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Evaluating the implementation of the Deadly Aboriginal and Torres Strait Islander Nursing and Midwifery Mentoring (DANMM) programme: a mixed-methods pilot study conducted across four Local Health Districts in New South Wales, Australia

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ABSTRACT

Objective Cultural safety is critical to addressing healthcare disparities for Aboriginal and Torres Strait Islander peoples. The Deadly Aboriginal and Torres Strait Islander Nursing and Midwifery Mentoring (DANMM) programme was developed to support Aboriginal and Torres Strait Islander Nurses and Midwives through culturally responsive mentorship. This pilot study evaluates the feasibility and acceptability of the DANMM programme and its impact on cultural safety knowledge and workplace experiences.

Design A mixed-methods exploratory study research design was employed. Data collection methods were underpinned by the Ngaa-bi-nya evaluation framework.

Setting Four Local Health Districts in New South Wales, Australia.

Participants 20 participants completed the Ganngaleh nga Yagaleh (GY) cultural safety tool (n=12 pre-DANMM programme and n=8 post-DANMM programme), between June 2023 and October 2024. Five of these participants also took part in individual yarns between August and November 2024.

Primary outcome measures Changes in median cultural safety knowledge scores (pre- to post-programme), measured using the GY tool, were analysed using the Wilcoxon rank-sum test for unpaired data ($p<0.05$). Thematic analyses of individual yarns were completed using Braun and Clarke's reflexive approach.

Results Statistically significant positive changes in median GY tool scores (pre to post) were observed for item 13 (median pre=4.5, post=5.0; p=0.02), item 32 (median pre=4.0, post=5.0; p=0.03) and item 40 (median pre=3.5, post=5.0; p=0.03); with a statistically significant negative change in scores observed for item 6 (median pre=3.0, post=2.0; p=0.01). Qualitative themes included: (1) fostering growth and navigating barriers, (2) the power of connection and (3) navigating prejudice and racism in the workplace. Participants valued the mentorship model, though programme participation was affected by organisational barriers, including time constraints and a lack of managerial support.

Conclusion The DANMM programme was found to be acceptable and feasible with evidence of enhanced cultural safety knowledge and mentorship benefits. However, the findings highlight the enduring impacts of colonial and cultural load and the need for greater organisational support to ensure the successful implementation and long-term sustainability of cultural safety initiatives. Future research should examine the longer-term effects on workforce retention and overcoming barriers to implementation and scalability.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The use of a mixed-methods approach, integrating quantitative and qualitative data, provided for a comprehensive evaluation of cultural safety knowledge and workplace experiences.
- ⇒ Culturally responsive methodologies, including use of the Ganngaleh nga Yagaleh cultural safety tool and individual yarns, were employed.
- ⇒ Ethical approval was obtained from multiple relevant health services, the Aboriginal Health and Medical Research Council and academic institutions, ensuring rigorous oversight.
- ⇒ The non-randomised design, use of purposive sampling and small sample size, although a pilot study, limit any generalisability of findings.
- ⇒ The short timeframe for post-programme data collection limited our ability to capture long-term impact and sustainability of the Deadly Aboriginal and Torres Strait Islander Nursing and Midwifery Mentoring programmes implementation.

INTRODUCTION

The provision of culturally safe working environments within Australian healthcare settings is critical for addressing systemic

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health inequities experienced by Aboriginal and Torres Strait Islander peoples.[1 2] Despite significant investment and healthcare advancements, these communities continue to face disparities in health outcomes, including lower life expectancy and barriers to equitable healthcare access.[3–5] These inequities are further compounded by low numbers of, and high attrition rates among, Aboriginal and Torres Strait Islander healthcare workers, significantly impacting workforce stability, sustainability and the delivery of culturally safe person-centred care.[6]

High staff turnover rates among Aboriginal and Torres Strait Islander nurses and midwives are frequently linked to workplace environments that lack sustained cultural safety opportunities for professional development and responses to systemic racism.[4–6] Cultural safety in this context refers to the ongoing critical reflection by health professionals; related to their personal knowledge, skills, attitudes, practising behaviours and power differentials in the delivery of healthcare, that is free from racism and responsive to Aboriginal and Torres Strait Islander peoples, their identities and experiences.[1] Importantly, at the individual level, cultural safety or a culturally safe working environment is self-determined by Aboriginal and Torres Strait Islander peoples, their family and community.[1]

The concept of cultural safety is embedded in key Australian national and state-level health policy frameworks.[1 5] The National Scheme's Aboriginal and Torres Strait Islander Health and Cultural Safety Strategy 2020–2025[1] describes cultural safety as a critical enabler of improved health outcomes, and outlines expectations for health professionals and institutions to foster environments where Aboriginal and Torres Strait Islander peoples feel safe, respected and valued. At the state level, the New South Wales (NSW) Aboriginal Health Plan 2024–2034,[5] identifies the creation of culturally safe health services as a key strategic priority, emphasising the importance of embedding respect, partnership and cultural understanding into all levels of the health system, to 'close the gap' in health outcomes.

However, policies alone are insufficient to achieve lasting institutional transformation or sustainably shift practitioner behaviour. Moreover, existing cultural safety education programmes, such as *Respecting the Difference*,[7] a mandatory learning pathway for all staff employed by the NSW public health system (consisting of online education modules combined with a face-to-face workshop), may not be sufficient to drive sustained staff behaviour change.

A recently published scoping review of cultural safety initiatives within Australian hospital settings,[2] reported mixed outcomes across included studies. Most initiatives involved the delivery of standalone, in-person, cultural safety workshops delivered by Aboriginal or Torres Strait Islander facilitators. While participants reported improvements in awareness, confidence and knowledge, these were often measured using self-reported, unvalidated scales, with no evaluation of practitioner behaviour change or patient perspectives. The review also noted that the success and sustainability of cultural safety initiatives are highly dependent on the quality of implementation, often undermined by a lack of system-wide accountability, particularly at the middle management level.[2] This lack of sustained behaviour change within institutions perpetuates feelings of isolation, mistrust and disempowerment among Aboriginal and Torres Strait Islander nurses and midwives, further exacerbating workforce shortages and undermining the provision of culturally safe, person-centred care.[4–6]

Mentoring is one intervention that has been widely recognised as an effective workforce strategy for fostering professional growth and providing psychological support, particularly through structured relationships between experienced mentors and less experienced mentees.[6 8] Within the context of the Australian healthcare system, mentoring programmes are emerging as acceptable strategies for enhancing cultural safety and addressing workforce challenges.[6 9] A systematic scoping review by Jongen *et al*[10] identified mentoring as a potential approach to improving cultural competence by equipping healthcare professionals with the requisite knowledge, attitudes and skills to address sociocultural issues in clinical practice. However, the review highlighted a lack of interventions directly addressing racism and practitioner bias and noted the scarcity of outcome data assessing behavioural changes or patient perspectives from such initiatives, with more research required in this area.[10]

To help address these gaps and support the retention and well-being of Aboriginal and Torres Strait Islander nurses and midwives, this study piloted the implementation of the Deadly Aboriginal and Torres Strait Islander Nursing and Midwifery Mentoring (DANMM) programme across four NSW Local Health Districts (LHDs) to assess feasibility and acceptability. Specifically, the study reports on changes in participant knowledge of cultural safety using the Ganngaleh nga Yagaleh (GY) cultural safety tool and explores the lived experience of engaging with the mentoring programme through individual participant yarns.

METHODS

DANMM programme

The DANMM programme was initially conceptualised as a quality improvement project in one regional hospital in NSW, Australia.[9] The establishment of the mentoring programme demonstrated encouraging results for promoting workforce capacity and fostering a culturally safe and supportive working environment for Aboriginal nurses and midwives.[6 9] Building on this foundation, the DANMM programme was upscaled for multisite pilot implementation across five NSW LHDs as outlined in the detailed published protocol.[6]

Study setting

The original study protocol proposed implementation across five NSW LHDs[6]; however, the actual

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implementation study took place across four diverse (rural, regional, metropolitan) LHDs: (1) Murrumbidgee LHD; (2) Sydney LHD; (3) Western NSW LHD; (4) Western Sydney LHD.

Study design

A non-experimental, exploratory research design, using both quantitative and qualitative data collection methods was employed.[6] Data collection methods were underpinned by the Ngaa-bi-nya evaluation framework, which supports Aboriginal ways of being, knowing and doing.[6] This approach acknowledges the historical, present and ongoing impacts of western colonisation on Aboriginal peoples, cultures and lands. It also involves challenging dominant Western epistemologies and privileging Aboriginal perspectives, experiences and knowledge systems in research.[6]

Patient and public involvement

Patients were not directly involved in the design, conduct, reporting or dissemination plans of the project. However, a cultural governance group guided the study design and intervention implementation. Members of the cultural governance group are recognised as community members.[6]

Recruitment procedure

Participants were recruited to the DANMM programme through an email invitation and a programme flyer (as per online supplemental file 1) distributed through the four partnered LHDs. In addition, facilitated recruitment information sessions were held at the direction of employed LHD project leads to ensure that recruitment was relevant and place-based (ie, conducted during a graduate nurse, new staff induction session).

Participants

All self-identified Aboriginal or Torres Strait Islander nurses and midwives employed across the four LHD sites were eligible to participate as either a mentee or mentor. All nursing and midwifery staff (regardless of cultural identification) who had ≥5 years' experience, held a leadership role (ie, in-charge nurse/midwife, nursing or midwifery unit manager through to director of nursing and midwifery) and were employed at least on a part-time basis (0.5 FTE) were eligible to participate as mentors (due to the limited number of Aboriginal nurses and midwives in senior roles at the partnered sites). Based on LHD workforce data and national Aboriginal nursing and midwifery workforce data[11] and available funding, the programme sought to recruit N=100 Aboriginal or Torres Strait Islander nurses and midwives (as mentors or mentees) and N=50 non-Aboriginal or Torres Strait Islander nurses and midwives (as mentors only), aiming for N=75 mentees and N=75 mentors.[6]

Intervention

The DANMM programme consists of an online educational package combined with a mentorship component. The educational package includes four self-paced, online learning modules covering: (1) an introduction to Aboriginal and Torres Strait Islander culture, (2) concepts of cultural safety (including topics such as race and racism), (3) information about mentorship and (4) information about the Australian nursing and midwifery workforce.[6] The full DANMM programme was designed to run over 12 months, allowing approximately 2 months for completion of the online modules, followed by a 10-month mentor–mentee trial period. At the conclusion of the online learning component, participants were invited to express interest in participating in the mentorship programme. The project lead then facilitated the matching of mentors and mentees based on availability, experience and shared goals to support meaningful and culturally safe professional relationships throughout the duration of the programme.

Learning module development

The online learning modules were initially developed as part of the quality improvement project aimed at enhancing cultural safety knowledge of Aboriginal or Torres Strait Islander nurses and midwives.[9] The learning modules underwent substantial re-design and re-development through a collaborative co-design process. This involved members of the research team, the study's cultural governance group and representatives from participating LHDs human resources units. The co-design approach ensured that the modules were culturally safe, contextually relevant and aligned with local workforce strategies and values.

Programme implementation supports

A DANMM project lead was appointed to support the participating mentor and mentees by providing these dyads with relationship building strategies including the distribution of a (hard copy) DANMM programme introductory pack (containing detailed information about the DANMM programme including what to do in the event of a mentor/mentee relationship breakdown), the provision of practical assistance with setting up regular meetings and activities such as goal setting and the establishment of an online 'community of practice' forum. The community of practice was established to support mentor–mentee relationships and was facilitated weekly by the project lead throughout the 10-month programme; attendance was voluntary, allowing participants to drop in, on an as-needed basis.[6]

Quantitative measures

This study used the GY cultural safety assessment tool, a validated 41-item survey tool, designed to measure cultural safety knowledge in relation to working with Aboriginal and Torres Strait Islander peoples.[4 12 13] Originally designed by Aboriginal and Torres Strait Islander researchers as a 25-item cultural capability survey,[4] the tool underwent a series of adaptations and validation testing as a measure of cultural safety knowledge among

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diverse healthcare professional populations.[4 12 13] Of the 41 items, the tool includes five discrete questions that are applicable to individuals who identify as Aboriginal and Torres Strait Islander peoples of Australia. Responses are scored using a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), with higher scores indicating greater cultural safety knowledge.[12] In this study, the GY tool was used to evaluate changes in participants' cultural safety knowledge, before and after completion of the online learning modules.

Qualitative measures

Individual yarning sessions were employed. Aligned with Aboriginal and Torres Strait Islander ways of knowing, yarning facilitates open, participant-led conversations within a relational space that prioritises trust, deep listening and mutual respect.[14 15] As a decolonising research approach, it empowers participants to shape the direction of the dialogue, centring their lived experiences.[16] In this study, yarns focused on participants' reflections of the mentoring programme, offering nuanced insights into how it supported their professional practice and cultural development.

Data collection and sample

Nursing and midwifery staff were invited to complete the GY-cultural safety tool via the SurveyMonkey platform. Pre-programme data were collected from June to August 2023, and post-programme data from September to October 2024. On accessing the survey link, participants were presented with a Participant Information Statement. Using embedded skip logic, participants were asked to indicate their informed consent to participate in the study. Only those who provided informed consent were directed to complete the GY tool survey.

Qualitative data were collected from August to November 2024. Participants self-nominated for a yarn either when completing the GY tool survey (pre-programme) or via electronic invitations distributed by a DANMM research assistant and the project lead at a DANMM Community of Practice meeting. All participants who provided qualitative data were included for analysis.

Data analysis

Quantitative data

Given the exploratory nature of this pilot implementation study, no a priori power calculation was conducted. Descriptive and inferential statistics were used to compare changes pre- and post-programme responses to the educational modules, as measured by the GY tool. Descriptive statistics (frequency (n), proportions (%), median and means) were used to summarise sample demographic characteristics. For inferential analysis, the Wilcoxon rank-sum test for unmatched samples was used to compare differences between pre- and post-programme cohorts. This non-parametric test was selected due to the resulting small sample size (N=12 pre-programme and N=8 post-programme) and the presence of skewed data, violating the assumption of normality. This method is suitable for comparing medians between two independent groups[17] with statistical significance set at $p<0.05$. All analyses were performed by a statistician using R programming language (V.4.2.3).

Qualitative data

Yarning sessions were guided by a semi-structured yarn guide (as per online supplemental file 2) and conducted online using Microsoft Teams. Transcriptions were automatically generated within the Microsoft Teams platform, then exported out of the platform, de-identified by the DANMM research assistant (ND), manually cross-checked for accuracy by the research team and securely stored in a password-protected file. In alignment with qualitative methods, member checking[18] was offered 14 days after each transcript was downloaded. Five participants elected to receive copies of their transcripts, with one participant providing edits. Following member checking, transcripts were uploaded into NVivo 14 for coding. Initial coding was undertaken by author JB using Braun and Clarke's reflexive thematic analysis framework.[19] Preliminary codes were grouped into potential themes by JB and reviewed through a series of collaborative meetings with author JA, to finalise themes. A third and final round of analysis was conducted in collaboration with a DANMM research assistant (ND) to enhance the trustworthiness of findings. These discussions informed the refinement of the final themes, ensuring they accurately reflected the lived experiences of participants.

RESULTS

Quantitative findings

Table 1 displays the demographic characteristics of participants who completed the GY tool, before and after DANMM programme completion. The median age increased from 25 to 34 years to 35–44 years post-programme. The majority of participants identified as female and as Aboriginal. Most participants were registered nurses working in hospital settings. Differences in educational attainment were evident before and after completion, with 58% holding bachelor level qualifications or above in the pre-sample compared with 25% in the post-sample.

The analysis of the GY cultural safety tool responses revealed notable improvements in participants' cultural safety knowledge following completion of the DANMM programme (table 2). Statistically significant positive changes (pre- to post-sample scores) were observed for main GY tool items as follows:

Item 13—*Improving First Peoples health is the responsibility of all health professionals*, observed a significant ($p=0.02$) increase in scores indicating a stronger commitment to addressing health disparities post-programme; for item 18—*All First Peoples are treated equally by health professionals*, a significant ($p=0.00$) decrease in post-score was observed reflecting a growing acknowledgement that

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Table 1 Before and after sample characteristics

Sample demographics	Pre-programme n=12*	Post-programme n=8*
Age group (median)	25–34 years	35–44 years
Gender (n,%)		
Male	1 (8.33)	–
Female	11 (91.66)	8 (100%)
Identified as Aboriginal (n, %)	8 (66.70)	7 (87.50%)
Other identified ethnicity (n, %)		
Australian	6 (50.00)	4 (50%)
British	1 (8.30)	2 (25.00%)
New Zealander	–	1 (12.50%)
Local Health District (n, %) (missing n=1)		
Murrumbidgee	5 (45.45)	
Sydney	2 (18.18)	5 (62.50)
Western New South Wales	3 (27.27)	2 (25.00)
Western Sydney	1 (9.09)	1 (12.50)
Place of work (n, %)		
Hospital	9 (75.00)	6 (75.00)
Community	3 (25.00)	2 (25.00)
Working on country (n, %) (missing n=1)		
Yes	7 (63.63)	5 (62.50)
Unsure	1 (9.09)	0 (0.00)
No	3 (27.27)	3 (37.50)
Professional role (n, %)		
Registered nurse	8 (66.66)	5 (62.50)
Registered midwife	1 (8.33)	–
Enrolled nurse	1 (8.33)	1 (12.5)
Assistant in nursing	2 (16.66)	2 (25.00)
Years worked in professional role (median, IQR)	6 (1–9.25)	10 (5.25–17.00)
Highest level of education (n, %)		
Master's degree	1 (9.09)	–
Graduate certificate	2 (18.18)	1 (12.50)
Bachelor of nursing	4 (36.36)	1 (12.50)
Diploma in nursing	2 (18.18)	4 (50.00)
TAFE certificate III/IV	2 (18.18)	2 (25.00)

*Unmatched samples.

inequities persist in healthcare treatment; item 32—*I will need to pay attention to the power imbalances between non-First Peoples healthcare professionals and Aboriginal and Torres Strait Islander Peoples in my future practice*, observed a statistically significant (p=0.03) increase in post-scores, indicating increased awareness of systemic inequities; and item 40—*I believe that the privileges afforded to white Australian society impacts on power relations in health care practice and the inequitable distribution of healthcare*, showed a significant (p=0.03) increase in post-scores, suggesting deeper reflection on privilege and healthcare disparities.

For the set of GY items exclusively for Aboriginal participants, only one statistically significant, negative change in scores was observed. Item 6—*I can imagine healthcare practice that is free from racism*, showed a significant (p=0.01) decrease, suggesting a reduced optimism about achieving a fully racism-free healthcare system.

Qualitative findings

Five interviews (mentor n=2, mentee n=2 and dual role of mentee/mentor n=1) were conducted. To ensure confidentiality and anonymity, participant gender, work function and workplace have not been reported. Thematic analysis of participant responses identified three overarching themes that complement the quantitative findings: (1) fostering growth and navigating barriers, (2) the power of connection and (3) navigating prejudice and racism in the workplace. Each of these themes highlights different aspects of how the DANMM programme influenced participants' experiences and perceptions of cultural safety.

Fostering growth and navigating barriers

Mentees perceived the DANMM programme as a crucial tool for professional growth and fostering culturally safe healthcare settings. One participant highlighted the broader impact of the programme, emphasising its role in increasing Aboriginal representation in healthcare:

> So, the overall aim is to improve Aboriginal health, just even the DANMM project, we know how important it is to see our mob working in the health system so we can inadvertently make it more culturally safe and that's opportunities for us as well. (Mentee)

The mentorship programme also facilitated peer learning, particularly among graduate nurses who valued the shared cultural connections:

> We are learning from each other, because we're both the same mob, like we're [xx] but same with you. So, it's just like even though we have the same mob, but it's different, your communities around you are different (Mentee)

Mentorship was further seen as an essential support mechanism for workplace orientation, especially for newly hired Aboriginal staff:

> When I started, so I started in [the LHD] and that wasn't there, but I was allocated an Aboriginal person, I went and asked because I need that one person, if I don't know the questions, where I would go? (Mentor)

However, participants also noted barriers to engagement, including time constraints and overwhelming information:

> it's a lot of information, and only have a certain amount of time to do all, it was so much information

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Table 2 Changes in Ganngaleh nga Yagaleh tool scores (unmatched samples)

Questionnaire items	Total n= pre	Total n= post	Mean pre	Mean post	Median pre	Median post	Wilcoxon rank-sum (Z score)	P value (<0.05)
1. I have an understanding of how Australia's colonial history impacts on First Peoples health	12	8	4.58	4.88	5.00	5.00	1.36	0.17
2. I have an understanding of how Australia's colonial history impacts on my practice as a health professional	12	8	4.50	4.63	4.50	5.00	0.54	0.59
3. I have an understanding of how First Peoples cultural values impacts on my practice as a health professional	12	8	4.33	4.63	4.00	5.00	1.00	0.32
4. I have an understanding of how First Peoples social practices impacts on my practice as a health professional	12	8	4.25	4.75	4.00	5.00	1.83	0.07
5. To improve First Peoples Health, First Peoples cultures need to be visible in clinical and community health settings	12	8	4.42	4.75	4.00	5.00	1.43	0.15
6. There may be few exceptions, but in general First Peoples are all the same	12	8	2.67	2.38	3.00	2.00	−0.44	0.66
7. I understand the beliefs of different cultural groups	12	8	3.83	4.00	4.00	4.00	0.34	0.73
8. I feel comfortable working with First Peoples	11	8	4.73	5.00	5.00	5.00	1.57	0.12
9. Critically reflecting on my own cultural values and beliefs will help me become culturally safe	12	8	4.25	4.63	4.00	5.00	1.11	0.27
10. Acknowledging that cultural differences exist is the first step to becoming culturally safe	12	8	4.50	4.63	4.50	5.00	0.54	0.59
11. I am confident about my ability to communicate appropriately with First Peoples	12	8	4.33	4.63	4.00	5.00	1.25	0.21
12. Comprehensive primary health care services are fundamental to improving First Peoples health	12	8	4.17	4.75	4.00	5.00	1.56	0.12
13. Improving First Peoples health is the responsibility of all health professionals	12	8	4.50	5.00	4.50	5.00	2.33	0.02
14. Evidence from research can help my practice in First Peoples Health	12	8	4.17	4.38	4.00	4.00	0.61	0.54
15. I have a responsibility to challenge the ways things are done in health practice	12	8	4.08	4.50	4.00	4.50	1.39	0.17
16. My relationship with First Peoples can impact on clinical outcomes	11	8	4.45	4.75	4.00	5.00	1.25	0.21
17. A holistic approach to First Peoples Health is important	12	8	4.58	4.88	5.00	5.00	1.07	0.28
18. All First Peoples are treated equally by health professionals	12	8	3.08	1.50	3.00	1.50	−2.87	0.00
19. First Peoples receive special treatment from the government	12	8	2.42	1.63	2.00	2.00	−1.52	0.13
20. First Peoples have the same level of access to health services as all other Australians	12	8	2.42	1.38	2.00	1.00	−1.98	0.05
21. I understand how to advocate for improvements in First Peoples Health	12	8	4.17	3.75	4.00	4.00	−1.00	0.32
22. I am aware of the need to be culturally inclusive towards First Peoples	12	8	4.50	4.63	4.50	5.00	0.54	0.59
23. I aim to be sensitive to cultural differences for First Peoples in my future practice	12	8	4.50	4.88	4.50	5.00	1.68	0.09
24. I have a social responsibility to work for changes in First Peoples Health	12	8	4.17	4.75	4.00	5.00	1.63	0.10
25. Equity is treating everyone the same	11	8	2.73	3.38	3.00	4.00	1.15	0.25
26. I intend to work for changes in First Peoples health	12	8	4.42	4.63	4.00	5.00	0.89	0.37
27. Being culturally sensitive and aware will help me to deliver culturally safe care	12	8	4.50	4.75	4.50	5.00	1.09	0.28
28. I have learnt enough about myself to always deliver culturally safe care	12	8	4.00	4.13	4.00	4.00	0.13	0.90
29. It is important to understand the unique health concerns that impact the health and wellbeing of Australia's First Peoples	12	8	4.50	4.63	4.50	5.00	0.54	0.59
30. I accept that there is still much for me learn about Aboriginal and Torres Strait Islander Peoples	12	8	4.58	4.75	5.00	5.00	0.75	0.46
31. I will do my part as a health professional to address the unique health concerns of Aboriginal and Torres Strait Islander Peoples in my professional practice	12	8	4.50	4.75	4.50	5.00	1.09	0.28
32. I will need to pay attention to the power imbalances between non-First Peoples healthcare professionals and Aboriginal and Torres Strait Islander Peoples in my future practice	12	8	4.17	4.75	4.00	5.00	2.18	0.03

Continued

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Table 2 Continued

Questionnaire items	Total n= pre	Total n= post	Mean pre	Mean post	Median pre	Median post	Wilcoxon rank-sum (Z score)	P value (<0.05)
33. I recognise the influence of my own cultural identity and the culture of the Australian healthcare system on perceptions of Aboriginal and Torres Strait Islander peoples	12	8	4.17	4.38	4.00	4.00	0.78	0.43
34. I understand the different forms of racism and associated stereotypes that impact on Aboriginal and Torres Strait Islander health	12	8	4.58	4.63	5.00	5.00	0.18	0.86
35. I have an understanding of how Australia's colonial history has impacted on the formation of my values and beliefs in relation to Aboriginal and Torres Strait Islander Peoples	12	8	4.50	4.38	4.50	4.50	−0.26	0.79
36. I can visualise a health care system free from racism	12	8	3.17	2.88	3.00	3.00	−0.88	0.38
37. I recognise my own privileges and unequal advantages	12	8	3.92	3.88	4.00	4.00	−0.08	0.93
38. I recognise the privileges and unequal advantages afforded to white Australian society	12	8	3.92	4.38	4.00	4.00	1.54	0.12
39. I understand the role of power relations in the inequitable distribution of privileges and how this impacts on me as a health professional	12	8	4.00	4.13	4.00	4.00	0.39	0.70
40. I believe that the privileges afforded to white Australian society impacts on power relations in health care practice and the inequitable distribution of healthcare	12	8	3.75	4.63	3.50	5.00	2.22	0.03
41. I often stop to think about and consider white privilege and power imbalances in the healthcare system and how they impact on my practice as a health care professional	12	8	3.83	4.13	4.00	4.00	0.94	0.35
42. I believe that my understanding of my own history, culture, values and social practices, and respect for these attributes will influence my health practice*	8	7	4.63	4.57	5.00	5.00	−0.20	0.84
43. I believe that my understanding of the diversity of our Aboriginal and Torres Strait Islander Peoples' cultures and my lived experiences will influence my health practice*	8	7	4.50	4.57	5.00	5.00	0.00	1.00
44. I recognise that my identity as an Aboriginal and Torres Strait Islander health professional/student will influence my health practice*	8	7	4.63	4.57	5.00	5.00	−0.20	0.84
45. I believe the dominant culture of the Australian health care system influences peoples' perceptions of me as an Aboriginal and Torres Strait Islander health professional*	8	7	4.38	4.29	4.00	4.00	−0.13	0.90
46. I believe that my increased understanding of the different forms of racism in health care and associated stereotypes, as well as my experience of racism may impact positively on Aboriginal and Torres Strait Islander health*	8	7	4.50	4.14	4.50	4.00	−0.76	0.45
47. I can imagine healthcare practice that is free from racism*	8	7	3.38	1.86	3.00	2.00	−2.77	0.01

*These items were completed by Aboriginal and Torres Strait participants only.

> overload, some of it didn't retain in my brain because it was just all on top of each other. (Mentee)

Some mentees struggled with a lack of managerial support for participation in the DANMM programme:

> My barrier and that's on everything, is my NUM. It's my nurse unit manager. In their mind, they think I'm not hired as an Aboriginal person. I don't hold an identified role. So, it's like they think that if it's not in your job description, then you don't need to be a part of that (Mentee)

Others described having to actively advocate for their involvement in the DANMM programme:

> There have been multiple times I've had to use our own strategic plan and goals to say, hey, like, this [DANMM] is actually the goal of [LHD]. You're going against our own purpose. So, I have had to go over her head the majority of the time because you shouldn't have to hold an identified role and that's the reason why I didn't want it, to have your input into Aboriginal business. (Mentee)

Despite these barriers, participants valued the mentorship experience for fostering professional and personal growth. Mentorship was described as a reciprocal relationship process that enabled individuals to recognise their strengths and develop strategies for navigating the workplace:

> It's been really great to kind of have this mutual relationship of learning about each other and how we navigate through life, but then bring it back to that professional context and going right, ok, well, if this is where you want to go, this is the supports that I can sort of give to you and all those little tips and tricks and each time we meet. (Mentor)

Mentees engaged with mentors in a variety of situations "So I write what I think it is and I'll flick it to (mentor), and then (mentor) will have a look and say, yes, you're on

your right track" (Mentee) and supported not only professional progress but also was an important connection.

> …. without (mentor), I probably wouldn't have done it. Just having the right people in those roles that have that connection to Country and know what we're talking about. (Mentee)

Power of connection

The DANMM programme involved synchronous and asynchronous communication. Online modules that were available to participants, although asynchronous, still proved to be a valuable mechanism for connection. Participants found the modules beneficial, and although they may not host the technologically advanced applications, the focus was always on people.

> DANMM has always stayed true to itself, and I think the beauty of DANMM is the simplicity of it and I think that's actually one of its strengths. It doesn't have to be this incredibly visual experience because that's not what it is about. It's about the relationships. (Mentee/Mentor)

The support provided within the relationship of mentee/mentor was paramount:

> It was partnering with that person with the same personality, that was the best part about it, they found a mentor for you, that would be suited to you. (Mentee)

Connection was integral from the foundational point of the DANMM programme. During recruitment, participants spoke of how important it was to *rely on "word of mouth"* indicating that:

> That spreads faster in our communities than anything else. (Mentee)

Mentees and mentors emphasised the impact of these connections on their experiences:

> I think it's a support from your mentor. For myself, I'm probably one of the positive ones because me and (mentor) do have that connection. We can contact each other; we swapped phone numbers and we're able to talk each other through things. (Mentee)
>
> Being linked into the DANMM program, then, like all of those skills, has been fantastic because who I've been paired with and mentoring, we just have this beautiful relationship. (Mentor)

For some, the search for connection in the workplace was a challenge before joining the DANMM programme:

> worked in a small little facility and predominantly did [specific role] nursing but still wasn't linked in with any mob either and it's that's really difficult work in the hospital. You probably know from your own experiences, you're sort of like, where are all the other black fellas? (Mentor)

To ensure that new staff had access to these connections, participants suggested that the DANMM programme should be introduced during induction:

> Even when we do all the mandatory introduction training, that should be something that is said at the very start. Because everybody's doing the mandatory training and then talking through it, a lot of it is like, how do we do it? how do we go about it? (Mentee/Mentor)

It was the connection and relationship building that had the greatest impact on day-to-day work. For mentees, peer-to-peer learning from experienced colleagues was invaluable and seen as long-lasting; however, finding time to connect was the biggest challenge.

> Especially the advice or some tips, especially with yarns or even just with the mentors and mentees, because nine times out of ten, the mentors have had years of experience in this industry. (Mentee)
>
> Through this program, this will be like a relationship that we will have moved forward forever now because that's what Aboriginal people, that's what we do. We form a relationship and we literally we foster it for forever (Mentor)

For some, mentorship was a way of instilling cultural ways and cultural health in the workplace. It facilitated relationships, connection and social-emotional well-being support:

> When I catch up fortnightly on a Wednesday that's your time for that bit of cultural supervision and that's intrinsic to our well-being as well because we know we carry that colonial load, we carry that cultural load. God, even the clinical load that mob face so just to be able to come in and touch base and be like what's going on with you or she can say I've got this going on in my community …. We get so bogged down in our work and it's just really nice to find those pockets of light that bring you back to your culture because we live our whole lives looking for those little pockets. (Mentor)
>
> I just was going through a bit of a rough patch at that time, so I thought this might be something that can help me and I can meet someone, and I can get some advice or just have a chat, a break away from the world a little bit sometimes and I'm very passionate about my culture and my heritage. (Mentee)

Navigating prejudice and racism: the impact of mentorship on workplace relationships

All participants spoke of prejudice, noting its impact on both healthcare professionals and the clients they cared for. One participant described how prejudgement by health professionals was often perceived by clients, affecting their willingness to seek care:

> What a lot of people forget is that the prejudgment, they're human, they notice, they know when you are

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making those prejudgments and unfortunately, most people won't want to interact or react very nicely to you as a professional because you're showing off that prejudgment already and you're not respecting them as you should. I am a big believer that you treat people how you want to be treated. (Mentor/Mentee)

Prejudice was seen as a major barrier to clients accessing care, as the environment created by healthcare workers, could limit their sense of cultural safety:

> If you treat them [clients] with a little bit of disgust or a little bit of judgment because of their history, no one is going to want to actually interact and actually want to access the help. No one is actually going to want to say, I need help- How can I do it? How can you help me? No one's actually going to do that if no one actually feels culturally safe. (Mentor)

The effects of workplace prejudice extended to healthcare workers themselves, with mentorship providing an essential support system for processing the impact of colonial load:

> I don't want to get people offside. But it can be frustrating at times and sometimes just having that support person would be nice to sort of bounce off and say, look, this is where I'm feeling. I'm feeling worn out. I'm feeling exhausted. I don't know what to do. Do you have some advice for me? Something, even just the chat. Just something to be like the this is what's happened. I'm really unsure what do I do. (Mentee)

Mentorship played a key role in helping participants navigate workforce racism, discrimination and bullying. Having a mentor provided a crucial safety net that prevented mentees from leaving their jobs:

> If you have someone bullying you, discrimination, or racism comes up, you have that person to go, this is what I've experienced. I think that keeps you in your job as well because normally if you experience that in your job, you'd walk away. (Mentee)

Preparedness for practice in local communities was seen as essential in addressing these challenges. Through fortnightly online yarns, participants explored solutions to emerging issues:

> Now what was once OK is not OK now. And nine times out of ten, it's generally the older staffing, all the older colleagues and they don't mean any harm. It's just they haven't been updated or educated on the newer stuff that are coming out. I think as a group or as people especially with our yarns, if we're realising that there's multiple facilities that are having the one issue, maybe someone or something to look into building something to educate people on that or to help make the people who are in this program feel more comfortable or make our patients feel comfortable or make our team feel more comfortable. (Mentee/Mentor)

Participants also described how workplace racism and prejudice personally affected them, motivating them to challenge misinformation and create a safer, more inclusive environment:

> I guess that fires me up a little bit too, to try and dispel some of those myths and not let people get away with saying certain things that are quite derogatory to an Aboriginal person, and sometimes they may or may not even realise what they've said. Yes, so I think [xx] had a few experiences like that. I just want to make it a safer place and an environment where we can learn from each other, how good would that be? To have all that ancient knowledge and it would just be great. (Mentor)
>
> … I think there's a lot of work that needs to go into being a culturally safe place for us as Aboriginal people, whether we hold identified roles or not, [our contribution] it's still massive impact for our people. (Mentor)

Navigating these racist and prejudice experiences required trust and self-confidence, which mentorship helped to foster. One participant described how the mentoring process helped them overcome their own initial reservations:

> I actually had to go on that journey to learn because you do, you always have these walls up with non-Aboriginal people. You think, oh, they're going to say something, they're going to do something. I'm going to have to get defensive, where's the conversation going to go here? And I feel like I just needed to trust the [mentoring] process and to see that yes, how actually successful that that has been. So, you know what, it's actually been great learning for me as well. (Mentee)

From participants' perspectives, these conversations strengthened the broader goal of reconciliation, fostering inclusivity within the workplace:

> I think in the grand scheme of things, this is reconciliation. This is coming together; this is going on the journey with us. So yes, I think to see how it has evolved even just from when I came in like [xx] months ago. I think it's a really positive thing. (Mentee)

DISCUSSION

This study aimed to evaluate the feasibility and acceptability of the upscaled pilot implementation of the DANMM programme and its impact on cultural safety knowledge and workplace experiences among Aboriginal nurses and midwives. By integrating quantitative findings from the GY tool and qualitative insights from semi-structured yarns, we demonstrated the programmes

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potential as a culturally responsive and supportive mentoring model.

Quantitative findings revealed statistically significant improvements in understanding key concepts related to cultural safety. Notably, an increased recognition of power imbalances (item 32), awareness of white privilege (item 40) and a shared professional responsibility for improving first people's health (item 13). However, a significant decrease in scores among Aboriginal participants regarding the belief of achieving a racism-free healthcare system (item 6) was observed.

These results, in combination with qualitative findings, highlight the ongoing psychological toll of confronting systemic racism in the workplace. In particular, the lived reality of unaddressed cultural and colonial load within healthcare organisations.

Colonial load refers to the enduring institutional structural and societal effects of colonisation, which place the burden of addressing systemic injustices on Aboriginal and Torres Strait Islander professionals.[20 21] In contrast, cultural load encompasses the often-unseen responsibilities of representing one's culture in predominately non-Aboriginal workplaces. This includes expectations to educate colleagues, advocate for culturally safe practices and manage race-based workplace stress.[20 21]

The observed decrease in *the belief that all 'First Peoples' receive equal treatment in healthcare settings* (item 18) suggests that the programme prompted critical reflection on equity in healthcare delivery. This is aligned with previous studies demonstrating that cultural safety programmes foster a deeper awareness of systemic institutional discrimination.[2 22] Moreover, this increased awareness in combination with a reduced optimism about achieving a racism-free healthcare system among Aboriginal participants, reflects the emotional toll of continually confronting systemic racism within the workplace. Aboriginal participants who have undertaken Australian cultural safety education programmes have reported a decline in optimism when imagining a healthcare system free from racism and discrimination.[12] Similar findings have been demonstrated in Canadian Aboriginal Nursing mentorship programmes.[23] Therefore, increased awareness without structural change may amplify staff frustrations manifesting as reduced optimism for workplace resolutions and may lead to staff attrition. Furthermore, workplace prejudice, racism and discrimination were consistently reported by participants, contributing to workplace stress. The Australian HR Institute report on the Australian Public Service published in 2021[24] identified that racism was ongoing within public sector workplaces, recommending mentorship programmes as key organisational strategies for fostering inclusivity. The qualitative results suggest that the DANMM mentorship model became a vital support mechanism for Aboriginal nursing and midwifery staff, by fostering peer learning, strengthening cultural connections and enhancing confidence in navigating systemic workplace challenges and stressors and may be one way to foster staff retention.

In contrast to the perceived benefits, practical challenges to participation were evident, noting information overload, time constraints and a lack of managerial support as barriers. While improvements to the delivery and content of the DANMM programme can be made, the general lack of support from line managers is consistent with research on this topic,[2 25] impacting the programmes implementation, sustainability and broader translation. Future research should examine organisational and workplace readiness for mentoring programmes such as DANMM to better identify implementation barriers. Researchers should also consider employing longitudinal research designs to evaluate the long-term impacts of mentorship programmes on Aboriginal and Torres Strait Islander nurses' and midwives' career progression and evaluate the effectiveness of these programmes on workforce retention through experimental study designs such as randomised controlled trials. Additionally, studies evaluating healthcare leadership training in anti-racism, cultural safety and equity-driven policy reform are needed to drive systemic change. Addressing these research gaps is essential to ensuring that mentorship programmes translate into meaningful outcomes for Aboriginal and Torres Strait Islander healthcare professionals and to ensure the delivery of culturally safe patient-centred care for the communities in which they serve.

Overall, the findings demonstrate both the acceptability and feasibility of the DANMM programme as a culturally safe mentoring initiative. The positive participant experiences, paired with evidence of increased cultural safety knowledge, support the programme's acceptability. At the same time, the identification of practical implementation barriers, such as time constraints and managerial resistance, provides critical insights into feasibility considerations for future translation. These lessons will inform further development, organisational readiness assessments and refinement of implementation strategies to support broader uptake across health services.

This study has several limitations that should be considered when interpreting the findings. As is common in pilot implementation research within real-world healthcare settings, the sample size was small, despite extensive efforts to recruit participants across four LHDs. This reflects the practical challenges of delivering and evaluating programmes like DANMM in busy clinical environments. While the small sample size, inherent in pilot studies, limits the generalisability of findings and may not fully capture the diversity of experiences among Aboriginal and Torres Strait Islander nurses and midwives, it is important to acknowledge that Aboriginal and Torres Strait Islander voices remain significantly underrepresented in the academic literature.

In addition, the exploratory study design and use of purposive sampling have inherent selection bias. The absence of matched pre- and post-programme data further limits the ability to assess individual-level changes in scores over time. Finally, the short post-programme data collection window restricted our capacity to examine

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long-term impacts of the DANMM programme on workforce retention or provide insights into the sustainability of the DANMM programme's implementation within routine professional practice.

CONCLUSION

This study explored the impact of the implementation of the DANMM programme on cultural safety knowledge, mentorship and workplace experiences of Aboriginal nurses and midwives across four LHDs in NSW, Australia. Quantitative results indicate the programme may improve aspects of cultural safety knowledge; however, optimism for achieving a racism-free workplace was decreased among Aboriginal participants. Qualitative findings highlight the positive benefits of mentorship as a protective mechanism for overcoming the psychological toll of colonial and cultural load, as a reality of working within colonially structured health systems. Implementation barriers, including information overload, time constraints and managerial resistance, impact the translation of cultural safety programmes, including DANMM, within healthcare organisations.

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