Artificial intelligence for healthcare in Australian Indigenous communities

Scoping project to explore relevance

VACCHO
Victorian Aboriginal Community Controlled Health Organisation

NSICHS
BRISBANE

CENTRE OF EXCELLENCE FOR
Aboriginal Digital in Health

Australian Indigenous HealthInfoNet

CSIRO

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Important disclaimer

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The project team would also like to acknowledge the Traditional Custodians of the lands on which we met during consultations and thank them for the warm welcomes offered into their communities.

This scoping project was funded by a CSIRO Indigenous Research Grants (IRG) Program (ISEP ID: 64). The CSIRO IRG Program creates two-way learning opportunities that advances Indigenous science, strengthens Indigenous capability and supports self-determination in research agenda setting.

Artwork

'Eternal Wisdom, Infinite Innovation' artwork by Rachael Sarra, working with Gilimbaa. Elements from this artwork (page 21) are used throughout this report.

Contents

List of terms and abbreviations/acronyms

AI	Artificial intelligence
CSIRO	Commonwealth Scientific and Industrial Research Organisation
AEHRC	The Australian e-Health Research Centre
VACCHO	Victorian Aboriginal Community Controlled Health Organisation
ATSICHS	The Aboriginal and Torres Strait Islander Community Health Service
CEADH	Centre of Excellence for Aboriginal Digital in Health
ACCHO	Aboriginal Community Controlled Health Organisation
IDG	Indigenous data governance
IDS	Indigenous data sovereignty

Foreword

This report has been developed based on 24 months of relationship building and two-way knowledge exchange between CSIRO's Australian e-Health Research Centre (AEHRC) and national leaders in Aboriginal and Torres Strait Islander health. This project addresses the lack of consultation and consideration of Aboriginal and Torres Strait Islander peoples in the development of and inclusion in the responsible AI framework.

Why?

As the application and technological advancements of artificial intelligence (AI) continues to expand, a range of ethical concerns have surfaced regarding its healthcare implementation in Australia. Existing AI frameworks are both overly general and insufficiently tailored for healthcare, offering little guidance on how to honour cultural diversity. Notably, there is a profound gap in our understanding of how AI can, and should, serve Aboriginal and Torres Strait Islander communities.

Given that national policy and protocol are still in their infancy we lack clarity on the role AI might play in improving Aboriginal and Torres Strait Islander healthcare outcomes. Addressing this gap is crucial, if Indigenous voices are not actively included in shaping AI's future, its potential to support and empower Indigenous healthcare will remain largely unrealised.

What?

The potential benefits of AI to the healthcare system are too immense to ignore. AI research and development is commonly centralised in Eurocentric approaches, using data from homogenous societal cultures, neglecting differing characteristics, cultures, and knowledge systems. By privileging Aboriginal and Torres Strait Islander voice and knowledge systems, this report provides an evidence base of the applicability, concerns and opportunities of AI as it relates to Aboriginal and Torres Strait Islander health.

Who?

The project is co-led by three Aboriginal scientists, Dr Andrew Goodman, Dr Lucy Shinners and Prof. Ray Mahoney together with the e-Health Research Collaboration for Aboriginal and Torres Strait Islander Health (The eHealth Collaboration). The eHealth Collaboration (established in 2019) membership includes Indigenous and non-Indigenous members from QAIHC, AEHRC (CSIRO), The University of Queensland's Centre for Online Health, and School of Public Health, the Queensland University of Technology, Flinders University and eHealth, Queensland Health.

The Project Team (Goodman, Shinners and Mahoney) come with a breadth of cultural and discipline representation. Members of the Project Team have been conducting research and health service activities in Indigenous communities for over 15 years and hold a strong commitment to actioning areas of need identified by community. Dr Andrew Goodman is an Aboriginal man and Postdoctoral Fellow at AEHRC leading a research portfolio exploring novel approaches and/or solutions to improve Aboriginal and Torres Strait Islander peoples' health and wellbeing using eHealth. Prior to his PhD journey Dr Goodman spent more than 13 years as an Indigenous health worker in Queensland alongside rural and remote Aboriginal and Torres Strait Islander people in the discipline of cardiac and healthcare services. Prof. Ray Mahoney is an Aboriginal man and Research Director with the Indigenous Science and Engagement team as well as Principal Research Scientist at CSIRO. Prof. Mahoney has worked extensively to codesign, develop, implement and evaluate best practice public health and prevention programs to close the gap in health and wellbeing between Indigenous and non-Indigenous people. External collaborator Dr Lucy Shinners is a critical care nurse, researcher and Chief Operating Officer who specialises in exploring the impact of AI in healthcare. Dr Shinners is particularly interested in the development and application of AI in healthcare, the social dimensions of implementation, and the education that is required to prepare the healthcare workforce.

How?

This project employed a consultation methodology through conducting independent workshops with key stakeholders to collaboratively identify priorities and unanswered questions relevant to AI applications in Aboriginal and Torres Strait Islander healthcare.

Summary

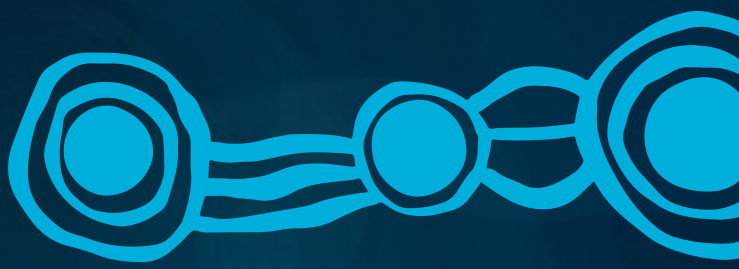
Artificial intelligence (AI) is revolutionising healthcare and expanding into previously human-exclusive areas, bringing breakthroughs and challenges.

Over the past decade, considerable efforts have been made to reconcile ethical considerations with the introduction of AI in healthcare internationally.

In Australia current AI principles are not tailored for healthcare and are overly abstract, lacking consideration of cultural diversity. Data quality and fairness are pivotal for the success of any AI-based solution, the mismanagement of data biases poses a potential source of discrimination and injustice.

There is a gap in the inclusion and priority of Aboriginal and Torres Strait Islander people's voices in the fast-developing world of AI. Yet, due to the national policy and protocol infancy of this resource in healthcare applications, we simply do not know the relevance and priority AI plays in Aboriginal and Torres Strait Islander healthcare.

We employed a consultation methodology approach through conducting independent workshops with key stakeholders to identify priorities and unanswered questions relevant to AI applications in Aboriginal and Torres Strait Islander healthcare. By building an evidence base, the project clarifies the relevance of AI to Aboriginal and Torres Strait Islander healthcare and identifies concerns associated with its use and deployment in healthcare.



Introduction

AI is rapidly reshaping global healthcare, with potential benefits accompanied by the risk of perpetuating bias and inequity if not implemented responsibly (Chustecki, 2024).

In Australia, there is growing recognition that AI guidelines must be tailored to the unique needs and circumstances of Aboriginal and Torres Strait Islander communities (Abdilla et al., 2021). Indeed, the National Policy Roadmap for AI in Healthcare calls for collaboration with First Nations peoples to develop coordinated, culturally appropriate approaches (Coiera & Magrabi, 2023). However, AI research and development often rely on datasets derived from Eurocentric contexts, overlooking the rich diversity of Indigenous knowledge systems and health priorities (Celi et al., 2022; Yogarajan et al., 2022).

Internationally, there is increasing momentum to address these gaps with Indigenous groups. Collaborative initiatives in countries such as Canada and New Zealand provide frameworks for integrating Indigenous perspectives into digital health innovations, underscoring the importance of inclusive data governance and cultural safety (Ray, 2024; Rice et al., 2024). However, despite these promising initiatives, limited research exists that focuses on the implications of AI-driven healthcare for Aboriginal and Torres Strait Islander communities in Australia.

A recent review exploring values and priorities in digital health for these communities highlights the importance of trust, cultural safety and data sovereignty (Chelberg et al., 2024).

Since data quality and fairness are pivotal for the success of any AI-based solution, the mismanagement of data biases used for AI research and development poses a potential source of discrimination and injustice. Unfortunately, due to Indigenous data paradox (Maiam nayri Wingara Indigenous Data Collective and Australian Indigenous Governance Institute, 2022; Walter, 2018), Indigenous healthcare data is commonly misrepresented and negatively biased. Therefore, responsible, and ethical guidelines reflecting Indigenous Data Sovereignty (IDS) need to be enshrined into existing frameworks. There is a gap in the inclusion and priority of Aboriginal and Torres Strait Islander people's voices in the fast-developing world of AI. Yet, due to the national policy and protocol infancy of this resource in healthcare applications, we simply do not know the relevance and priority AI plays in Aboriginal and Torres Strait Islander health.

The scope of this project was to build on these emerging conversations by directly engaging with Aboriginal Community Controlled Health Organisations (ACCHOs) and other key stakeholders in a consultation-based methodology. Through independent workshops, we sought to identify the most pressing priorities and questions surrounding AI applications in Aboriginal and Torres Strait Islander health. These dialogues were intended to provide an evidence base that could inform future AI protocols and policies, ensuring that Indigenous perspectives and concerns are recognised and addressed.

This work is necessary because, without explicit attention to cultural context and Indigenous data sovereignty (IDS), AI technologies risk reinforcing systemic inequalities and undermining trust in healthcare. By bringing Indigenous voices to the forefront, this project aims to catalyse a more inclusive AI development and governance ecosystem, strengthening the cultural safety and efficacy of AI-driven health in Australia and beyond.

Project overview

In 2023, scientists from CSIRO's AEHRC commenced discussions of how we may address current AI principles that are not tailored for healthcare and are overly abstract, lacking consideration of cultural diversity. To this end two Aboriginal CSIRO scientist (Goodman and Mahoney) sought to advance and scope the relevance of AI to Aboriginal and Torres Strait Islander communities and identify any concerns associated with its use and deployment in healthcare.

Methodology

The project is underpinned by Aboriginal participatory action research (APAR) (Dudgeon et al., 2020). APAR uses critical reflexivity and transformative Indigenous research methodology to privilege Indigenous voice and knowledge systems. Furthermore, APAR focusses on tangible outcomes driven by participant agenda setting, reflexivity of the researcher's power base, and a purposeful advocacy of participant partnership.

Independent workshops using a modified James Lind Alliance priority setting process (JLA) were conducted with stakeholders. JLA involves a five-stepped process where interested individuals collaborate to identify priorities and unanswered questions in specific conditions or areas of health and social care, in this case focusing on AI in Aboriginal and Torres Strait Islander health (see Figure 2).

Local protocols were adhered to and respected by having trusted community members introduce the workshops, conducting Welcomes or Acknowledgements of Country, and introducing the project team and their connections. Presentations on the purpose of the visit, CSIRO, and AI in health settings were provided at the commencement of the workshops. The workshops were informal, allowing stakeholders to explore the implications and considerations of AI without being restricted by predetermined questions. The preliminary breakout session involved groups discussing and recording their perspectives on AI and Indigenous health led by discussion prompts (see Figure 3).

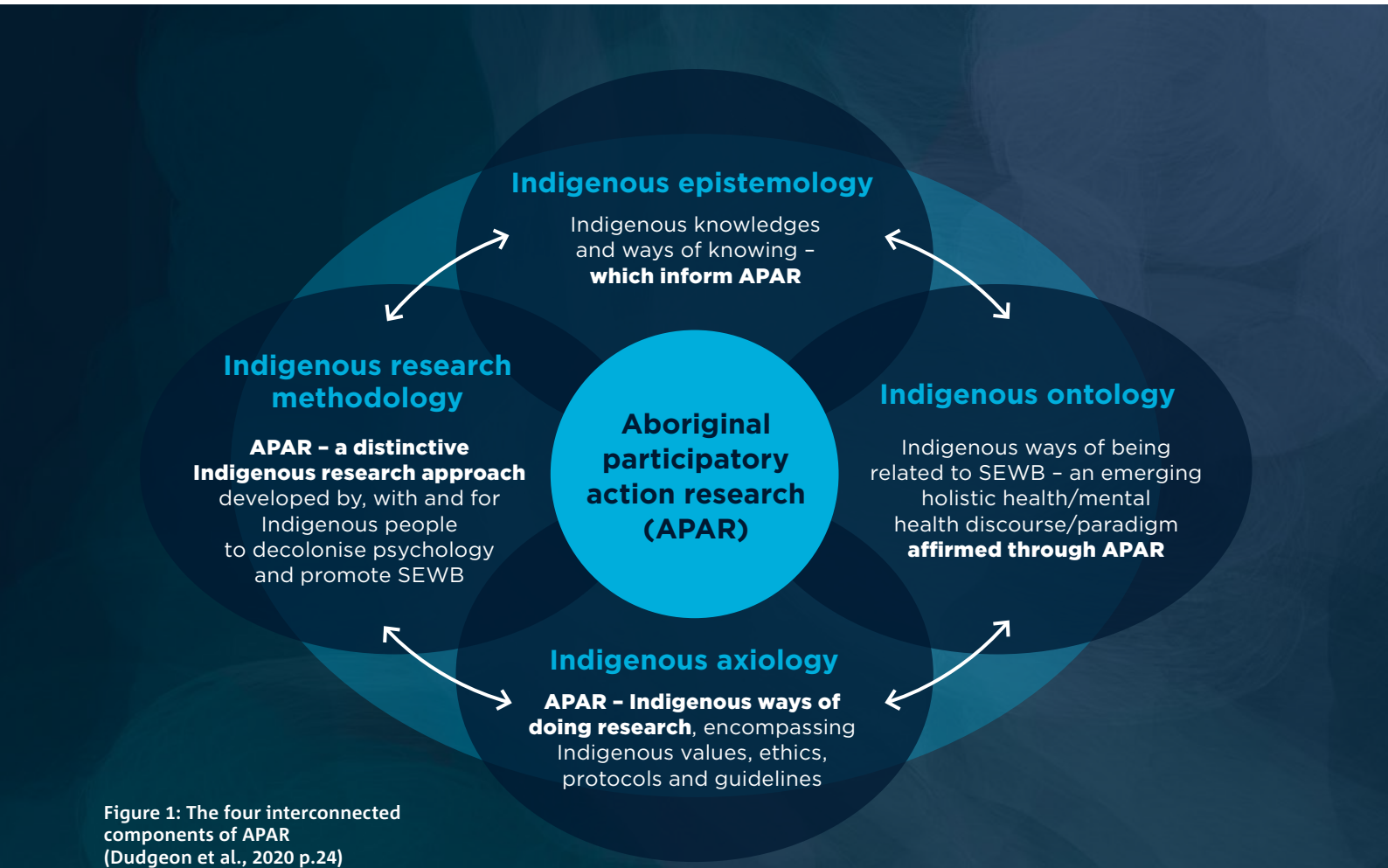


Figure 1: The four interconnected components of APAR (Dudgeon et al., 2020 p.24)

The groups then presented and discussed their breakout group perspectives as a whole group. An interactive online software (mentimeter.com) was used for anonymous individual feedback from participants elicited by discussion prompts on AI and Indigenous healthcare. These responses were then presented to the whole group and discussed as a coalition of knowledge holders to confirm priorities and unanswered questions relevant to project partners.

The approach prioritised creating a culturally safe environment responsive to local settings. Following each independent workshop a summary report was developed and shared with project partners outlining the findings from the interactive group work to adhere to principles of IDG. This scoping project employed a consultation methodology through conducting independent workshops with key stakeholders to identify priorities and unanswered questions relevant to AI applications in Aboriginal and Torres Strait Islander healthcare.

Group discussion	Small group discussion and ranking of priorities
Review	Whole group review of aggregated ranking of priorities
Group discussion	Small group discussion to identify Top 5–10 priorities
Review	Whole group review of aggregated Top 5–10 priorities
Identify	Whole group discussion to confirm priorities and unanswered questions relevant to AI applications in Aboriginal and Torres Strait Islander health.

Figure 2: James Lind Alliance priority setting process

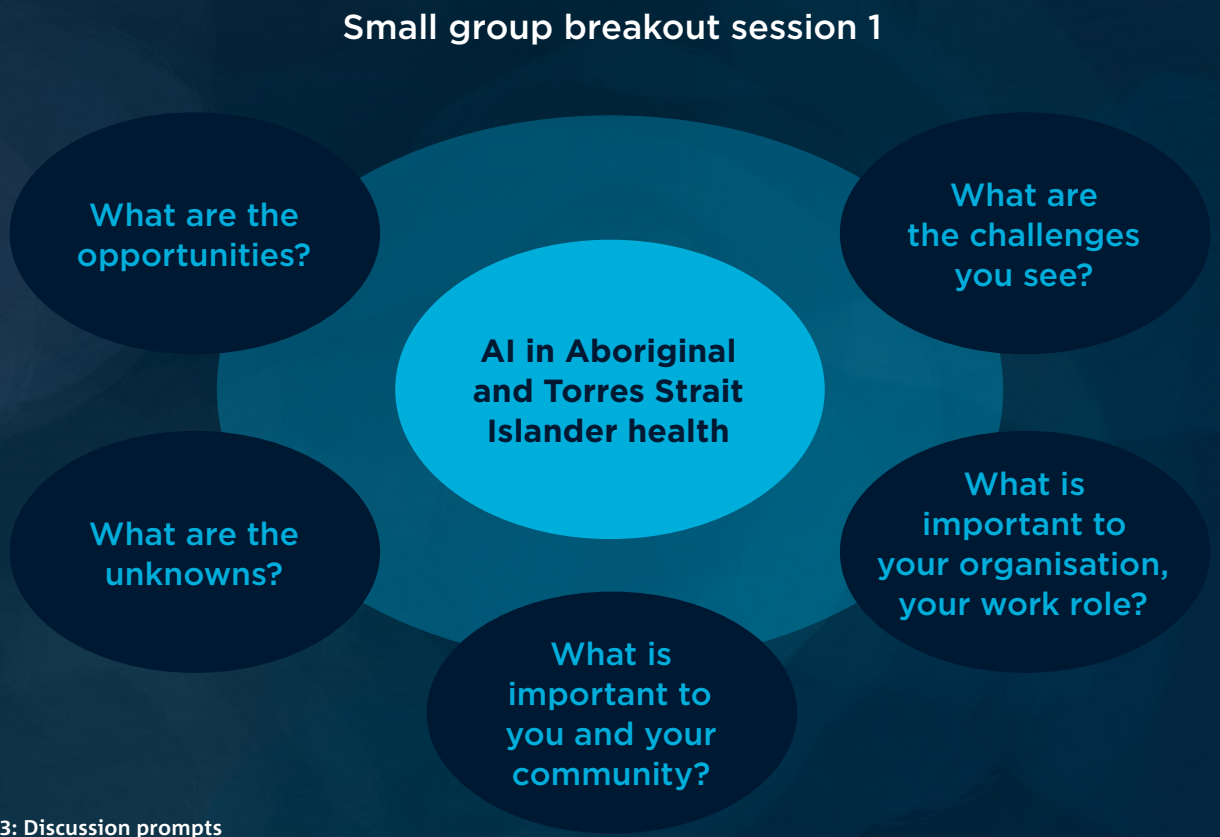


Figure 3: Discussion prompts

Value statement

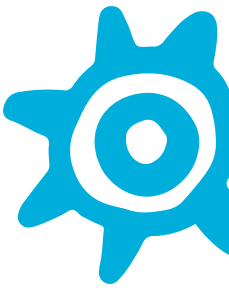
This scoping project does not represent a formal research project and consultation was undertaken accordingly. As such, the involvement of patients and the broader community were not within the scope, and representatives of partner organisations were invited to participate.

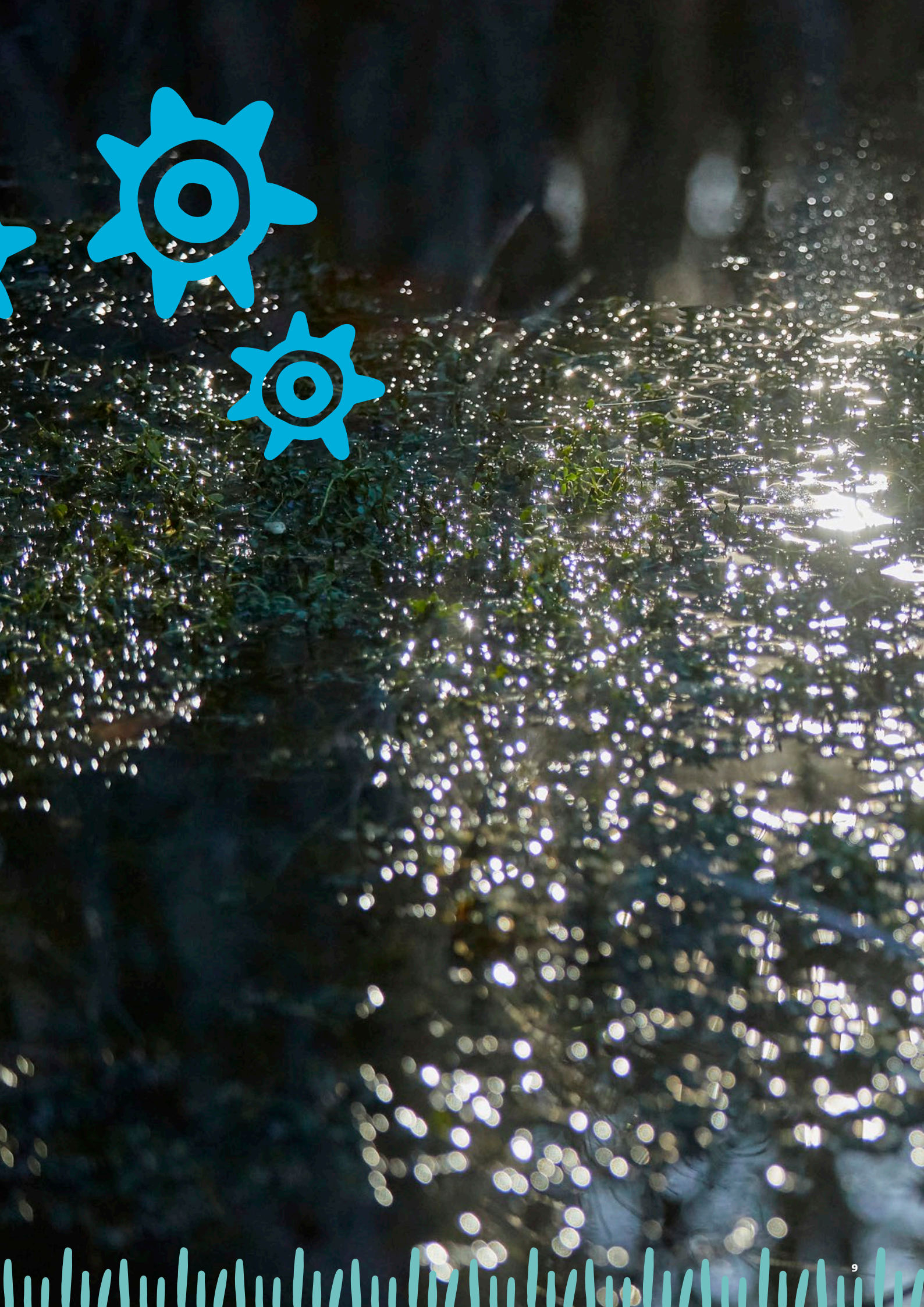
To ensure strong accountability of the process to community needs and cultural protocols, the conduct of this scoping project was informed by the CONSolIDated critERia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement (Huria et al., 2019) (Supporting information, Appendix A).

The CONSIDER statement contains eight domains (see Table 1), aimed at strengthening the reporting of research involving Indigenous Peoples.

Table 1: CONSIDER statement domains

Domain 1: research governance
Domain 2: research prioritisation
Domain 3: research relationships
Domain 4: research methodologies and methods
Domain 5: research participation
Domain 6: research capacity
Domain 7: research analysis and interpretation
Domain 8: research dissemination





Project partners

Australian e-Health Research Centre

The Commonwealth Scientific and Industrial Research Organisation (CSIRO), The Australian e-Health Research Centre (AEHRC)

aehrc.csiro.au

CSIRO is Australia's national science agency. CSIRO's AEHRC is the largest digital health research program in Australia, comprising offices across Brisbane, Sydney, Melbourne, Canberra, Adelaide and Perth. As CSIRO's national digital health research program, AEHRC is the leading national research facility applying information and communication technology to improve health services and clinical treatment for Australians. AEHRC's vision is to develop and deploy leading edge digital innovations in the health care domain to improve service delivery in the Australian health care systems.

Victorian Aboriginal Community Controlled Health Organisation (VACCHO)

vaccho.org.au

VACCHO is the peak representative for the health and wellbeing of Aboriginal and Torres Strait Islander people in Victoria. We have 33 member Aboriginal Community Controlled Organisations providing support to over 65,000 Aboriginal and Torres Strait Islander people across the state. We lead and support Aboriginal Community Control and the broader health and social services sector to deliver transformative health and wellbeing outcomes for Aboriginal communities in Victoria.

The Aboriginal and Torres Strait Islander Community Health Service (ATSICHS Brisbane)

atsichsbrisbane.org.au

ATSICHS Brisbane is a not-for-profit, community-owned health and human services organisation delivering on the unique health and wellbeing needs of Aboriginal and Torres Strait Islander people in Brisbane and Logan. ATSICHS Brisbane started as an initiative of local Aboriginal and Torres Strait Islander people searching for a means to play a more direct role in their own health outcomes half a century ago in response to a mainstream health system that was failing community. ATSICHS Brisbane is now the largest, most comprehensive Aboriginal medical health service in Queensland, providing services to more than 17,000 Aboriginal and Torres Strait Islander people.

CENTRE OF EXCELLENCE FOR
Aboriginal Digital
in Health

The Centre of Excellence for Aboriginal Digital in Health (CEADH)

vaccho.org.au/centre-of-excellence-for-aboriginal-digital-in-health-ceadh

CEADH seeks to strengthen and unite Aboriginal and Torres Strait Islander peoples from all communities across the nation to have an Aboriginal led, governed, and designed, voice and opinion for digital in health. CEADH champions Aboriginal-led recommendations for digital in health technologies, respecting the diversity of 250+ languages, nations, clans, and communities across Australia.

Australian Indigenous
HealthInfoNet

The Australian Indigenous HealthInfoNet (HealthInfoNet)

healthinfonet.ecu.edu.au

The HealthInfoNet is a comprehensive Internet resource that informs practice and policy in Aboriginal and Torres Strait Islander health by making up to date research and other knowledge readily accessible via any platform. For over 27 years, working in the area of knowledge exchange with a population health focus, the HealthInfoNet makes research and other information freely available in a form that has immediate, practical utility for practitioners and policy-makers in Aboriginal and Torres Strait Islander health, enabling them to make decisions based on the best available evidence. The Australian Indigenous HealthInfoNet's mission is to contribute to improving the health of Australia's Aboriginal and Torres Strait Islander people and assist in 'closing the gap' by facilitating the sharing and exchange of relevant, high-quality knowledge.

Scoping project findings

Across four consultation workshops between November 2023 and May 2025, 53 participants, including executive leaders, service managers, researchers, administrators, clinicians and information technologists, shared their perspective on AI in Aboriginal and Torres Strait Islander healthcare. Workshop commentaries were systematically reviewed by the project team and synthesised into thematic categories revealing three overarching priorities for the future of AI initiatives in Aboriginal and Torres Strait Islander health.

Priorities and recommendations

AI health literacy and appropriateness

Across all four workshops, participants stressed that any use of AI must first make cultural sense to Aboriginal and Torres Strait Islander communities and be transparent about the data on which it rests. Requests for case-study teaching reflected a desire to see technology translated into day-to-day practice.

‘What benefits have already been realised using AI in healthcare?’

Participants were consistent in their advocacy for ‘community’ and how their patients, colleagues, end-users, mob will be affected by the possibility of AI in the healthcare sector.

> **‘How do we educate community on use of AI within the healthcare setting when building the AI algorithm? Will it be led by community or have an Indigenous lens? How can I trust the AI output?’**

Participants repeatedly emphasised that meaningful engagement with AI must begin with clear, culturally resonant education to build trust.

> **‘On the whole we don’t know what it is. It’s a mystery and this creates trust issues.’**

Cultural appropriateness was viewed as inseparable from literacy and participants stressed that training materials should be led by community voices and framed through an Indigenous lens to build confidence in any future system outputs.

> **‘Can you teach it culture?’**

Participants were hesitant to trust AI due to lack of evidence to meet the diverse sociocultural perspectives of Aboriginal and Torres Strait Islander peoples.

> **‘What data set will be used to train the AI? Will one data set cover deliver of all mob in Australia?’**

Recommendations

- That there is appropriate ‘real world’ education with end-users, workforce, and Indigenous organisations regarding the benefits, risks, and opportunities of AI deployment within health. (e.g. case study approach to education)
- That the advancement of AI potential is approached and built on a foundation of competency, integrity, and goodwill.

Indigenous data sovereignty and Indigenous data governance

Considerations of IDS and IDG were a common theme throughout all consultation workshops. They emphasised that custodianship of these datasets must rest with Aboriginal and Torres Strait Islander organisations. Furthermore, there were questions raised around incentives and governance for Indigenous organisations that host Indigenous datasets.

‘Who will own the data set? Who will update the data set?’

Participants spoke to the vital importance the AI algorithms play in viewing and analysing the data in healthcare, but that their use must be tempered by an obligation to uphold cultural integrity, prevent bias, and honour IDS. The risk of misrepresentation remained front of mind.

> **‘...our mob’s data that is owned by other organisations could be exploited via other AI models and misrepresent...’**

Participants wanted to ensure that AI algorithms are trained with a strengths-based lens, which account for the diverse needs of community and incorporate safeguards to prevent a ‘continuation of deficit discourse from poor data in’. Perhaps the most relevant questions that affirm this priority was:

> **‘How can AI sit alongside the principles of data sovereignty and data governance?’**

Recommendations

- That AI learning models are trained with an Indigenous lens to account for the diverse needs of community.
- That AI algorithms and learning models mitigate Eurocentric biases and the deficit data discourse as it relates to Aboriginal health.
- That Indigenous organisations are incentivised for the custodianship, gatekeeping, and maintenance of Indigenous health data.
- That access to Indigenous data should be structured to ensure Indigenous controlled review and regular evaluation process.

Self-determination in AI development and implementation

Participants were clear that Indigenous organisations need to be involved from the outset, not brought in late, so that any AI solution aligns with local capacity, community readiness, and complements, rather than replaces, existing services.

‘Are there any Aboriginal and Torres Strait Islander led AI companies?’

During the consultation workshops participants localised potential opportunities AI holds in the Aboriginal and Torres Strait Islander healthcare sector relevant to their space of influence, ranging from clinical decision support to patient self-management tools. They emphasised that community-led education would build practical digital skills while ensuring any new application aligns with local health priorities and cultural contexts.

> **‘Should we take a role in educating and supporting community to understand and use AI in their general life?’**

Concerns centred on the downstream impact of erroneous or biased information.

> **‘Once the wrong information is in the system and it’s used by AI, how can it then be corrected and who’s responsible for correcting it?’**

Participants advocated for clearly defined governance pathways that specify who audits, remediates and reports data errors, and called for transparent version-tracking so that communities can verify when and how corrections are made. Many question whether sufficient, community-approved data exist to justify AI investment.

> **‘Whether there is enough data that is culturally appropriate, and approved by mob, to be used as a training dataset to make investing in AI worthwhile.’**

Participants highlighted that without an adequately representative dataset, models risk misinterpreting Indigenous health contexts and perpetuating deficit narratives. This underscores the need for ongoing data curation driven by Indigenous data-governance principles.

> **‘If we wait for good policies and cultural protocols before we use it, other players might start using it ‘for’ or ‘about’ us in the meantime. How long do we wait?’**

Recommendations

- That AI development should partner with key representatives (e.g., patients, service providers, executive leaders, Indigenous organisations) in the AI design appropriate to the purpose, people, setting, and delivery.
- That Indigenous organisations are in the driver’s seat of, first defining appropriateness before preparing, educating and hosting AI systems for their workforce and their community.


Small Group Breakout Session 2

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Appendix A
CONSIDER statement

Domain 1: Governance

Two Indigenous scientists and project leaders (Dr Andrew Goodman and Prof. Ray Mahoney) had legitimate decision-making responsibilities, ownership, authority with gate checking, visible presence and power across the process, resources, ideas and benefits. Oversight and guidance of this project was provided by the e-Health Research Collaboration for Aboriginal and Torres Strait Islander Health (The eHealth Collaboration). The eHealth Collaboration (established in 2019) membership includes Indigenous and non-Indigenous eHealth engaged stakeholders across from: the Australian eHealth Research Centre (CSIRO); Queensland University of Technology's Australian Centre for Health Service Innovation; The University of Queensland's Centre for Online Health, and School of Public Health; Flinders University; Queensland Health and Queensland Aboriginal and Islander Health Council. The group is focused on establishing an evidence base for technology in health care specific to the interests and needs of Aboriginal and Torres Strait Islander people. This project actively sought to counter the long history of health research that has resulted in limited direct benefit to Aboriginal and Torres Strait Islander peoples by privileging Aboriginal and Torres Strait Islander ways of knowing, doing and being at all levels of the approach, design and delivery of the Scoping Project.

This Scoping Project was funded by a CSIRO Indigenous Research Grants (IRG) Program (ISEP ID: 64). The CSIRO IRG Program creates two-way learning opportunities that advances indigenous science, strengthens Indigenous capability and supports self-determination in research agenda setting.

Domain 2: Prioritisation

There is a valid gap in the inclusion and priority of Aboriginal and Torres Strait Islander people's voices in the fast-developing world of artificial intelligence (AI). Yet, due to the national policy and protocol infancy of this resource in healthcare applications, we simply do not know the relevance and priority AI plays in Aboriginal and Torres Strait Islander healthcare. The Scoping Project was undertaken as a preliminary exploration to determine the relevant priority AI plays in Aboriginal and Torres Strait Islander healthcare. Through a process of respectful engagement and partner-initiated interest, project leaders (AG, RM) were invited to in person meetings with potential partner organisations to discuss the proposed Scoping Project. Following local review each partner provided a letter of support (LoS) to participate in the project. Each letter of support outlined the agreement that the project is delivered representative and accountable too Indigenous Knowledges, Indigenous Data and Indigenous Cultural and Intellectual Property including the production of a CSIRO and partner co-published report. This project employed a consultation approach through independent workshops with key stakeholders to identify priorities and unanswered questions relevant to AI applications in Aboriginal and Torres Strait Islander healthcare. Through this process, the project has built an evidence base on the applicability, opportunities and concerns regarding AI usage in Indigenous healthcare. If further investigation of AI use in Indigenous health is identified as a result of findings, it is envisaged that a research framework including relevant ethical approval would be commissioned.

Domain 3: Relationships
(Indigenous stakeholders/participants and research team)

CSIRO AEHRC has developed an Indigenous Health research program established in 2019 that is building an evidence base for technology in health care specific to the interests and needs of Aboriginal and Torres Strait Islander people's led by Principal Research Scientist and Bidjara man Prof. Ray Mahoney. This has included establishing an evidence base for technology in health care specific to the interests and needs of Indigenous people, through the facilitation of e-Health research (with respect to consultation, co-design, trialling, or evaluation) and the development of technologies to support remote monitoring and chronic disease risk factor management. Dr Andrew Goodman is an Aboriginal man and Postdoctoral Fellow with the Indigenous Health research program at AEHRC. Dr Goodman is leading a research portfolio exploring novel approaches and/or solutions to improve Aboriginal and Torres Strait Islander peoples' health and wellbeing using eHealth, including this Scoping Project. Dr Goodman's PhD thesis titled 'Can an integrated mHealth platform assist in the management of hypertension for Aboriginal and Torres Strait Islander people?' is a strengths-based exploration and assessment of mHealth for the management of hypertension within an Indigenous healthcare setting.

At consultation workshops local protocols were respected including Acknowledgement of Country, and introduction of the project team covering who they are (name, role, personal, cultural and professional connections), where they come from (personal and professional), and why they are there (purpose). Following introductions of attendees, a presentation on the purpose of the visit, CSIRO, and AI in healthcare settings was provided for context. The consultation workshops were largely informal exploring the implications and considerations of AI as it relates to key stakeholders and was not restricted by pre-determined and narrow questions. The approach was be structured to ensure a culturally safe environment responsive to local protocols.

Domain 4: Methodologies

The project is underpinned by Aboriginal participatory action research (APAR) (Dudgeon et al., 2020). APAR uses critical reflexivity and transformative Indigenous research methodology to privilege Indigenous voice and knowledge systems. APAR is a cultural evolution of participatory action research (PAR) within Aboriginal and Torres Strait Islander science discipline. APAR focusses on tangible outcomes driven by participant agenda setting, reflexivity of the researcher's power base, and a purposeful advocacy of participant partnership. APAR mandates a cultural reflexive lens and accountability to human research driven by its Indigenous methodology structure. This is evident with Indigenous researchers (AG, RM) being pivotal in conceptualising the study design, analysis, and interpretation of the findings on which the report is based. To ensure an ethical and culturally accountable approach, the project leaders applied the CONSolIDated critERia for strengthening the reporting of health research involving Indigenous Peoples (CONSIDER) statement. (Huria et al., 2019).

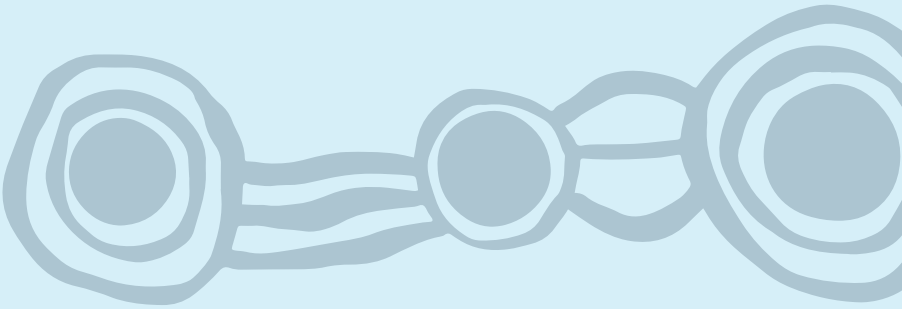
A consultation approach was undertaken for the scoping project as it enabled flexibility to suit the preferences of key stakeholders. A series of independent workshops with key stakeholders was undertaken using the James Lind Alliance priority setting process (JLA). JLA uses a series of five step-by-step phases with interested individuals to collaboratively to identify priorities and uncover unanswered questions in specific conditions or areas of healthcare (in this case AI as it relates to Aboriginal and Torres Strait Islander health).

Domain 5: Participation

This scoping project employs a joint governance model with eHealth discipline participation provided by the eHealth Collaboration, and cultural leadership participation provided by two Indigenous researchers (AG and RM). Indigenous researchers and founding members of the Collaboration, RM and AG provided governance and oversight of the scoping project. Where appropriate partner organisations representing the community-controlled sector were remunerated for the coordination of face-to-face workshops. Through a process of respectful engagement and partner-initiated interest, project leaders (AG, RM) were invited to in person meetings with potential partner organisations to discuss the proposed scoping project. Following local review each partner provided a letter of support (LoS) to participate in the project. Each letter of support outlined the agreement that the project is delivered representative and accountable too Indigenous Knowledges, Indigenous Data and Indigenous Cultural and Intellectual Property including the production of a CSIRO and partner co-published/authored report. Commentary from the consultations and the outcomes of the JLA were sent to each individual partner organisation following the workshops to 1) ensure transparent inclusion of knowledge production and 2) allow for participant discussion, critique and endorsement.

Domain 6: Capacity

Two Aboriginal CSIRO staff (RM, AG) co-lead this project. Prof. Mahoney provided senior scientist/ academic support to early career researcher Goodman. Members of the project team have been conducting research and health service activities in Indigenous communities for over 15 years and hold a strong commitment to actioning areas of need identified by community. Indigenous Postdoctoral Fellow Goodman has gained valuable project management experience along with authorship acknowledgement. The project team are committed to the support and cultural exchange of our non-Indigenous collaborators in this field. Dr Shinners is an early career researcher who specialises in exploring the impact of artificial intelligence in healthcare. This project offered immeasurable opportunities for Dr Shinners to develop relationships with the community-controlled sector and provide a knowledge and cultural exchange that will shape the researcher Dr Shinners will become. All publications resulting from this project will include Indigenous people and organisations as authors, reflective of their role and respectful of the unique and valuable knowledges and experience they brought to this project.

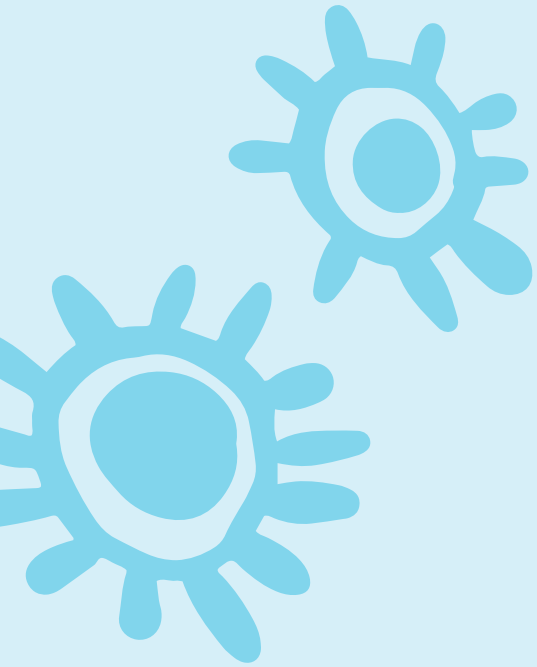


Domain 7: Analysis and interpretation

Aligning with APAR, the methodology privileges Indigenous worldviews in data analysis. This is evident by having Indigenous researchers leading the analysis and interpretation of the results. Moreover, our authorship is inclusive of self-reflexive non-Indigenous authors skilled in their own cultural values and knowledge positioning. Indigenous evaluation is a foundational principle guiding the knowledge exchange purpose within this project. This project aimed to use a consultation approach to build an evidence base of the applicability and concerns of AI as it relates to Aboriginal and Torres Strait Islander health. Commentary from the consultations and the outcomes of the James Lind Alliance Priority Setting Process were grouped into themes that are identified from the independent workshops. This analysis was conducted by the project team (Mahoney, Shinners, Goodman) to ensure a breadth of cultural and discipline representation. Importantly, analysis and interpretation of results took a strengths-based approach to focus on the enthusiasm, relevance and opportunities AI provides in Aboriginal and Torres Strait Islander health.

Domain 8: Dissemination

This body of work has a primary aim to build an evidence base through consultation and collaboration with key stakeholders as it relates to the implications of AI use in Aboriginal and Torres Strait Islander health. Following each independent workshop a summary report was developed and shared with project partners outlining the findings from the interactive group work to adhere to protocols and foundational elements of APAR. This correspondence ensured transparency of the process and provided an opportunity for participant critique. Similarly, this current document (final report) was shared with project partners for review and approval prior to publication. This document communicating the findings is a CSIRO and partner co-authored report, and as such is delivered representative and accountable to Indigenous knowledges, Indigenous data and Indigenous cultural and intellectual property. Dissemination plans will be decided by individual partners ensuring foundation of cultural competency, integrity, and goodwill.



Artwork story

The artwork was created in 2024 to represent CSIRO's commitment to reconciliation and to tell our reconciliation story. The artwork is used to strengthen relationships between Aboriginal and Torres Strait Islander communities and CSIRO. Elements from this artwork are used throughout this report.

The title of the artwork is 'Eternal Wisdom, Infinite Innovation'.

The artwork concept and narrative was developed by Rachael Sarra. Rachael is a proud First Nations woman from Goreng Goreng Country and artist working with Gilimbaa.

Eternal Wisdom, Infinite Innovation

As the stars dance across the night sky, guiding us with knowledge and wisdom, and when the spirit travels Country whispering through the leaves, the water and the breeze, we are reminded that we are the longest continuing culture in the world.

At the heart of everything there exists a sacred meeting ground between past and the future – a place where the timeless wisdom of culture converges with the boundless potential of modern innovation.

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology.

CSIRO. Creating a better future for everyone.

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