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Strengthening assessment and response to mental health needs for Aboriginal and Torres Strait Islander children and adolescents in primary care settings: study protocol for the Ngalaiya Boorai Gabara Budbut implementation project

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ABSTRACT

Introduction Opportunities for improved mental health and wellbeing of Aboriginal and Torres Strait Islander children and young people lie in improving the capability of primary healthcare services to identify mental healthcare needs and respond in timely and appropriate ways. The development of culturally appropriate mental health assessment tools and clinical pathways have been identified as opportunities for strengthening workforce capacity in this area. The Ngalaiya Boorai Gabara Budbut implementation project seeks to pursue these opportunities by developing and validating a psychosocial assessment tool, understanding what services need to better care for your people and developing resources that address those needs.

Methods and analysis The project will be governed by a research governance group comprising Aboriginal service providers, young people, and researchers. It will be implemented in an urban health service in Canberra, and regional services in Moree, Wollongong, and the Illawarra regions of New South Wales Australia. The *validation study* will follow an argument-based approach, assessing cultural appropriateness and ease of use; test–retest validity; internal consistency, construct validity and the quality of decisions made based on the assessment. Following piloting with a small group of young people and their caregivers (n=10), participants (n=200) will be young people and/or their caregivers, attending one of the partner services. *The needs assessment* will involve an in-depth exploration of service via an online survey (n=60) and in-depth interviews with service providers (n=16) and young people (n=16). These activities will run concurrently. Service providers, researchers and the governance group will codesign resources that respond to the needs identified and pilot them through the participating services.

Ethics and dissemination The Aboriginal Health and Medical Research Council of NSW Human Research Ethics committee (#1769/21) has approved this project. Informed consent will be obtained from all participants and/or their caregivers (with assent from those aged <16 years) prior to participating in all aspects of the study. Research dissemination will occur through participating health services, academic journal articles and conference presentations.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This project responds to key barriers to quality mental healthcare for Aboriginal and Torres Strait Islander young people.

⇒ Intervening to improve mental health for young Aboriginal and Torres Strait Islander people may have lifelong and intergenerational benefits.

⇒ The project's methods are highly participatory and governed by Aboriginal young people, community leaders and service providers, and as such, the project's findings are likely to be highly valued by these key stakeholders.

⇒ The project is limited geographically to health services in southern New South Wales and the Australian Capital Territory; however, it is likely to be valued by broader communities, care providers and policymakers through its alignment with national policy frameworks.

⇒ Further longitudinal work will be required to understand the longer-term consequences of improved assessment and services responses.

INTRODUCTION

The mental health of children and adolescents is emerging as a key policy focus for addressing the substantial and largely unshifting burden of poor mental health experienced by Aboriginal and Torres Strait Islander people, given that this age is where mental health needs first emerge.[1–3] Additionally, childhood and adolescence provide opportunities for prevention by modifying risks and

determinants of mental disorders and by treating mental disorders in early life, which can prevent future and inter-generational ill health.[4–6] The need for this is reflected in elevated psychological distress reported among Aboriginal and Torres Strait Islander adolescents at twice the rate of their non-Indigenous counterparts; and mortality due to intentional self-harm is four times higher than that of non-Indigenous people in the same age group, particularly among boys and young men.[7–10] Concerningly, the rate of hospital separations due to substance use disorder among adolescents aged 10–14 years is more than five times that of non-Indigenous young people of the same age, reflecting onset at an early age.[10] Similar patterns are found in relation to hospital separations for reactive stress, schizophrenia and psychosis, indicating a high level of unmet need for issues that should not require hospitalisation where there is a functioning health and social system supporting these young people in the community.[10] For service systems to respond adequately to need, gender differences that emerge in the adolescent years in relation to mental health needs and engagement need to be considered in assessment and care planning alongside contextual factors relating to structural inequality, a lack of trust in mainstream services, racial discrimination and complex, intergenerational trauma.[11–13]

The link between experiences of trauma in early life and mental health outcomes over the life course is well established. Evidence on the assessment of 'adverse childhood events' shows a strong and consistent association between early trauma and a range of physical and mental health outcomes.[14–17] However, appropriate interventions to address the effects of trauma can help recovery and support ongoing safety.[18] Therefore, identifying and addressing issues relating to trauma early, through appropriate screening and referral to mental health services or family support, for example, may have lifelong and intergenerational benefits. For Aboriginal and Torres Strait Islander people, trauma informed services are those which acknowledge the continuing impact of colonisation on physical, social and emotional well-being (SEWB) and mental health and provide environments that are culturally, physically and emotionally safe.[18] For young people accessing primary healthcare, identifying trauma-related issues requires screening strategies that move beyond the presenting complaint to enable early detection and action before health problems develop or worsen.[19] In this way, social norms that can prevent help-seeking, for example, the reluctance of young men to disclose mental health worries while presenting with physical injuries or concerns, which may or may not be related to an underlying mental health issue, may be overcome.

The *National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Well-being 2017–2023* lays out a comprehensive approach to addressing mental health within the health system, with a focus on accessible and responsive healthcare in early life to prevent the emergence of mental health issues, substance use and other harms later on.[1] Accessible and

responsive primary care for young people requires a suite of culturally adapted, validated SEWB and mental health assessment tools for use across the life course.[1] Previous work has sought to address the need for culturally relevant assessment tools for Aboriginal and Torres Strait Islander people, for example, through the adaptation of a depression screening tool, the Patient Health Questionnaire[20]; and the validation of some mainstream assessment tools with Aboriginal people.[21] However, many assessment tools commonly used in clinical practice have not been validated with Aboriginal and Torres Strait Islander people, particularly adolescents. There is also a lack of evidence about the culturally appropriate assessment of complex trauma, which needs to be addressed in a context of cultural safety, where appropriate responses are also available.[22]

For young people, there has long been the assumption that access is the key barrier to effective response. While this is may be true for some young people, earlier work evaluating the Trauma Assessment, Referral and Rehabilitation Outreach Teams (TARROT) highlighted that many young people with acute mental health needs have been in frequent contact with the health system, including emergency departments, but have not received adequate care.[23] This is consistent with research identifying a lack of co-ordination and collaboration between services, under-recognition and underdiagnosis of mental health disorders as additional barriers to adequate care for Aboriginal young people.[24] TARROT was established in 2016 in response to concerns expressed by community members and health service staff about the safety of young people in their communities, and a lack of capacity within services to provide appropriate responses, due to workforce training deficits or a lack of relevant resources. Primary care, in particular the Aboriginal Community Controlled Health sector, plays a key role as a 'first port of call' where issues can be identified and addressed. In the context of high levels of unmet need, strengthening the capacity of primary healthcare services to identify the mental health and SEWB needs of young people and provide timely, trauma-informed care and referral is an important goal.[25]

Responding directly to the recommendations of the National Strategic Framework,[1] and building on the TARROT work, the Ngalaiya Boorai Gabara Budbut (meaning, supporting the heads and hearts of Aboriginal and Torres Strait Islander Children and Adolescents) Implementation Project seeks to strengthen two key foundations of quality SEWB and mental healthcare delivery for Aboriginal children and adolescents identified in consultation with partner communities,[23] namely, high quality, culturally appropriate assessment and timely, appropriate system response. Underlying these pillars of care is a need to strengthen the capacity of the workforce to address the social, cultural and health needs of Aboriginal children. ˙We aim to improve of health service capacities and capabilities to identify and respond to the needs of Aboriginal young people by
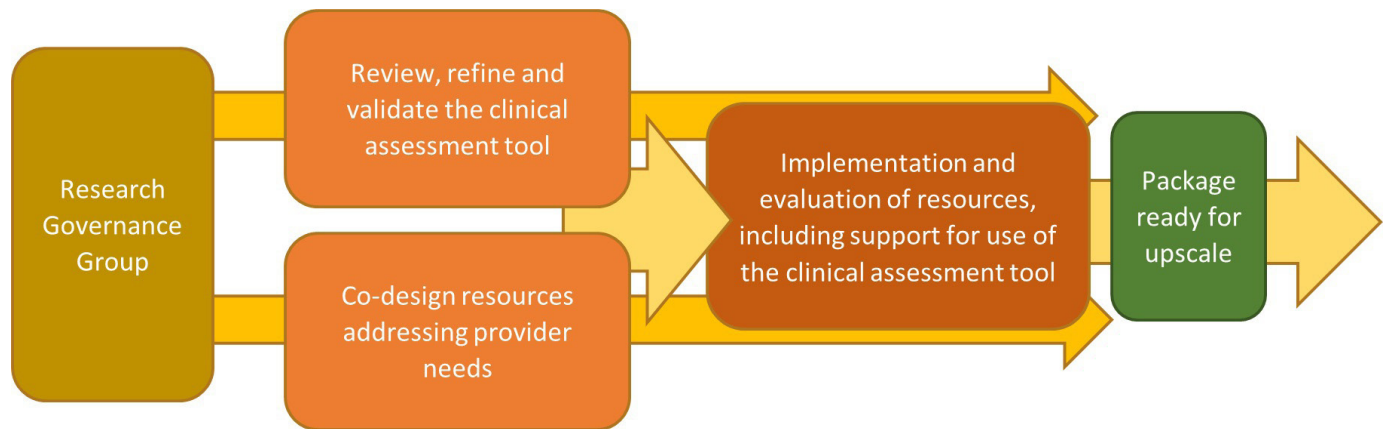
Figure 1 Community partnership and meaningful engagement of young people as a foundation for this research.

1. Developing and validating a culturally appropriate screening tool for assessment of trauma and adverse childhood experiences in terms of its ability to appropriately identify needs and guide service responses.
2. Developing, implementing and evaluating a package of resources targeting health providers, and likely to include training and decision support tools to assist triage, care planning, case conferencing, referral and treatment, to ensure timely and appropriate response to SEWB and mental health needs.

METHODS AND ANALYSIS

The two components will be implemented concurrently (figure 1). This is an implementation study, primarily concerned with providing value to the users of the research, not just the production of knowledge.[26] In this case, the users are service providers who provide care to young people accessing the partner health services, the young people themselves and their families or caregivers.

This study will build on existing community and service partnerships, established through the TARROT clinical outreach programme. The organisations that were involved in TARROT are continuing their commitment to improving trauma informed care for young people through their involvement in this project. The study will be implemented in an urban health service in Canberra, and regional services in Moree and Wollongong in New South Wales Australia. Each region represents significant diversity in terms of needs and existing service platforms, for example, Aboriginal adolescents in Canberra have access to an Aboriginal Medical Service (*Winnunga Nimmityjah*) with visiting mental health professionals, a youth centre (*Gugan Gulwun*), a youth-focused, social health service (*Miyay Birray Youth Service*) as well as access to government funded mental health services. By contrast, the service in the Illawarra (*Illawarra Aboriginal Medical Service*) has no visiting paediatric or adolescent mental health specialists. In Wollongong, *Djanaba Well-being* is a specialist multidisciplinary primary healthcare service for young people aged 18 or younger. More detailed information about the partner services is included in table 1. It should be

noted that this research is taking place in the context of the COVID-19 pandemic, which has had an impact on the mental health of young people and their families, as well as increasing pressure on health services. The Aboriginal community-controlled health sector has played a key role in supporting Aboriginal and Torres Strait Islander communities throughout the pandemic through the development of culturally appropriate, evidence based information and health promotion messaging, adapting their social and health services to the immediate needs of the community, and advocated for Covid-related policy development to occur through a health equity lens.[27 28] While this inevitably presents challenges for the health services participating in research, it also reinforces the importance of strengthening trauma-informed responses to mental health needs.

Patient and public involvement

Representatives of each of these services have formed a research governance group (RGG) to ensure the study is governed by Aboriginal people and to enable codesign of the research, capacity development and translation. The RGG also includes a youth representative aged 18–24 years with relevant experience of health services alongside the research team. To ensure that young people are continuously engaged throughout the project, anonymous client feedback forms for young people and their caregivers attending services will be collected and monitored throughout the project, and young people will be engaged in focus groups and interviews informing actions and service improvement. Results will be disseminated to participants via partner services, community reports and academic publications.

Component 1: development and validation of an intake assessment tool

The aim of this component is to develop an assessment tool that can be used for screening mental health and psychosocial well-being at clinical encounters with young people themselves or their caregivers. The assessment is intended to identify those with mental health needs, but also those at risk where early clinical response may

Table 1 Characteristics of partner services

Service	Service description	Location	Staff (n)	Access to mental health and/or child/adolescent specialists	Child/adolescent clients (n)
Winnunga Nimmityjah Aboriginal Health Service, ACT	Primary healthcare service	Narrabundah is a suburb of Canberra, the capital of Australia, which has a population of 467 000, of whom 1.9% are Aboriginal and/or Torres Strait Islanders.	48	3 psychologists on staff, 3 psychiatrists and two psychiatry registrars, visiting paediatrician (position not filled at time of writing), allied health	1327 clients aged <20 during 2020–2021 FY25% of total)
Gugan Gulwun Youth Aboriginal Corporation, ACT	Youth service offering group programmes targeting mental health and SEWB	Wanniassa is a suburb in the southern most town centre of Canberra, described previously.	16	NA	1189 participants in group programmes 2019–2020 FY
Miyay Birray Youth Service, NSW	Youth service offering recreation education and social programmes	Moree is a rural town with a population of 7383, 21.6% of whom are Aboriginal and/or Torres Strait Islanders.	4	NA	~200 children aged 12–18 years engaged in programmes at any one tim
Illawarra Aboriginal Medical Service, NSW	Primary healthcare service	Wollongong is a coastal city south of Sydney, with a population of 295 669, of whom 2.6% are Aboriginal and/or Torres Strait Islanders.	39	One in-house psychologist, family support workers; local bulk-billing (free to client) psychiatrist, paediatrician, psychologist	Data unavailable
Djanaba Well-being Child and Adolescent Centre of Excellence, NSW	Young focused primary healthcare service	Wollongong, described previously	6	2 psychologists on staff, child/adolescent psychiatrist visit monthly, dietician on staff	68 during 2020–2021 FY

ACT, Australian Capital Territory; FY, Financial Year; NA, not applicable; NSW, New South Wales.

improve outcomes. We used the existing TARROT intake assessment tool as a foundation to this work, transposed onto an electronic interface so that it can be completed via either self-report or clinical interview. Developed by PSANB and other TARROT staff for clinical assessment of young Aboriginal and Torres Strait Islander people at risk of trauma, it measures broad areas of well-being (as defined by UNICEF, the Australian Research Alliance for Children and Youth and the Australian Early Development Consensus and key exposure and outcomes as recommended by RACP and RACGP as part of a routine psychosocial assessment, with additional focus on trauma (table 2).[29][30] This intake assessment has been used in more than 100 episodes of care.[23]

The approach to tool development and validation described here has been developed with input from the research team and RGG.

Step 1: confirmation of domains and candidate tools for inclusion in the assessment tool

The senior research team has identified several existing child and adolescent assessment tools addressing the domains of interest, in addition to those already included in the TARROT-IAT (table 2). The RGG considered whether there are additional domains or questions that should be included in a revised assessment tool. To do this, the RGG drew on reviews of adolescent health, relevant guidelines, deidentified aggregate data from previous use of the tool in the TARROT programme and community

knowledge, and made the final determination on what assessment tools will be included.

Step 2: language and cultural verification

The RGG confirmed and where required, enhanced the items included in revised assessment tool. They will review each item for acceptability, semantics, and recognised terminology. The resulting final draft revised assessment tool was focus tested with a small group of young Aboriginal people and/or their caregivers (n=10) to obtain qualitative feedback on the selected items. Feedback was incorporated into the revised assessment tool prior to moving onto the validation study.

Step 3: validation study

We will conduct a validation study following Kane's argument-based approach, which is underscored by the concept that validation is not about the tool itself but about the decisions that are made based on its use and interpretation.[31] This is aligned with the aims and real-world context of implementation project, which seeks to determine whether using this assessment tools leads to improvements in care planning and referral. Following a process outlined Simpson *et al*[32] data will be collected to assess the tool against four key assumptions (table 3).

We will not carry out a criterion validation against a gold standard because the assessment tool measures multiple domains and because tools that are typically used as the gold standard may not be valid for Indigenous people.

Table 2 Domains and items included in the intake assessment tool

Domain	Young person self-report	Caregiver report	Possible alternatives
Demographics/personal details	Name, gender, date of birth, school, family, living situation, hobbies, support	Medical services accessed, child protection details if relevant Caregiver employment, housing and financial stability/stress	NA
General health	Self-rated health status, history of vision problems, hearing problems, dental history, medications	Care-giver self-rated health Kessler 5	NA
Risk behaviours	Alcohol and other drug use, tobacco use (lifetime and recent use), contact with police/justice system	Alcohol and other drug use, tobacco use (lifetime and recent use) contact with police/justice system	Let's talk about it/Goanna surveys.[50 51] Alcohol, Smoking and Substance Involvement Screening Test[52]
Behavioural and emotional problems/strengths	Strengths and Difficulties Questionnaire—Young Person Version	Strengths and Difficulties Questionnaire—Caregiver Version	Strong Souls[53] RCADS-25 and RCADS-20[54]
Post-traumatic stress	Child Report of Post-traumatic Stress	Parent Report of Post-Traumatic Stress	Measure of Indigenous Racist Experiences[55] Children's Revised Impact of Event Scale[56]
Cultural well-being	Identity, knowledge of country, mob, language, pride, participation in cultural activities		Aboriginal Resilience and Recovery Questionnaire[57]
Adverse childhood experiences	CYW ACE-Q Teen Self-Report	CYW ACE-Q Child 0–12 Adult ACE-Q	
Strengths	Positive skills, magic wand question	Positive skill, pride, role models	Growth and Empowerment Measure[58]

ACE-Q, Adverse Childhood Experiences Questionnaire; CYW, Centre for Youth Wellness; RCADS, Revised Child Anxiety and Depression Scale.

However, concurrent validity will be assessed by exploring the association between the assessment tool scales and two screening questions:

Question 1

'On average, over the past two weeks, how have you been feeling?' (caregiver version: '…how has the young person in your care been feeling?')

Question 2

'Is there anything you might like help with?' with response options: no; maybe; yes, but not today; yes, today.

The use of emojis (figure 2) has growing support in the literature as appropriate for use with children and young people, and are becoming increasingly common in both research and clinical practice.[33–35] The argument

Table 3 Assumptions of argument-based validation approach[31]

Assumption	Data
Scoring: The items are understood, culturally relevant and acceptable, and staff are confident using the intake assessment tool.	RGG assessment Staff and client feedback on the survey (staff: how well did the client engage with this assessment? Clients: how easy or hard did you find this survey?)
Generalisation: Single sample of performance is indicative of all possible performances, that is, across conditions.	Test–retest reliability
Extrapolation: Scores on the intake assessment accurately reflect the construct being measured.	Assessment of internal consistency and construct and concurrent validity
Implication: the way in which the outcome of the intake assessment is used to inform decisions and actions	6-month follow-up interview with young people and caregivers Case conference with staff involved in care

RGG, research governance group.

Figure 2 Emojis for use in overall mood emotional well-being question.

for including the second 'help' question stems in part from its face validity for use with young people in a health setting, and from research indicating that the validity of highly sensitive screening questions for depression (the Whooley questions[36]) was improved by the addition of this as a third question.[37]

There is conceptual overlap between scales included in the assessment tool, so through this process, we are seeking to develop our own tool with reduced items that is acceptable, brief and parsimonious to administer to young people and their caregivers in primary healthcare settings, to evaluate its psychometric properties and usefulness in a clinical setting.

Inclusion criteria

Participants will be aged 18 years or younger, Aboriginal or Torres Strait Islander, and attending a primary healthcare service in a partner community for any issue. This may include attending the service for a standard health check, mental health symptoms as the primary concern, or having an assessment relation to being in out of home care. Participants must be able to provide free prior and informed consent (16+ years of age) and/or parental/caregiver consent. Reasons for exclusion will include acute illness, distress or crisis, for which they will be referred for appropriate care.

Screening

During recruitment, consecutive patients attending the partner healthcare service who meet inclusion criteria will be approached by the chief investigator (NB) or trained local researcher to discuss the research. To monitor recruitment and barriers to participation, a screening log will record all eligible participants' initials, date of birth, the date they were considered for the study and a brief description of why a patient did not consent or was excluded (if applicable).

Consent

Informed consent will be obtained from all clients and/or their caregivers (with assent from those aged <16 years) to participate in the study. Participant telephone contact details and alternate contact details will be collected and permission sought to contact for retest after 2 weeks and follow-up at 6 months (see further).

Data collection

Data collection commenced in June 2022. All assessments will be carried out in a private space within one of the partner health services. Conducting assessments in the context of a health service consultation ensures support

and referrals are readily available. To accommodate participants preferences and capabilities, assessments may be self-completed by participants (with a service provider present) or conducted via interview. For younger participants, caregivers will respond to the assessment on their behalf (using a 'caregiver version' of the assessment). All participants may have a caregiver or companion present. Responses will be entered onto electronic tablet and uploaded to a secure server for analysis. Assessment summary scores will be uploaded to their clinical record and checked by the primary healthcare service. If a serious mental health condition is suspected, the participant's general practitioner or nominated health provider will be contacted and encouraged to arrange reassessment, treatment or formal referral according to their clinical judgement. The assessment will be repeated within 2 weeks following the same processes.

Analysis

Sample size determination and power

We calculate that a sample size of 200 will allow us to estimate the sensitivity and specificity of a cut-off point, using a scale such as Kessler 5, with a precision of <10%.

Exploratory factor analysis (EFA)

The Kaiser-Myer-Olkin (KMO, measuring the proportion of variance between items that might be common variance) and Bartlett test of sphericity (assessing whether items are related and may have an underlying structure) will be used to assess sample adequacy to conduct EFA. Assuming a KMO value greater than 0.5 (indicating that the sample is adequate for EFA), an EFA using principle axis factoring with oblique rotation will be used to investigate the underlying factor structure of the revised intake assessment.

Validity and reliability

Cronbach's alpha will be used to determine the internal consistency of the items within the revised assessment tool. Item Response Theory analysis will also provide an average reliability measure for each domain. Concurrent validity will be assessed using a single question asking participants to rate their overall well-being on a 5-point scale, with visual options. The assessment will be repeated within 2 weeks and test–retest validity will be estimated with assessment using the intraclass coefficient.

Step 4: 6-month follow-up

For those who consent, 6 months following their participation in the first assessments, researchers will hold case conference with key health service staff or points of contact to see whether a care plan was established and implemented or referrals were made. This will be coupled with a phone interview with the participant or a follow-up visit to the health service (if preferred) to explore how satisfied participants were with the support or services offered since the assessment.

Component 2: development, implementation and evaluation of resources to strengthen response

This component aims to develop, implement and evaluate resources that can support healthcare providers in responding to the mental health needs of Aboriginal and Torres Strait Islander young people. To do so, we will first describe and quantify the knowledge and service gaps that providers identify in relation to the care provided to young people. This needs assessment has been modelled on an existing workforce survey with Aboriginal adolescents in Far North Queensland (focussing on primary healthcare generally).[38] The assessment of service provider needs will include three key inputs: a survey with all relevant healthcare providers working children and adolescents in each community, augmented by interviews with service providers, and interviews and/or focus groups with young people. A package of interventions will be developed to build the capacity and capability of health providers to respond to Aboriginal adolescent health through better trauma-informed assessment and care planning. The package will be codesigned, implemented and evaluated following the processes outlined in the Consolidated Framework for Implementation Research (CFIR), including planning, implementation and reflection/evaluation across time and settings.[39] This will enable refinement of the intervention package (within the constraints of the project timeline) and facilitate sustained engagement with the partner health services and service providers. This CFIR was chosen because it enables decolonising research processes and has been widely used in Indigenous populations.[40] Its application to this project is explained schematically in figure 3.

Service provider survey

WHO global standards[41–43] have been incorporated into assessment tools that will be adapted for this project with input from the RGG.[38] Service providers will be invited to participate via a survey link sent via email. An inclusive approach will be employed to incorporate as many relevant services and health providers as possible in each of the regions. The survey will explore (1) existing competencies of healthcare providers in partner communities to respond to child and adolescent mental health (to understand what exists and what can be strengthened), (2) specific needs of healthcare providers to provide high-quality, responsive mental healthcare.

The survey will be completed electronically using REDCap,[44] and sample size will reflect all relevant healthcare providers in each site (n=60). The survey will remain open for 3 months from April to June 2022.

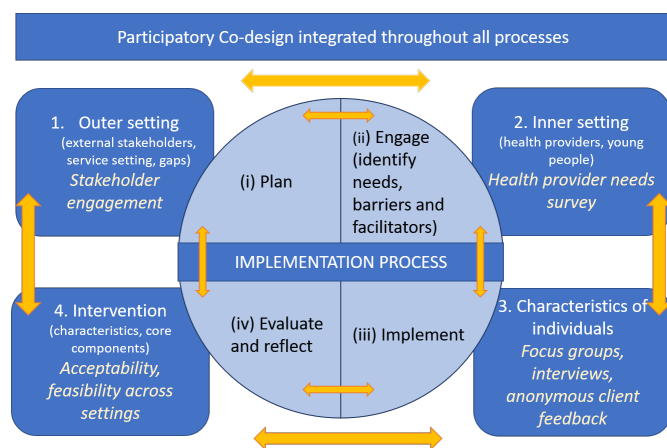### Focus groups and interviews
Children and adolescents

Focus groups and/or in-depth interviews will be carried out with children or young people, along with their parents (according to the evolving capacity of the child) who access partner services (n=4 per site, 16 children, young people or caregivers in total). Participants will be male and female and aged 18 or under and able to provide informed consent directly and/or with parent/carer authority. Focus groups will be conducted for young men, women or non-binary participants separately, according to the preferences of individual participants, the cultural protocols of the health services and the advice of the RGG. Focus groups and interviews will be conducted from July to November 2022.

Researchers will liaise with service providers to identify children (and/or caregivers) or young people sufficiently familiar with the health services to participate. Once identified, potential participants will be approached by the service provider known to them and referred to the research team.

Participants will be invited to participate in a focus group in the first instance, in a small group that replicates peer interactions (five to eight participants). However, some may prefer not to talk in a group, and with a view to including all voices in this research, a flexible approach will be taken where participants may be offered an individual interview, or an interview together with a chosen companion, or caregivers and younger participants may be interviewed together. Respect will be given to the preferences of the interviewees in relation to the age, gender and cultural background of the facilitator/interviewer. Interviewers will be experienced mental health practitioners who will ensure the interviews or focus groups are conducted in a supportive manner. Professional support services will be readily available if needed.

Service providers

In-depth interviews with healthcare providers (n=4 per site, 16 healthcare providers in total) will further explore competencies and specific needs. Interviews will be carried out either in person, by telephone or online according to the preference of the interviewees and considering any geographical or other restrictions. Invitations to participate in the interview will be sent via email, in consultation with the partner organisations and RGG.

Figure 3 Implementation framework using Consolidated Framework for Implementation Research (adapted from Laird et al[40]).

Qualitative analysis

Focus groups/interviews will be audio-recorded and transcribed then provided to participants to check for accuracy and to provide the opportunity for further feedback. Data will be analysed thematically following the framework method, described for health research by Gale *et al*.[45] In previous work, we have found the seven-step process, which includes mapping data on a matrix that can be shared between members of a multidisciplinary research team, highly amenable to collaborative work. The approach also provides the flexibility to work with different types of data in the same project. Data analysis will be carried out by the research team and the thematic matrix will be presented to the RGG for input.

Anonymous client feedback

To capture the views of children, young people or their caregivers on satisfaction with services and possible areas for improvement, anonymous feedback will be invited following clinical encounters. A brief questionnaire will be available in the waiting room, online, accessed via a QR code, onsite via electronic tablet or other locations as appropriate. Consent to participate in this survey will be implied by participation. The questionnaire will be provided on electronic tablet or electronic 'kiosk' with secure upload.

Programme objectives, codesign of resources, implementation and evaluation

The triangulated findings of this service needs assessment (survey, qualitative findings and anonymous client feedback) will inform the development of resources and interventions to support the provision of improved, trauma informed care for Aboriginal children and young people in primary care, including supporting the use of the validated revised assessment tool.

Definition of programme outcomes and objectives

The findings of the needs assessment will be considered by the RGG to define project objectives and outcomes. Our consultations suggest that interventions focussing on capacity building and the development of guidelines and templates to assist triage, referral, treatment care planning and case coordination would help strengthen responsive care.[23] Resources and materials to support self-management will also be considered.

Development of resources

Against the outcomes and objectives defined by the RGG, the research team will map existing interventions focussing on building health provider competencies. In line with the *National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Well-being*[25] and consultations to date, resources will likely focus on training packages for staff in understanding complex trauma and appropriate assessment processes alongside the development of guidelines and templates to assist triage, referral, treatment care planning and case coordination.[23]

We aim to produce a single set of interventions that may be applicable across a large number of settings (for scalability), with appropriate scope for tailoring such interventions to the specific social, cultural and environmental context of different communities. The option to develop stand-alone interventions that respond to specific needs identified in individual communities will also be considered (eg, specific training around culturally secure care for mainstream service providers in a particular region). Given the probable gender difference in expression of mental health issues and potential need, gender-specific interventions will be developed as required. Digital interventions may also be considered, given the evidence of acceptability and feasibility in Aboriginal and Torres Strait Islander populations in a range of settings, and their potential for upscale.[46–48]

The package of interventions will initially be pilot tested across two diverse service settings, with findings used to refine and finalise the package.

Implementation and evaluation of codesigned package across diverse service settings

To test feasibility, the finalised package of interventions will be implemented over a 6-month period across the partner communities, selecting one service setting in each community, inclusive of both Aboriginal and non-Aboriginal specific services (to be determined by the RGG, with the package of interventions made available to other sites following the evaluation). While the precise nature of interventions remains to be determined, evaluation methods will be adapted accordingly and build into programme design. Following guidance provided by Pearson *et al*,[49] implementation outcomes evaluated will include

> Uptake—assessed by a brief provider survey to all clinic providers across the four communities, including the same items as the needs assessment in objective 2 (and therefore comparable), but also measuring uptake of specific elements of the intervention in clinics where the intervention was implemented. The survey will also explore satisfaction with each component and suggestions for improvement. The inclusion of providers from all clinics and comparability with the original survey will additionally enable the assessment of any impact of the intervention on practices and confidence.
> Fidelity—assessed by comparing the parameters of the final delivered interventions (eg, training curriculum) with that designed; any departure from the original design will be explored with staff delivering the intervention, with findings fed back to the RGG for consideration.
> Cost—estimated inclusive of the delivery of the intervention and any ongoing costs to maintain its implementation (ie, preparation and dissemination of care plan templates).
> Appropriateness—assessed through items included in the survey to all providers, but additionally through targeted in-depth interviews with healthcare providers

and service mangers (anticipate two per clinic, total of eight across the project) to explore the implementation of the intervention, its appropriateness and what could be improved. The findings of these assessments will be presented to the RGG who will use this data to assess feasibility.

The anonymous client feedback (introduced into clinics as part of the needs assessment) will be maintained across the life of the project in all clinics. This will uniquely allow comparison of client feedback across clinics receiving the intervention and those not, over time, to determine any impacts on quality of care because of interventions and timing of these impacts. The findings of this evaluation will be collated and presented to the RGG, with a specific subanalysis by service context. These data will be used to determine any further modifications required and the composition of a final package that may be formally tested and/or taken to scale.

Ethics and dissemination

Ethical approval has been granted from the Aboriginal Health and Medical Research Council of NSW Human Research Ethics committee (#1769/21). Informed consent will be obtained from all participants and/or their caregivers (with assent from those aged <16 years) prior to participating in all aspects of the study. Research dissemination will occur in the form of community reports and presentations back to the participating health services, in academic journals and conference presentations.

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