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Implementing an Indigenous Research Methodology to Develop a Culturally Appropriate Survey and Yarning Protocol: Challenges With Retention of the Aboriginal Health, Ageing and Disability Workforce

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ABSTRACT

Aboriginal staff play a vital part in improving culturally safe and effective services and supports for Aboriginal people. Research on the Aboriginal workforce helps advance a culturally safe environment for workers and Aboriginal people accessing health and community services. This study aims to identify the barriers and enablers to workforce retention of Aboriginal people who do not have university qualifications and who work in the health, disability and aged care sectors in NSW, Australia. Using an Indigenous research model, this mixed-method study aimed to recruit 150 front-line workers and 50 organisational leaders. Data collection consisted of online surveys that collected quantitative and qualitative data, followed by in-depth interviews and yarn ups with a subset of 20 frontline workers and 20 organisational leaders who had completed the survey. Participants were recruited through snowballing techniques, such as utilising networks and relationships in the communities. The online surveys were completed by participants via an emailed link and phone completion. Indigenous Research Methodologies were comprehensively applied throughout the study and included the development of a strong Indigenous governance structure. These methods are internationally recognised approaches to achieving high participation rates in Indigenous-specific research and to ensuring that all phases of research, including design and the interpretation of results, are driven and managed from an Indigenous standpoint.

1 | Introduction

Indigenous peoples experience health and social inequality in colonised nations (UN Permanent Forum on Indigenous Issues (UNPFII) 2015). The poor health and social inequality experienced by Indigenous peoples contributes to a significant gap in mortality/comorbidity between Indigenous and non-Indigenous

peoples at a global level (UNPFII 2015; United Nations 2016). The United Nations (UN) has collaborated with Indigenous people around the world to encourage governments to address inequity in health and disability, with the first discussion held in 1923. The UN has since published many reports on the importance of Indigenous-driven health services and a trained Indigenous workforce. A meeting of the Expert Meeting on

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Indigenous Persons with Disability in 2016 advised the UN that an Indigenous disability workforce is key to ensuring the rights of people with disabilities are upheld (United Nations 2016).

In Australia, the disparity in health and disability inequality is marked by a 10-year life expectancy gap between Indigenous and non-Indigenous populations (Australian Bureau of Statistics (ABS) 2020). In this article, we will use the term Aboriginal (unless otherwise stated in government documents or in a quote, and when discussing the international context) as commonly preferred by the Indigenous people of New South Wales (NSW), Australia, where this study was conducted. In 2008, the Australian Government developed the Closing the Gap (CTG) strategy, a long-term whole-of-government strategy to address selected areas of health, infant mortality, education, social determinants of health and employment, and life expectancy for Aboriginal people by 2030. Building a vibrant Aboriginal health and community services workforce formed part of CTG initiatives (Prime Minister and Cabinet 2019). In 2020, a new CTG agreement was established that recognised that ‘to close the gap, Aboriginal people must determine, drive and own the desired outcomes alongside all governments’ (Prime Minister and Cabinet 2019, 2020).

The Aboriginal health workforce is essential to providing quality healthcare to Aboriginal families as it fosters cross-cultural fertilisation between medical and health systems and Aboriginal culture, as well as ways of knowing, being, and doing within Lore. This partnership approach has resulted in the development of Implementation Plans currently being delivered nationally. The new CTG agreement has committed the Australian Government to establish programmes and services that empower the Aboriginal community-controlled sector and workforce. Aboriginal communities have been building this workforce across health and social services sectors since the 1960s (Deroy and Schütze 2019). Today there are over 140 Aboriginal Community Controlled Health Services (ACCHS) nationally, with the first established in Redfern, NSW in 1971 (Jackson Pulver et al. 2010; National Disability

Services 2010). Nevertheless, both national and international peak health and disability organisations have called for further development to improve Aboriginal workforce retention and increase the number of Aboriginal staff in clinical positions.

In 2021, 56% of the staff in ACCHSs nationally were Aboriginal people (NACCHO 2021). However, non-Aboriginal people occupied most health and medical positions (such as doctors, dentists, registered nurses) (Baeza and Lewis 2010; Russell et al. 2017; Fitts et al. 2021). An article exploring remote area health workforce retention (Wakerman et al. 2019) reported that the annual turnover rates of Aboriginal health practitioners were extremely high in the Northern Territory (NT). For Aboriginal people, the registered health professional employment rate was highest in *Major cities* (1,245 per 100,000), followed by *Inner and Outer regional areas combined* (793 per 100,000) and *Remote and Very remote areas combined* (366 per 100,000) (Australian Institute of Health and Welfare (AIHW) 2021) (see Figure 1). It is apparent that challenges exist to the establishment of an adequate Aboriginal health workforce in regional and remote areas.

There is growing recognition of the challenges to maintaining a culturally safe and competent workforce over many decades (Gilroy et al. 2017; Fitts et al. 2021). The Australian Government’s Health Performance Report (AIHW 2021) recognises the high level of staff turnover and poor representation of Aboriginal staff in the health and community services sectors. A study of the remote clinical workforce for the NT Department of Health concluded that the staff turnover of nurses and Aboriginal Health Practitioners (AHP) was around 65% between 2013 and 2015 (Russell et al. 2017). The majority of remote health workers in the NT were either Fly-in-fly-out/Drive-in-drive-out (FIFO/DIDO) or were on casual/part-time contracts (Fitts et al. 2021). The situation is similar in NSW with a high reliance on the FIFO/DIDO workforce (Gwynne et al. 2022).

Poor retention affects overall employment rates in remote regions and is also costly (Humphreys et al. 2009; Fitts et al. 2021).

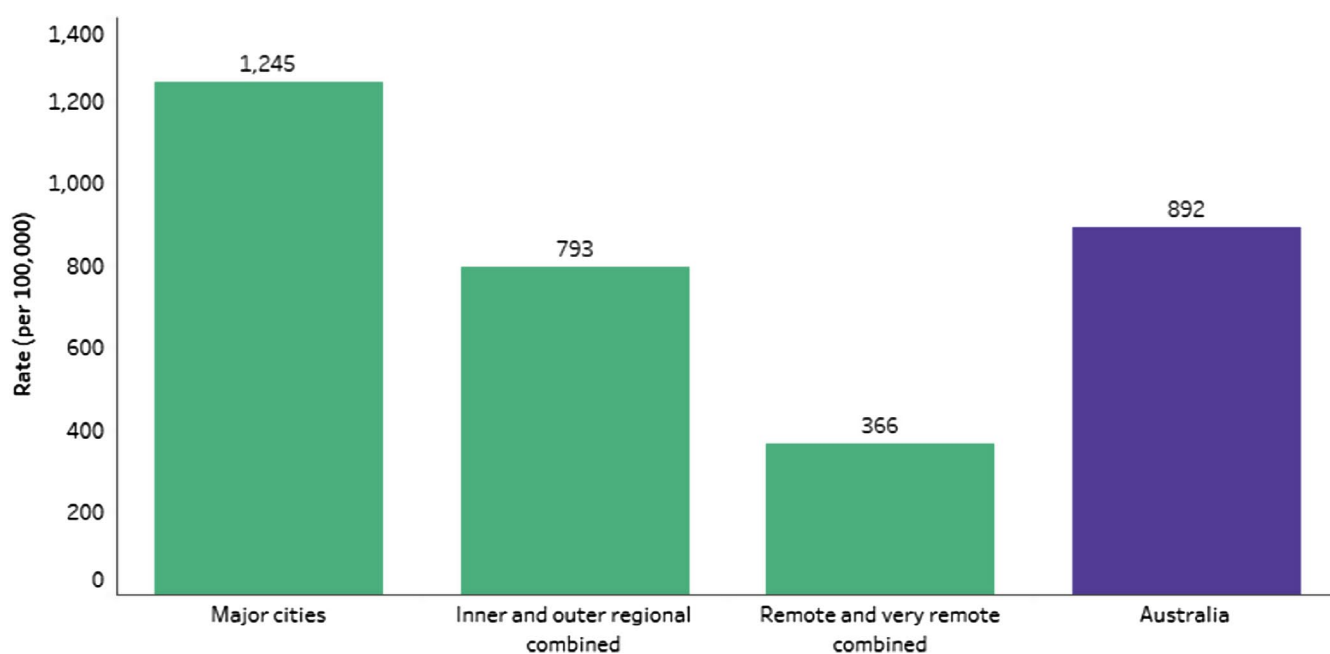


FIGURE 1 | Rate of Indigenous Australians registered in health professions, by remoteness area, 2021 (AIHW 2021).

A national study into rural and remote health services concluded that the costs for recruiting Aboriginal health workers were heavily influenced by the remoteness of the community and ranged from \$3534 to \$43,600 (Humphreys et al. 2009). The Department of Social Services reported in their NDIS National Workforce Plan (2021) that due to recruitment and retention challenges faced by the Aboriginal workforce 'Aboriginal and Torres Strait Islander people ... experience additional barriers to accessing supports where the current workforce is unable to meet their language and cultural needs'. Workforce recruitment and retention issues include culturally unsafe workplaces, workplace burnout, and poor opportunities for career progression (Lai et al. 2018).

Explicit strategies are needed to make workplaces culturally safe, and the roles Aboriginal people play as cultural brokers need to be recognised (Gwynne and Lincoln 2016; Gilroy et al. 2017). A systematic review (Deroy and Schütze 2019) found five key factors that are important for retention of the Aboriginal workforce in Aboriginal Health Services (AHS): feeling culturally safe and secure within the workplace; teamwork and collaboration; supervision and strong managerial leadership and support from peers; professional development; and staff recognition, including financial remuneration.

Our study on the retention of the Aboriginal health, ageing and disability workforce aims to identify the barriers and enablers to retaining Aboriginal people who do not have university qualifications in the health, disability and aged care workforces in NSW Australia (Gilroy, Bulkeley, et al. 2021; Gilroy, Dew, et al. 2021). We examined these factors with Aboriginal staff who are paid workers and in roles that involve direct client, participant, or patient support. Our study used a mixed methods design involving an Indigenous decolonising methodological framework that underpinned all phases of the research (Gilroy, Bulkeley, et al. 2021; Gilroy, Dew, et al. 2021). In this paper, we describe the Indigenous Research Methodologies used in the study at the design, data collection and data analysis phases. We also discuss the challenges and benefits of these methods during both the environmental disasters in Australia and the global COVID-19 pandemic, both of which occurred between 2020 and 2022.

A number of reviews of the history of Western sciences conclude that many non-Indigenous researchers are maintaining 'academic neo-colonialism' or 'academic neo-imperialism' (Gilroy 2009; Gilroy, Donnelly, Grech, and Soldatic 2016; Gilroy, Donnelly, Colmar, and Parmenter 2016; Connell 2011). Indigenous scholars from around the world (Moreton-Robinson 2004; Martin 2008; Tuhiwai Smith 2012; Smith 2015; Uttjek 2016; Gilroy, Dew, et al. 2018; Gilroy, Uttjek, et al. 2018) share the view that Western health and disability sciences operate as a mechanism for non-Indigenous researchers and government decision makers to legitimate themselves as the controllers and bearers of the 'truth'. This study forms part of the growing body of research literature on Indigenous Research Methodologies as a social movement to decolonise Western science. Many scholars (L. I. Rigney 1999, 2007; Martin and Mirraboopa 2003; Walter and Anderson 2013; Gilroy, Dew, et al. 2018; Gilroy, Uttjek, et al. 2018) contributing to the books of Grech and Soldatic (2016) and Chilisa (2012) describe global adoption of decolonising research methodologies in health research, education

and advocacy. Such methodologies are inclusive of the diversity of experiences and impacts of colonisation, cultures, and environments and have been heavily influenced by the *decolonisation* approach coined by Māori scholar Tuhiwai Smith (2012). The authors' positionality in this study aims to prevent further deterioration of Indigenous cultures and values by locating Indigenous voices at the centre of research planning and practice. Three of the authors are Aboriginal scholars with experience in health workforce research (all identify as male; one academic, one community elder and director of a university centre at the time of this study, and one project manager). The other authors are non-Aboriginal scholars (all identify as female; three academics, one student, one in private practice), and all but the student have long-standing engagement in Aboriginal health workforce research. The three Aboriginal scholars and two of the non-Aboriginal scholars had established relationships with the participants communities and manager organisations. Such an approach has led to a significant shift in research initiation and control from the heads of university departments and other agencies to Indigenous communities and community-controlled organisations.

However, many Australian Aboriginal scholars (Foley 2006; Nakata 2007; Martin 2008; Gilroy et al. 2013) suggest that simply placing research administration into Indigenous communities' hands will not free Indigenous peoples from academic imperialism. Indigenous scholars argue for the development and adoption of Indigenous Research Methodologies which challenge the Western academic traditions. This includes recent emphasis on 'Data Sovereignty', defined as strategies that ensure information collected for research/non-research datasets is managed according to the wishes of Aboriginal communities within the laws, practices, and customs of the nation-state in which it is located equitably to non-Aboriginal peoples (Trudgett et al. 2022).

Rigney's decolonising approach (Rigney 2007) 'Indigenist Research' suggests that Indigenous peoples need to bridge Indigenous science with Western scientific frameworks that focus on liberating Indigenous peoples. For Rigney, Indigenist Research is '... research by Indigenous Australians whose primary informants are Indigenous Australians and whose goals are to serve and inform the Indigenous liberation struggle to be free of oppression and to gain power' (2007). Rigney advocated placing research planning and implementation directly in the hands of Indigenous peoples to enable the privileging of Indigenous voices and Indigenous peoples. Rigney's approach has influenced many other Indigenous scholars (Martin and Mirraboopa 2003; Martin 2008; Gilroy et al. 2013), including Martin (2008), who built upon Rigney's model using her cultural values as an Indigenous person to frame her research.

The Indigenous Research Methodology for our study was heavily influenced by previous research that involved members of the team (Gwynn et al. 2015; Gwynne 2017; Gilroy, Dew, et al. 2018; Gilroy, Uttjek, et al. 2018; Bohanna et al. 2019; Fitts et al. 2019). Our methodology also adopted the Western model of data analysis. As noted by Indigenous scholars, such approaches do not impact the reliability of our Indigenous research methodology. Our paper intends to contribute to the growing space of Indigenous Research Methodologies in work exploring the critical factors in improving the recruitment and retention of the Aboriginal

workforce. Ethics approval was received from the Aboriginal Health and Medical Research Council of NSW (AHMRC) (ID: 1505/19) and NSW Health (ID: 2019/ETH08775).

2 | Retention of the Aboriginal Health, Ageing and Disability Workforce

2.1 | Research Setting

Aboriginal people represent around 3.2% of the Australian population, with NSW having the largest number and proportion of the population, along with the largest number of Aboriginal people working in the health, ageing and community services sectors (AIHW 2020).

In the study period 2020 and 2022 Aboriginal services were working hard to protect Aboriginal people from the COVID-19 pandemic. The Australian and State/Territory governments enforced strict rules relating to social interactions, including restricting regional and interstate travel, and accessing health and community services. Health workers around the world experienced ongoing and grave workplace stress when helping people infected with COVID-19 (Bismark et al. 2022).

In the same period, NSW experienced the worst natural disasters on record, including unprecedented bush fires (2019/2021) following a long drought, and then floods and rains (2020/2021) (Disaster Assist 2022). These weather conditions exacerbated service delays and interruptions. Health service workers were personally affected, with many losing their homes and workplaces, and medical facilities were stretched beyond previous levels.

These events meant that the research team had to be flexible and compassionate in the conduct of the study, particularly when recruiting participants. No face-to-face data collection could occur until towards the end of the study, and the team instead employed emails, social media, and video/audio communication technologies. Many managers and workers reported to the research team that they were too busy to participate in the study. The timeline for the study was extended by 1 year to allow for these factors.

2.2 | Phase One—Survey of Workers and Employers

2.2.1 | Planning Phase

Details of the research protocol have been published elsewhere (Gilroy, Donnelly, Colmar, and Parmenter 2016). In accordance with Indigenous Research Methodologies, the research proposal was co-designed with Aboriginal community-controlled organisations (ACCHO's) including the Indigenous Allied Health Association of Australia (IAHA), the Aboriginal Health and Medical Research Council of New South Wales (AH & example-MRC), and the Poche Centre for Indigenous Health, University of Sydney (Poche Centre). A disability service peak body, National Disability Services (NDS), was also involved. Once funding was successfully secured in 2019, the research team

held meetings with the agency partners to design the surveys and plan the project logistics and delivery. A strong Indigenous research governance structure was developed.

2.2.2 | Survey Design and Development

The essential principle of Indigenous Research Methodologies is ensuring that Aboriginal voices and views are incorporated into the research planning and implementation phase. Here this included co-designing a survey targeting Aboriginal workers who do not possess a university qualification and their employers in the sectors. The Aboriginal project manager and the Chief investigator travelled around NSW to meet with Aboriginal leaders, workers, and employers from the health, ageing, and disability sectors to 'Yarn' about the project and co-design the survey. For this study, 'employers' were defined as agencies that recruit Aboriginal people in their services. A representative, such as a manager or coordinator, from each of the agencies was targeted for this study within the category of 'employers'. Yarns are a traditional Aboriginal cultural approach to discussing important matters as groups (Bessarab and Ng'andu 2010). Three employer and six worker Yarns were held with a total of 78 Aboriginal people who discussed what they felt were either the 'push' or 'pull' (retention) factors that they had experienced in the places where they had worked. Using the 'word cloud' option in 'Mentimeter' (an interactive presentation application) (<https://www.menti-meter.com/app>), 'word clouds' were built from Aboriginal participants' own words. This enabled the voices of Aboriginal people who work within the health, aged care, and disability sectors to identify key issues impacting on workforce retention and directly influence the survey questions asked. The study project manager then met with a cohort of 12 Aboriginal Diploma of Nursing scholarship students from the Poche Centre to facilitate the creation of their word cloud on this issue (see Figure 2). All students had prior experience working in one of the sectors included in this study. A total of 90 Aboriginal people participated in this process.

Two Aboriginal project team members (First Author and Second Author) and one non-Aboriginal project team member (Third Author) considered all 'word clouds', identified the key concepts in each (the larger words indicated more agreement), and listed these by organisation in a purpose-designed spreadsheet before finally deriving initial themes. The 'word clouds' were then sent to all in the research team for independent assessment of key concepts and themes. Themes identified were largely in agreement with the initial themes, and any differences were reconciled through discussion. The research team then met with the project's Advisory Committee (Gilroy 2009) to discuss the findings from the analysis, and finally, five themes were agreed to be the basis for all survey questions (Figure 3).

The study project manager then met for the second time with the Poche Centre scholarship students to facilitate their reflection on all 'word clouds' and the key themes. Students were asked to contribute their thoughts and propose survey questions in culturally safe and appropriate language. The students identified topics for questions about the 'push' (to leave) and 'pull' (to stay) workforce retention factors within each key theme (see Table 1). The topics guided the research team in their development of final survey questions and format, which were then examined

TABLE 1 | Workforce survey question topics identified by Aboriginal students ($n = 12$).

Key themes	PUSH (–) factors	PULL (+) factors
Support	<ul style="list-style-type: none"> • Exclusion • Lack of support within work environment • Lack of equal opportunities • Cultural indifference • Racism/discrimination • Lack of Education • Unfamiliar Environment • Lack of Understanding regarding ‘sorry business’ 	<ul style="list-style-type: none"> • Fairness • Encouragement • Equal opportunity • Cultural awareness • Change in work environment • Changing policies • Comfortably • Acceptance
Racism	<ul style="list-style-type: none"> • No cultural safety • No cultural awareness • No cultural knowledge • Stereotyped • Isolation/feeling isolated • Inferior to others • We don't get free stuff for being Aboriginal—as perceived 	<ul style="list-style-type: none"> • Empathy towards all cultures
Culture	<ul style="list-style-type: none"> • Stereotyped • Exclusion/isolated • Politics • Awareness 	<ul style="list-style-type: none"> • Giving back to our people • Roles models for younger generations • Breaking down stigma • Culturally appropriate support
Training	<ul style="list-style-type: none"> • Racism towards Aboriginal staff • Conflict or tension between workers and employers (not being understood) • No guidance with learning structures and work ethics 	<ul style="list-style-type: none"> • Support from employers and staff (emotional and cultural) • Relationships • Better communication between employers and workers (mentors that are promote more) • More cultural awareness • Freedom to all learning resources • Being a face in the workplace for the community (sense of proudness)
Job Satisfaction	<ul style="list-style-type: none"> • Pay • Unsafe workloads • Misunderstanding • No Aboriginal Management • Payrates/funding • No guidance from worker/mentor • Not utilising Aboriginal staff enough for safety of patients • Nepotism • Lack of support/training • Policy • People coming out of town running a service where it is not owned by their own people nor are there local workforce in these services 	<ul style="list-style-type: none"> • Recognition/Award • Teamwork/acceptance • Some support for Aboriginal patients • Working with Aboriginal people for them and with them • Services • Giving back to your people • Praise • Feeling appreciated • Flexible • Training whilst working • Offer upskilling • Courses • Aboriginal workforce groups in place

The artwork was used to reinforce the Indigenous model of this study. It demonstrates to interested persons who were approached to participate in this study that all components of this study incorporated Aboriginal voices, from the planning to the branding.

2.2.3 | Participant Recruitment

The team aimed to recruit 150 workers and 50 employers. Recruitment targeted the organisations and agencies described

in the protocol (Gilroy, Bulkeley, et al. 2021; Gilroy, Dew, et al. 2021). However, as COVID-19 prohibited face-to-face recruitment for the entire project data gathering period, the team had to rely on recruitment methods that maintained physical distancing. We followed Australian NSW government and University of Sydney guidelines and were advised by Aboriginal communities regarding visitor restrictions. Recruitment methods included emailing organisational leaders to share with their workers, snowball and convenience methods (via phone and Zoom), social media and telephone calls. This process continued until the study reached saturation.



FIGURE 4 | Research artwork titled 'Resilience'.

2.2.4 | Survey Data Collection

Qualtrics (2020), a dedicated online survey tool, was used to design the survey and collect data. The link to the survey was shared in all recruitment procedures (see previous) and participants completed the survey online on their own devices. When completed, participants submitted their survey, and these were securely located in the University's online Data Management System's storage facility as per ethics requirements.

Implementing the Indigenous Research Methodology principles of Aboriginal leadership in research, Aboriginal team members (Elder and CI eleventh author), Project Manager (first Author), and CIA (second author) worked with non-Aboriginal team members (third, fourth, fifth, sixth, ninth and tenth authors), a student (eighth author), and a statistician (seventh author).

2.2.5 | Survey Qualitative Data Analysis

Nine of the 13 worker and 4 of the 8 employer short answer questions required thematic analysis. Of the remainder, one required a brief response (post code), and the others received so few responses that the theme was apparent, and analysis was not required. Thematic analysis is the process of inductively searching text for recurring themes and presenting meanings to identify patterns and themes. A non-Aboriginal academic (third author) and her student (eighth author) systematically examined the responses to each worker short answer question to identify initial key terms, themes and differences. Aboriginal Yarning sessions about the preliminary findings were held between the Project Manager (first author) and CIA (second author), and

then with members of the study Advisory Committee (Gilroy, Bulkeley, et al. 2021; Gilroy, Dew, et al. 2021) before consensus was reached. The same method was applied to the employer short answer survey question responses; however, CIA (second author) replaced the student (eighth author) in identifying initial terms, themes, and differences.

2.2.6 | Survey Quantitative Data Analysis

The primary survey questions for the quantitative data were: (a) what issues are important to workers regarding retention in the workforce, and (b) which of these issues are associated with the decision to remain in the workforce. All respondents were included in the analysis if they had a valid NSW postcode and had answered the second survey question on reasons associated with 'decision to remain in the workforce'. Not everyone answered all questions; therefore, the number of participants for individual questions varied. We chose not to impute the missing data and to remain faithful to the participants' voices by respecting their decisions not to tell us some things about their beliefs and attitudes. Aboriginal people have a reluctance to participate in research due to the inhumane conduct of research in the past and the ongoing experience for many of a lack of benefit from research (National Health and Medical Research Council 2003). The Aboriginal elder on the team (eleventh author) felt particularly strongly about the respect that participants deserved for taking part in the research.

To answer the first survey question on issues of importance to the retention of workers, we counted the number of responses to each option in the yes/no ± unsure, multiple choice, and matrix questions, and calculated percentages.

For the second survey question on the 'decision to remain in workforce', survey answers were coded into participants who were 'Yes, remaining' and participants who were 'Not yes', which included those who had decided to leave and those who were unsure about remaining. The answers the 'Yes' and 'Not yes' groups gave to the other questions were then compared to find issues which might distinguish the groups. Examples of other issues were 'Do you work in NSW? Yes/No', 'What is your sex? Male/Female/Other/Prefer not to say', and 'What is your age group in years? 18–25, 26–32, 33–44, 45–55, 56 and over'. Where questions on 'other issues' allowed just two responses (e.g., 'Yes/No'), phi correlations were used to show if intending to leave was related to the Yes/No answers. If the 'other issues' question allowed several categories of answer, such as the 'sex' question, the Cramér's V correlation was used instead because it is designed to compare answers with multiple categories. If the other issue was a rank order, such as the 'age' question, a form of Spearman rank correlation was used. It is known as a nonparametric point biserial correlation and is designed to compare a dichotomy e.g., remain 'yes' and 'not yes', with a rank order measure, such as the age question. (Field and Field 2018). Correlation strengths could range from 0 to 1, with a higher figure indicating a stronger connection between the issue and the decision to remain. Statistical significance used an alpha cut-off of 0.05. No adjustment was made for multiple testing, to avoid excluding issues of potential interest for further study.

We considered the possibility that a combination of issues might be needed to understand the decision to remain in the workforce. Logistic regression was used to include multiple issues as potential predictors of the decision to remain. Potential predictors were chosen using statistical criteria. Any issue with a p value < 0.2 in the previous analyses was included. Logistic regression required complete answer sets for all issues used as potential predictors, so people with missing answers were not included in this analysis.

2.3 | Phase Two—Yarning With Workers and Employers

Yarning is a traditional approach to consultation and negotiation relating to a particular topic of interest. It involves active listening and Truth Telling. This model of research has been used in many Aboriginal health and community service studies (Bessarab and Ng'andu 2010; Dew et al. 2019; Hamilton et al. 2020) as the discussion is more open and is situated in the Aboriginal participant's space, place and culture. The survey results informed the development of Phase Two of the study. Applying Indigenous Research Methodology, a subset (Aboriginal and non-Aboriginal) of the research team considered preliminary results from the survey and drafted the Yarning question (to guide the Yarns) and prompts (used as required to elicit more detailed information). The guide was then sent to the study's Advisory Group for comment. Discussions occurred between the agency partners (IAHA, AHMRC and NDS) and the Aboriginal advisory group until consensus was achieved as per our research protocol (Gilroy, Bulkeley, et al. 2021; Gilroy, Dew, et al. 2021).

2.3.1 | Yarning Participant Recruitment

As part of an Indigenous Research Methodology, the team adopted a Yarning model of interviewing (Bessarab and Ng'andu 2010). As used in similar Aboriginal-specific studies (Gwynn et al. 2015, Gilroy, Donnelly, Grech, and Soldatic 2016; Gilroy, Donnelly, Colmar, and Parmenter 2016), this method helped decolonise the research process by removing the power imbalances inherent in the researcher/institution-participant/subject relationship.

Individuals who had indicated their interest in participating in a follow-up Yarn and had provided their contact details at the completion of the survey were subsequently contacted by the Aboriginal project manager (first author) who confirmed their consent. Convenience and snowball methods were also employed until saturation of participants was achieved. Similar to the survey, recruitment procedures included social media, contacting people within our networks, and asking employers and workers to promote the project among Aboriginal staff of their agency.

2.3.2 | Yarning Data Collection

As with the survey, we intended to travel around NSW to recruit participants; however, the COVID-19 pandemic required us to adhere to restrictions at the government, university, and

community levels, so we arranged the Yarns (individual and group) over the phone or on Zoom. As restrictions eased, we were able to conduct some face-to-face Yarns.

Yarning sessions with participants were arranged by the Aboriginal project manager (first author) and the CIA (second author); all were audio-recorded and were between 30 min and an hour in length. Initially, the Aboriginal project manager (first author), the CIA (second author) and a non-Aboriginal CI (third author) conducted the yarns together; however, once the project manager gained experience in the yarning method used in research, he conducted many himself. Yarns were transcribed verbatim by a trained transcriber who is an Aboriginal person, and all data was stored according to ethical requirements.

2.3.3 | Data Analysis

All transcripts were carefully verified and de-identified for confidentiality purposes. Two non-Aboriginal members of the research team (third author and a research student, the eighth author) undertook the initial preliminary analysis of the worker surveys separately, following Braun and Clarke phases to guide thematic analysis in grounded theory (Braun and Clarke 2006). They read the first four transcripts to familiarise themselves with the data and began taking field notes. The first de-identified transcript was then imported into the NVivo 12 (Lumivero 2023) software. The research student (eighth author) conducted line-by-line inductive coding to determine initial codes that were then merged into initial thematic areas and provisionally named based on the cluster of codes. These initial themes and the coding process were then discussed with the first author, second author and third author, and consensus was reached. All de-identified transcripts were then imported into NVivo 12 (Lumivero 2023) software and coded deductively, according to the codes and themes previously identified. Overall themes from the transcripts evolved as new codes were created for any data that did not fit preassigned categories. Through an iterative process of discussions between Aboriginal and non-Indigenous researchers, interpretations and understandings of the data were discussed until consensus regarding the names and contents of themes was reached. Such triangulation of researchers ensured the validity and rigour of the data (Bryman 2012). Ongoing reflexive dialogue was crucial throughout both analysis processes to question how perceptions and background affected the analysis of the data (Braun and Clarke 2006). A small group of the research team then undertook the analysis of the employer transcripts following the same method as described above.

3 | Discussion

Relative to previous Aboriginal research on workforce issues (Gilroy, Dew, et al. 2018; Gilroy, Uttjek, et al. 2018; Fitts et al. 2019), our Indigenous research methodology was successfully implemented over both phases despite the many environmental disasters that occurred during the COVID-19 pandemic. This methodology also adopted a Western model of data analysis. Adopting this form of analysis does not impact on the trustworthiness of the study, as noted by Gilroy, Donnelly, Grech, and Soldatic (2016).

Our study concurs with others that Aboriginal people are heavily active on social media (Carlson and Frazer 2015). Advertising the project's phases on Aboriginal-owned and generic Facebook pages and Twitter handles proved to be a highly successful approach to attract people who work in the workforce. Furthermore, people who either work or do research in the field promoted the project and/or sought more information from the research team about the project.

Although the research relied only on internet-based technologies, the Yarn Ups occurred the same way as they do face-to-face, with these revolving around the traditional principles of open discussions emphasised on the cultural respect protocols of Country and Culture.

The networks of the Aboriginal community-controlled agencies (IAHA, AHMRC, Poche Centre) and our disability peak body (NDS) were valuable for conducting the project. These agencies are highly trusted in the Aboriginal services sector and local communities as these agencies are heavily involved in building a culturally safe workforce in NSW. Following the principles of Indigenous Research Methodologies, involving these agencies as partners in this project has contributed to Aboriginal people trusting the research team with their personal information about working in the health, ageing and disability sectors.

An important element of Indigenous Research Methodologies is Aboriginal leadership (L. I. Rigney 1999; Martin and Mirraoopa 2003; Gilroy, Donnelly, Grech, and Soldatic 2016). This project was led by an Aboriginal man and had two Aboriginal people recruited to operate the project, one Aboriginal project manager (first Author) and one Aboriginal part-time RA. Furthermore, this project had an Aboriginal Elder on the team who was the Director of the Poche Centre (eleventh author).

3.1 | A Contribution to Mixed Method Research

There are limited scientific papers that detail researchers' experiences of implementing Indigenous methodologies in mixed-method sociological research such as in this study. This paper provides detailed knowledge about adopting Indigenous methodologies in Australian Indigenous workforce research bringing a deep understanding to results.

4 | Conclusions

This study described in detail the Indigenous research methods used to develop and implement a culturally appropriate online state-wide survey and follow up Yarns with Aboriginal people. Research should involve Aboriginal and non-Aboriginal peoples in all phases. In this way, communities and researchers work in partnership planning, identifying, understanding and learning ways to address barriers to Indigenous self-determination in research projects. This study demonstrated that during natural disasters and global pandemics, Indigenous research methodologies apply and possess the agility and cultural safety to ensure the voices of Indigenous peoples are heard in programmes of research.

Author Contributions

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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