 6 Bainbridge R, Tsey K, McCalman J, Kinchin I, et al. No one's discussing the elephant in the room: contemplating questions of research impact and benefit in Aboriginal and Torres Strait Islander Australian health research. *BMC Public Health* 2015; 15: 696.
- 7 National Health and Medical Research Council. Funding agreement 2023. Canberra: NHMRC, 2023. <https://www.nhmrc.gov.au/funding/manage-your-funding/nhmrc-funding/funding-agreement> (viewed June 2024).
- 8 Jennings W, Spurling G, Shannon B, et al. Rapid review of five years of Aboriginal and Torres Strait Islander health research in Australia – persisting under-representation of urban populations. *Aust N Z J Public Health* 2021; 45: 53-58.
- 9 Australian Department of Health. Medical Research Future Fund 2nd 10-year investment plan (2022-23 to 2031-32). 2022. <https://www.health.gov.au/resources/publications/medical-research-future-fund-2nd-10-year-investment-plan-2022-23-to-2031-32?language=en> (viewed June 2024).
- 10 Moreton-Robinson A. Relationality: a key presupposition of an Indigenous social research paradigm. In: Andersen C, O'Brien JM, editors. Sources and methods in Indigenous studies. Abingdon and New York: Routledge, 2017; pp. 69-77.
- 11 Rigney L-I. Internationalization of an Indigenous anticolonial cultural critique of research methodologies: a guide to Indigenist research methodology and its principles. *Wicazo Sa Review* 1999; 14: 109-121.
- 12 Nakata M. The cultural interface. *Aust J Indig Educ* 2007; 36 Suppl: 7-14.
- 13 Smith LT. Decolonizing methodologies: research and Indigenous peoples. London: Zed Books, 1999.
- 14 Kennedy M, Bennett J, Maidment S, et al. Interrogating the intentions for Aboriginal and Torres Strait Islander health: a narrative review of research outputs since the introduction of Closing the Gap. *Med J Aust* 2022; 217: 50-57. <https://www.mja.com.au/journal/2022/217/1/interrogating-intentions-aboriginal-and-torres-strait-islander-health-narrative>
- 15 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.
- 16 National Health and Medical Research Council. Keeping research on track II: a companion document to Ethical conduct in research with Aboriginal and Torres Strait Islander peoples and communities: guidelines for researchers and stakeholders. Canberra: NHMRC, 2018. <https://www.nhmrc.gov.au/about-us/resources/keeping-research-track-ii> (viewed June 2024).
- 17 Aboriginal Health and Medical Research Council of NSW. NSW Aboriginal health ethics guidelines: key principles. Sydney: AH&MRC, 2023. <https://www.ahmrc.org.au/resource/nsw-aboriginal-health-ethics-guidelines-key-principles> (viewed Dec 2024).
- 18 McGuffog R, Chamberlain C, Hughes J, et al. *Murru Minya*: informing the development of practical recommendations to support ethical conduct in Aboriginal and Torres Strait Islander health research: a protocol for a national mixed-methods study. *BMJ Open* 2023; 13: e067054.
- 19 South Australian Health and Medical Research Institute. South Australian Aboriginal Health Research Accord. <https://sahmri.org.au/south-australian-aboriginal-health-research-accord> (viewed June 2024).
- 20 Brooks J, McCluskey S, Turley E, King N. The utility of template analysis in qualitative psychology research. *Qual Res Psychol* 2015; 12: 202-222.
- 21 Bessarab D, Ng'andu B. Yarning about yarning as a legitimate method in Indigenous research. *Int J Crit Indig Stud* 2010; 3: 37-50.
- 22 Booth K, Roberts-Barker K, Foster J, et al. "It's changed my life. I'm not smoking anymore. I don't want to smoke anymore": exploring the acceptability of mailout smoking cessation support for and by Aboriginal and Torres Strait Islander people. *Nicotine Tob Res* 2024; <https://doi.org/10.1093/ntr/ntae065> [online ahead of print].
- 23 Huria T, Palmer SC, Pitama S, et al. Consolidated criteria for strengthening reporting of health research involving indigenous peoples: the CONSIDER statement. *BMC Med Res Methodol* 2019; 19: 173.
- 24 National Health and Medical Research Council. Road map 3: a strategic framework for improving Aboriginal and Torres Strait Islander health through research. NHMRC: Canberra, 2018. <https://www.nhmrc.gov.au/about-us/publications/road-map-3-strategic-framework> (viewed June 2024).
- 25 ACON. Recommended community indicators for research. https://www.acon.org.au/wp-content/uploads/2016/03/ACON-Recommended-Community-Indicators-for-Research_PDF.pdf (viewed Oct 2024).
- 26 Kennedy M, Morton Ninomiya ME, Morton Ninomiya M, et al. Knowledge translation in Indigenous health research: voices from the field. *Med J Aust* 2024; 221: 61-67. <https://www.mja.com.au/journal/2024/221/1/knowledge-translation-indigenous-health-research-voices-field>
- 27 National Health and Medical Research Council. Indigenous Research Excellence Criteria (IREC) review: consultation report. Canberra: NHMRC, 2023. <https://www.nhmrc.gov.au/about-us/publications/irec-review-consultation-report> (viewed June 2024).
- 28 National Health and Medical Research Council. MRFF – 2024 Indigenous health research grant opportunity (GO6752). <https://www.nhmrc.gov.au/funding/find-funding/mrff-2024-indigenous-health-research-grant-opportunity-go6752> (viewed June 2024).
- 29 National Health and Medical Research Council. 2022 Aboriginal and Torres Strait Islander report card of achievements. <https://www.nhmrc.gov.au/sites/default/files/documents/Indigenous%20Guidelines/Report-Card-2022/2022-Report-Card-of-Achievements.pdf> (viewed June 2024).
- 30 Grenz J. University ethics boards are not ready for Indigenous scholars. *Nature* 2023; 616: 221.
- 31 National Aboriginal and Islander Health Organisation. Report of the National Workshop on Ethics of Research in Aboriginal Health. Canberra: NAIHO, 1987. <http://esvc000239.bne001tu.server-web.com/Downloads/CRIAH%20Tools%20for%20Collaboration%20ver1%20December2007/1%20Background/Report%20of%20the%20National%20Workshop%20on%20Ethics%20in%20Research%20in%20Aboriginal%20health.pdf> (viewed June 2024). ■

Supporting Information

Additional Supporting Information is included with the online version of this article.