


RESEARCH ARTICLE

‘All Aboriginal and Torres Strait Islander children should have access to the ASQ-TRAK’: Shared vision of an implementation support model for the ASQ-TRAK developmental screener

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Abstract

Issue Addressed: The ASQ-TRAK, a strengths-based approach to developmental screening, has high acceptability and utility across varied Aboriginal and Torres Strait Islander contexts. While substantive knowledge translation has seen many services utilise ASQ-TRAK, we now need to move beyond distribution and support evidence-based scale-up to ensure access. Through a co-design approach, we aimed to (1) understand community partners' perspectives of barriers and enablers to ASQ-TRAK implementation and (2) develop an ASQ-TRAK implementation support model to inform scale-up.

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Methods: The co-design process had four phases: (i) partnership development with five community partners (two Aboriginal Community Controlled Organisations); (ii) workshop planning and recruitment; (iii) co-design workshops; and (iv) analysis, draft model and feedback workshops.

Results: Seven co-design meetings and two feedback workshops with 41 stakeholders (17 were Aboriginal and Torres Strait Islander), identified seven key barriers and enablers, and a shared vision – all Aboriginal and Torres Strait Islander children and their families have access to the ASQ-TRAK. Implementation support model components agreed on were: (i) ASQ-TRAK training, (ii) ASQ-TRAK support, (iii) local implementation support, (iv) engagement and communications, (v) continuous quality improvement and (vi) coordination and partnerships.

Conclusions: This implementation support model can inform ongoing processes necessary for sustainable ASQ-TRAK implementation nationally. This will transform the way services provide developmental care to Aboriginal and Torres Strait Islander children, ensuring access to high quality, culturally safe developmental care.

So What? Well-implemented developmental screening leads to more Aboriginal and Torres Strait Islander children receiving timely early childhood intervention services, improving developmental trajectories and optimising long-term health and wellbeing.

KEYWORDS

Australian Aboriginal and Torres Strait Islander peoples, child development, culturally competent care, developmental disabilities, developmental screening programs, implementation science

1 | INTRODUCTION

There is universal agreement that monitoring young children's developmental milestones with standardised screening tools is necessary for the early detection of developmental difficulties¹ to enable referral and access to appropriate early intervention and support. A high quality, early developmental support system results in more children starting school ready to learn.² While Aboriginal and Torres Strait Islander families and children have thrived in Australia for generations, the impact of colonisation and racist policies have led to continuing trauma and disadvantage. The Australian Early Development Census (AEDC) results indicate a considerable gap in the school readiness of Aboriginal and Torres Strait Islander children compared to the general population. In 2021, 34.3% of Aboriginal and Torres Strait Islander children were assessed as being developmentally on track in all five AEDC domains at age 5, compared to 56.2% for non-Indigenous children, and the gap is much greater in more remote areas.³ Subsequently, the Commonwealth Closing the Gap Annual Report identifies early childhood care and development, as a sector that requires joint national strengthening effort with a key outcome being that Aboriginal and Torres Strait Islander children thrive in their early years.⁴

Although developmental monitoring services are delivered nationally in Australia, a significant gap in Aboriginal and Torres Strait Islander children accessing services remains. For example, in Victoria, while participation rates for Key Ages and Stages (KAS) visits provided to parents and children by the universal Maternal and Child Health Service are increasing, overall participation rates for Aboriginal and Torres Strait

Islander children remain below state averages: at 18 months of age, 57.4% of Aboriginal and Torres Strait Islander children access the KAS compared to the state average of 75.0%.⁵ Addressing this national issue of access to quality, culturally responsive care is a priority for the Australian Government to improve developmental outcomes.⁴

Universal child health services need to be inclusive and accessible to ensure Aboriginal and Torres Strait Islander children with additional developmental needs are not overlooked.⁶ The Closing The Gap report highlights the prioritisation of Aboriginal and Torres Strait Islander cultures and recognises the need to measure and report access to culturally responsive early childhood programs.⁷ It is crucial that culturally appropriate developmental screening tools are used to identify children needing support if we are to meet Closing The Gap targets.^{8,9} Supporting the Aboriginal Community Controlled sector to implement effective screening as part of routine child health checks would facilitate access and utilisation of culturally appropriate development screening tools at a population level.

The Ages and Stages Questionnaires – Talking about Raising Aboriginal Kids (ASQ-TRAK) is the first culturally responsive tool to address this gap. Developed in response to the need identified by and in partnership with Australian Aboriginal communities, the ASQ-TRAK is the culturally adapted Ages and Stages Questionnaire (ASQ-3) developmental screening tool for Aboriginal and Torres Strait Islander children.^{10,11} With evidence now spanning over 10 years, it has been found to be highly acceptable to Aboriginal and Torres Strait Islander families and practitioners in remote, rural and urban communities and, notably, more effective than the mainstream ASQ-3 in engaging

families and eliciting useful information.¹² In contrast to the mainstream ASQ-3, the ASQ-TRAK is administered exclusively by interview, and has been found to be significantly more culturally respectful and engaging than the ASQ-3 for Aboriginal and Torres Strait Islander families.¹³ These are essential qualities for a developmental screening tool that maximise opportunities to support families to promote their child's development.¹³ A validation study confirmed ASQ-TRAK's acceptable psychometric properties^{11,14} and it remains the only culturally appropriate, validated developmental measure for Aboriginal and Torres Strait Islander children.

A culturally relevant training program, informed by Aboriginal knowledge and designed to support practitioners to implement the ASQ-TRAK, has confirmed high participant satisfaction and improved skills, knowledge, competence and confidence to identify developmental difficulties and to promote child development.^{15,16} As part of the ASQ-TRAK Practitioner training, participants co-develop management plans for possible screening results in different contexts. Scoring below cut-off on two or more domains would usually result in a referral for a developmental assessment and a referral to the National Disability Insurance Agency for Early Childhood Early Intervention Services. This is a very effective way to assist Aboriginal and Torres Strait Islander children with developmental vulnerabilities access the essential services that they need.

To date, there has been substantive research translation success, with uptake of the ASQ-TRAK across many services throughout Australia. Over 750 ASQ-TRAK kits have been distributed across more than 110 mainstream services and Aboriginal Community Controlled Organisations (ACCOs), in the 6 years that the ASQ-TRAK has been available. In the Northern Territory (NT), South Australia (SA), and Western Australia (WA), mainstream health services have endorsed the ASQ-TRAK as a replacement for the mainstream ASQ-3 for all Aboriginal and Torres Strait Islander children accessing child health checks.¹⁷ ACCOs have also adopted the ASQ-TRAK; Central Australian Aboriginal Congress (Congress) in Alice Springs and Nunkurarrin Yunti in SA have implemented the ASQ-TRAK following participation in training. At Congress, this has had a measurable impact on identifying children who are eligible for the National Disability Insurance Scheme (NDIS) and facilitating access to NDIS Early Childhood Early Intervention packages (personal correspondence, J. Boffa, 2022). Additionally, the child and family services sector has embraced the ASQ-TRAK: the Victorian Aboriginal Child Care Agency (VACCA) and MacKillop Family Services are intending to use the ASQ-TRAK to support children as part of the Victorian Aboriginal Family Preservation and Reunification Response,¹⁸ and Berry Street Take Two are using the ASQ-TRAK in place of the ASQ-3 with Aboriginal and Torres Strait Islander families (personal correspondence, H. Mosse, 2022).

While there is increasing interest in the use of this culturally adapted developmental measure across Australia, there is a scarcity of research relating to the implementation of child health programs incorporating developmental screening tools, such as the ASQ-TRAK, in Aboriginal and Torres Strait Islander communities.^{19,20} The ASQ-TRAK has been adopted or trialled in many organisations across Australia and there is strong community engagement for use of the tool, however, implementation is at different stages, and the research evidence to support effective

and sustainable implementation is lacking. Lack of implementation capacity increases the risks that the ASQ-TRAK is not administered in the way it was designed to be delivered, losing fidelity and cultural safety, or, is not administered at all. This undermines the goals of the communities who collaborated on its adaptation and training development and undermines early access to developmental care for Aboriginal and Torres Strait Islander children who would benefit from developmental support. Therefore, it is essential to understand and address the factors that impact on the successful implementation of services, such as the ASQ-TRAK developmental screening tool, especially in complex contexts.

To better understand and address the complex health and social care environments, co-design approaches can be applied to the design and implementation of models of care.²¹ Co-design approaches aim to enable authentic relationships between all stakeholders with the goal being to actively involve stakeholders throughout a design process.²² This approach focuses on the needs of the end-user and openness, respect, collaboration and empowerment are fundamental values.²³⁻²⁵ Co-designed programs and services are being emphasised by government policy as desirable for the Aboriginal and Torres Strait Islander context, and evidence shows that this approach results in more culturally responsive service models, improved access to services and greater cultural safety.²⁶⁻²⁸ Genuine co-design also empowers the end-users to customise the intervention to their cultural needs.²⁹ This approach aligns with strategies that seek to promote self-determination principles in which Aboriginal and Torres Strait Islander communities are empowered to control, lead and take ownership of the dissemination, uptake and implementation of interventions.²⁵ Programs or interventions that are co-created in this way have a greater chance of successful and sustainable implementation because they foster respectful and trusting relationships and are likely to be needs based, culturally appropriate and more acceptable to communities.²⁸⁻³⁰ We sought to apply this approach to not only understand the factors that impact on ASQ-TRAK implementation but also to co-design a model to support implementation.

The aims of this study were to:

1. understand the barriers and enablers to implementing the ASQ-TRAK developmental screening tool from the perspective of community partners;
2. co-design an implementation support model for the ASQ-TRAK that can be evaluated to inform scale-up.

2 | METHODS

The project adopted a co-design and participatory approach including embedding principles of stakeholder engagement, shared leadership and decision-making throughout. The project priority was for ongoing collaboration and ensuring Aboriginal and Torres Strait Islander participation and engagement in knowledge sharing. The co-design approach helped ensure a strong foundation of stakeholder partnerships and relationships for the ASQ-TRAK implementation support model, exploring the implementation barriers and enablers across project contexts and identifying key components of the implementation model.

2.1 | Co-design team

Engagement for the implementation model's development involved (1) the ASQ-TRAK project team, which included researchers and non-researchers and both Aboriginal and non-Aboriginal members (AD'A, SAH, RB, MS, SC and HS); (2) community partner organisations with previous involvement in delivering the ASQ-TRAK (JB, LC, ADe, ADo, JD, AL BM and DR); (3) community partner organisations that had expressed interest in delivering the ASQ-TRAK in the future (ADu, NH, EM and HM); and (4) government departments interested in supporting more localised, culturally appropriate implementation (MH). This process was supported by the existing collaborative relationships between the project leads (AD'A and HS) and community organisations or services.

2.2 | Co-design phases

The ASQ-TRAK co-design process was conducted in four phases across 6 months (May–October 2021).

2.2.1 | Phase 1: Partnership development

The project team met with key leaders across the community-partner organisations to discuss the concept for the co-design of the ASQ-TRAK implementation support model and invite their collaboration in the process. Project summary materials were provided for key leaders to review and share with their colleagues (see Appendix 1). The initial partnership development phase occurred over several months. This was an important part of the co-design process to ensure clarity and agreement of project aims. This phase was also crucial in establishing an ongoing partnership to deliver and evaluate the implementation support model once co-designed. Additional meetings were held with community-partner organisations that had follow-up questions.

2.2.2 | Phase 2: Workshop planning and recruitment

The project team worked with key community-partner organisation leaders to confirm suitable dates and a structure for the co-design workshops. A co-design workshop was organised with each of the community-partner organisations, including the workshop invitations.

Key leaders in each of the community-partner organisations engaged and invited relevant team members to be involved in the co-design process, using internal invitations that were co-created (Appendix 2). Each organisational key leader provided an invitation list of possible attendees to the ASQ-TRAK project team who then emailed workshop invitations (Appendix 3) and meeting calendar invitations. Organisational stakeholders represented a

range of disciplines including: Aboriginal health practitioners, child health nurses, community-based workers, early childhood educators, managers, mental health experts, and research and evaluation leads.

2.2.3 | Phase 3: Co-design workshops

Seven co-design workshops were held across the community-partner organisations throughout September and October 2021. An eighth workshop was planned as an additional workshop for one community-partner organisation; however, no one was available to attend on the day. A total of 39 stakeholders participated in the co-design workshops. The workshops were specific to each community-partner organisation to enable attendees to discuss the needs and priorities for the implementation support model relevant to their context. This tailored approach also aimed to identify the similarities and differences for ASQ-TRAK implementation support across the community-partner organisations.

Co-design workshops aimed to create a supportive atmosphere for attendees to reflect on the use of the ASQ-TRAK so far and discuss ideas and priorities for the implementation support model. Workshop attendees were sent the meeting agenda ahead of time. Workshops were facilitated by the project lead (AD'A), Aboriginal community leader (SAH) and project team members (RF and SC) and were all 90 min online, via Zoom. Face-to-face workshops were planned, however, pandemic restrictions and border closures made this unfeasible. The online workshops were recorded, with attendees' verbal permission, to support analysis.

2.2.4 | Phase 4: Analysis, draft model and feedback workshops

Thematic analysis as outlined by Braun and Clarke^{31,32} was employed to analyse the qualitative data, including workshop summaries and transcribed audio files. MS coded the data, during which the most common and recurrent codes were grouped together to create themes. Each theme reflected a key determinant (i.e. barrier or enabler) influencing the implementation of ASQ-TRAK. The coded data and initial themes were reviewed by AD'A, SAH, RF, SC and HS. The initial themes were then presented via email to the participants of the co-design meetings for member checking and themes were updated and refined based on participant feedback. AD'A, RF, SC and MS undertook further synthesis and guided by the Consolidated Framework for Implementation Research (CFIR) and Expert Recommendations for Implementing Change (ERIC) matching tool,³³ categorised the key themes into implementation support model components. The CFIR is a comprehensive multilevel framework to identify barriers and facilitators to implementation success, while the ERIC provides a list of evidence-based implementation strategies. When these two frameworks are used in combination, the CFIR barriers can inform

TABLE 1 Community-partner organisations who formed part of the co-design team.

Site, n = 2	Community-partner organisation, n = 6	Aboriginal Community Controlled, n = 2	Service type	No. of participants (Aboriginal and Torres Strait Islander), n = 41 (17)
Victoria	VACCA – Victorian Aboriginal Child Care Agency	✓	Child and Family Service	9 (7)
Victoria – regional	MacKillop – MacKillop Family Services		Community Service Organisation	9 (1)
Victoria	Berry St – Berry Street Take Two		Child and Family Service	5 (3)
Victoria – regional	DESE CB – Australian Government Department of Education, Skills and Employment, Connected Beginnings Program		Policy and program support	1 (0)
Central Australia	DESE CB		Policy and program support	6 (2)
Central Australia	Congress – Central Australia Aboriginal Congress	✓	Primary Health Care	4 (2)
Central Australia	NT DoE – NT Department of Education		Early Childhood Education and Care	7 (2)

which ERIC strategies to consider. The CFIR-ERIC matching tool was used to assist with the identification and prioritisation of potential strategies that could support the implementation model, based on the identified barriers to implementation.²⁸

Co-design workshop participants and key leaders were then invited to attend an additional feedback workshop to discuss further and confirm the components of the draft ASQ-TRAK implementation support model. Two feedback workshops were held and attended by 10 project stakeholders (two of whom had not attended the co-design workshops). These workshops helped confirm overall agreement on the draft model and identify areas where further clarification was needed. At the end of this phase, all project stakeholders were sent the draft implementation model and presentation slides. Further input was invited at this time.

3 | RESULTS

In September and October 2021, seven co-design meetings over 6 weeks brought together 39 stakeholders from community-partner organisations including ACCOs, Government Departments, and Community Services. An additional two stakeholders joined the feedback workshops bringing the total number of participants to 41 of whom 17 (41%) were Aboriginal and Torres Strait Islander. Co-design meetings had between two and nine participants and Table 1 describes the community-partner organisations included.

3.1 | Shared vision and aspirations

The shared vision that emerged from the meetings was – all Aboriginal and Torres Strait Islander children and their families have access to the ASQ-TRAK. Participants identified five common aspirations for the ASQ-TRAK, across the co-design meetings:

1. *Enable children* – ensure children and their families are supported with timely and appropriate follow-up support, intervention and referrals as required.
2. *Enable families* – promote families' understanding of child development using the ASQ-TRAK.
3. *Enable practitioners* – build the capability of practitioners to use the ASQ-TRAK.
4. *Embed* the ASQ-TRAK into services' standard practice and promote its sustained use.
5. *Integrate* the ASQ-TRAK across health, education and community agencies.

3.1.1 | Determinants of ASQ-TRAK implementation

Seven key determinants (barriers and enablers) influencing ASQ-TRAK implementation were identified, including: (a) engagement and relationships with families, (b) ASQ-TRAK training, (c) flexible delivery, (d) cross-sector agency collaboration and partnerships, (e) adequate resources, (f) data reporting and sharing and (g) sustainability.

Engagement and relationships with families

Co-design participants viewed genuine engagement and relationship building with families and communities as crucial for ASQ-TRAK implementation success. Efforts to increase community awareness, advocacy, agency and capacity by engaging families through existing groups or gatherings (e.g. yarning groups, mums and bubs) and via multi-media messaging in Language, may facilitate the promotion and normalisation of the use of the tool (e.g. 'Has your child had an ASQ-TRAK yet?'). Co-design participants emphasised the importance of adopting a strengths-based, conversational and collaborative approach to ensure that each family has a positive and safe experience with the ASQ-TRAK. This involves empowering families to choose the best place and time to engage with the tool, having strength-based

conversations to complete the tool and communicate results, and building genuine relationships and connections with families:

ASK-TRAK should be viewed as something that is done with families, not to them. (co-design participant)

ASQ-TRAK training

A current barrier to implementation is the lack of practitioners who are trained in ASQ-TRAK, which limits the tool's reach, uptake and fidelity. Co-design participants maintained that the most efficient approach would be to train the 'key' or 'right' people (i.e. clinicians who will be using the tool) rather than the entire organisation. This could be streamlined by establishing training policies and processes for new staff (e.g. part of onboarding/induction process) so that it becomes embedded in practice and reaches as many staff as possible. Some participants also recommended that leadership staff complete training so they can better support their clinicians. Participants suggested offering more training days, tailoring the training for different learning styles, involving community members and leaders, and conducting community or cross-sector training sessions. Ongoing support to practitioners via peer mentoring or coaching, supervision, refresher training and a train-the-trainer model could facilitate capacity building of the local workforce.

Flexible delivery

Co-design participants acknowledged that implementation varies depending on the community, service and location in which the ASQ-TRAK is being delivered. This results in differences in who administers the ASQ-TRAK (e.g. the ways in which Aboriginal or non-Aboriginal practitioners administer, score and communicate results differ), where it is conducted (e.g. outreach verse clinic), and how referrals are made for follow-up support (e.g. services that are co-located or siloed). Participants identified that the outreach approach facilitates ASQ-TRAK delivery as there is more time, flexibility and sense of safety for relationship building with the family. In contrast, practitioners in primary health care clinic settings often do not have such time, flexibility and availability. Further, the practice of non-Aboriginal practitioners working in partnership with an ACCO to provide expert support has facilitated ASQ-TRAK implementation. Local implementation plans may allow for flexible and more tailored delivery across different services while maintaining fidelity.

Cross-sector agency collaboration and partnerships

Multi-agency collaboration across different sectors is considered a key implementation enabler. Co-design participants identified the need for 'communication', 'coordination', 'leadership' and 'partnerships'. They highlighted the need to develop and strengthen relationships with key services across health, community and education sectors (e.g. early childhood education and care, primary health care and local community groups) to develop a shared understanding of ASQ-TRAK and establish an effective network for referrals and follow-up support. Other suggested avenues to enhancing this systemic collaborative approach to implementation included cross-sector communities of practice (CoP), commitment statements to formalise partnerships between services; engaging policymakers and CoPs in various language groups and

community groups. Ultimately, co-located, wrap-around or 'hub-like' services (e.g. Congress) were identified as leading examples of effective collaboration for ASQ-TRAK implementation.

Adequate resources

Ensuring practitioners, communities and services have the required resources for ASQ-TRAK implementation (e.g. enough ASQ-TRAK kits) is crucial. Co-design participants recommended developing complementary resources, or tools, to aid ASQ-TRAK understanding and communication, which could better support engagement of families and ASQ-TRAK delivery and fidelity. This includes visuals to explain scoring, videos in language, or an oral language tool to ask the ASQ-TRAK questions in language. To facilitate follow-up support, a template of community referrals for staff may help to tailor supports to families as needed and enable consistent messaging. It was also recommended that families are provided with take-home resources, including play materials, to promote their child's ongoing development.

Data reporting and sharing

Co-design participants recognised that there are currently no systematic processes for ASQ-TRAK data reporting, storage, linkage and sharing across organisations, services and sectors. This poses key barriers to implementation, including ASQ-TRAK duplication, lack of awareness of which children have completed or are due for screening, and fragmented follow-up support. Recommendations to address such barriers include developing a systematic process for data linkage and sharing at each state/territory level, and across services. This may include embedding an IT alert system for when ASQ-TRAKs are due or have been completed, making ASQ-TRAK a key performance indicator across organisations, and ensuring developmental screening (i.e. ASQ-TRAK) has its own Medicare item. Co-design participants acknowledged the importance of data sovereignty for families and appropriate permissions to facilitate data sharing across services. Addressing data reporting and sharing barriers may facilitate continuity of care, streamline follow-up support and enhance uptake of ASQ-TRAK.

Sustainability

Co-design participants identified sustainability as important to achieve implementation success. Ways to enhance the sustainability of ASQ-TRAK implementation predominantly centred around building the capacity of the local workforce to deliver ASQ-TRAK. It was identified that practitioners require ongoing support, supervision, mentoring and peer coaching post-training to maintain their capacity, knowledge, confidence and skills to deliver ASQ-TRAK with fidelity. This could also encompass refresher training opportunities, accreditation and certification, developing CoP and peer coaching to sustain implementation. Identifying ASQ-TRAK champions within and across each organisation, and consolidating train-the-trainer models may also support ongoing workforce capacity building. Ultimately, integrating ASQ-TRAK into existing programs and services may ensure that it becomes normalised and embedded as part of standard practice.

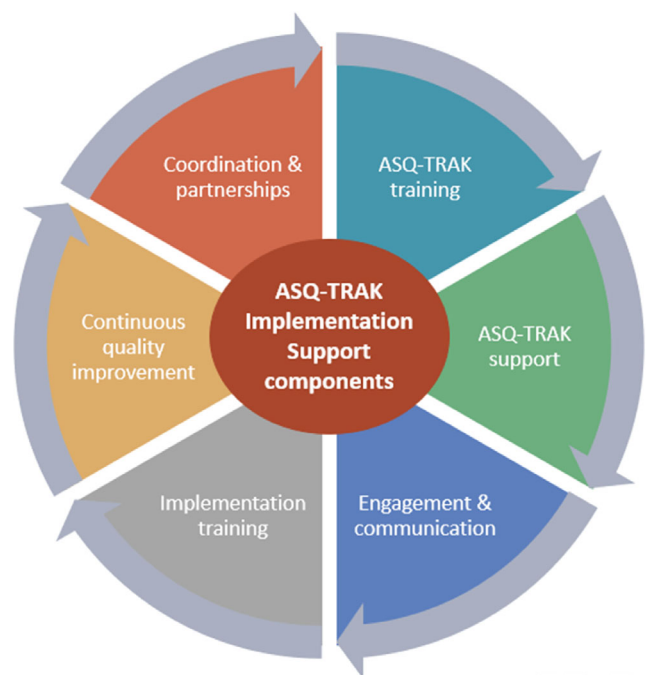


FIGURE 1 ASQ-TRAK implementation support model.

3.1.2 | ASQ-TRAK implementation support model features and design

During the two feedback sessions with community partners, the initial implementation support model components were presented for discussion and clarification. There was agreement that the model was a useful way to conceptualise what implementation strategies needed to be considered and developed further. The key roles and components are presented below.

Implementation support model key roles

From the co-design process, we identified key roles that might be required for ASQ-TRAK implementation and sustainability, as part of the implementation support model. These include:

1. An ASQ-TRAK lead – a practitioner/manager who would be responsible for overseeing ASQ-TRAK implementation within the community-partner organisation.
2. Community-partner implementation teams – ASQ-TRAK leads together with the staff who are administering ASQ-TRAK in the community-partner organisation.
3. Regional coordination teams – an additional support external to the community partners. Regional coordination teams would comprise a Regional Implementation Facilitator and an Aboriginal Community Engagement Officer who could deliver ASQ-TRAK training and provide implementation support within the community-partner organisation.
4. The University of Melbourne (UoM) central oversight team – the University of Melbourne team responsible for: ASQ-TRAK training, training the regional coordination teams and managing the accreditation framework and evaluation.

Implementation support model components

Informed by the CFIR and the ERIC, we proposed six components for a model to support the implementation of the ASQ-TRAK in community (see Figure 1).

ASQ-TRAK training. The ASQ-TRAK training program that has been previously developed consists of (a) Practitioner Training, (b) Booster Training and (c) an Accreditation Framework to support Practitioner certification. The Practitioner Training follows a structured learning plan and training manual and includes a 2-day workshop and a half-day workplace practice session, followed by Booster Training within 3–6 months to support ongoing fidelity. The priorities of the Practitioner Training are building Aboriginal practitioner capacity in administering the ASQ-TRAK with Aboriginal caregivers and their children and, second, cultural competence in non-Aboriginal practitioners. Annual re-certification comprises an activity survey and a webinar, and provides access to ongoing support from the UoM central oversight team. A train-the-trainer component has previously been implemented in some sites. Following the trainer course, trainers have been supported by a detailed training manual, training materials kit, and access to resources, including contact with the UoM central oversight team, to support them to deliver Practitioner Training. Further exploration of factors that impact on quality assurance and sustainability of the train-the-trainer model is necessary to understand the feasibility of this component.

ASQ-TRAK implementation support. We identified that implementation plans would need to be co-designed for each community partner. These would be co-designed with the UoM central oversight team, the community-partner implementation teams, and the regional coordination teams (see ‘continuous quality improvement’ below). Implementation plans would need to be developed at multiple levels, including a central implementation plan (to guide the overarching model); a regional implementation plan (to guide the regional coordination teams); and a service implementation plan (to guide implementation of ASQ-TRAK within an individual community partner). Activities within the implementation plan would depend on a range of contextual factors as well as the phase of implementation. This support would build the capacity and capability of community-partner staff to apply and integrate the ASQ-TRAK.

Local implementation support. The UoM central oversight team would provide training and support to the regional coordination teams in implementation strategies. In turn, the regional coordination teams would provide implementation training and support to the community partners to adjust and customise implementation plans and build capacity in those organisations to embed the ASQ-TRAK sustainably.

Engagement and communications. The Aboriginal Community Engagement Officer (as part of the regional coordination team) would have a key role, leading activities to promote community awareness and understanding of ASQ-TRAK including at family, service and government level. Regional coordination teams, together with community partners, would explore implementation ‘readiness’ and develop

communication resources and tools. Regional coordination teams and the UoM central oversight team would ensure ongoing engagement with government/policymakers. The Aboriginal Community Engagement Officers would participate in an Aboriginal and Torres Strait Islander Steering Group (along with community partner members) and undertake culturally appropriate community feedback.

Continuous quality improvement (CQI). Regular assessment of multi-level implementation plan delivery, alongside sense-making with key stakeholders and implementation feedback mechanisms (such as the CoP), would enable adaptations and improvement to the model and implementation of ASQ-TRAK. CQI data would contribute to answering evaluation questions and inform annual review processes. Consistent with a participatory and capacity building approach, CQI activities would involve a range of project participants and build capabilities in quality improvement.

Coordination and partnerships. Coordination and continuing partnerships between community partners, the UoM central oversight team and with policymakers would ensure systematic use of ASQ-TRAK across community/service system and help overcome identified locally relevant barriers to implementation.

4 | DISCUSSION

This project successfully facilitated co-design meetings with community partners working with Aboriginal and Torres Strait Islander families that identified barriers and enablers to implementing the ASQ-TRAK developmental screening tool. We identified several implementation determinants including: (a) engagement and relationships with families, (b) consistent ASQ-TRAK training, (c) flexible delivery, (d) cross-sector collaboration, (e) data storage/sharing, (f) adequate resources and (g) sustainability. Through the co-design process, an implementation support model, to address these implementation determinants, was collaboratively developed with the community partners. The co-design team agreed that the components of the implementation support model could support achievement of ASQ-TRAK fidelity, acceptability, adoption, integration and sustainability in early childhood systems. It was agreed that the implementation support model would require further, ongoing refinement through the partnership.

4.1 | Co-design approach

Co-design has increasingly been cited as a factor integral to enhancing implementation in the Aboriginal and Torres Strait Islander context.^{34,35} Implementation science research has established that greater outcomes are achieved when this is the case.³⁶ A co-designed implementation support model, that reflects the needs and requirements of our partners who co-created the model, is more likely to be adopted and sustained. While this methodology requires considerable time to plan and conduct, it is recognised that it fosters meaningful

engagement and promotes relationships and trust; hence, we considered this a worthwhile investment that would increase the likelihood of uptake and success.^{27,30}

The co-designing of the implementation support model was informed by the CFIR.³³ While the CFIR has been used widely in health care systems and provides a conceptual framework that helps identify the constructs most likely to influence the implementation of interventions, there are additional elements that are important for the Aboriginal health context, that were incorporated into our approach.²⁸ A rapid review previously undertaken by the author group examining key frameworks and components for the effective implementation of health and social care programs for Aboriginal and Torres Strait Islander children³⁷ further informed this work. The review also explored participatory and co-design principles and identified certain components that supported effective implementation including: Aboriginal and Torres Strait Islander leadership, participation and engagement; CQI and regular data collection; and partnerships. This current project sought to apply these principles throughout the co-design process and incorporate them into the development of the implementation support model.

4.2 | Developing components of the implementation support model

The initial implementation support model components were developed and informed by the co-design meetings and guided by the CFIR. The following six components for a model to support the implementation of the ASQ-TRAK in community were agreed on following the feedback sessions: (i) ASQ-TRAK training, (ii) ASQ-TRAK support, (iii) local implementation support, (iv) engagement and communications, (v) CQI and (vi) coordination and partnerships.

There was consensus that the model was a useful way to conceptualise what implementation strategies needed to be considered, but, importantly, developed further. This co-design approach has emphasised the need to have customised plans to address local and contextual factors, as part of the over-arching framework. Other research has also confirmed the need to have a tailored approach to implementation strategies that enables matching of implementation strategies to the locally identified barriers and facilitators.^{38,39}

4.3 | Implications for research and practice

This implementation support model is an initial stage that now requires further co-design, testing and evaluation. While the community partners expressed a commitment to testing and evaluating these strategies, this is a substantial commitment of human resources to the implementation support model. A system-level evaluation of the implementation support model is required to evaluate whether this is a valuable use of limited resources. Further research is required that provides the collaborative platform to catalyse research to inform policy and practice to enable families, partners, professionals and

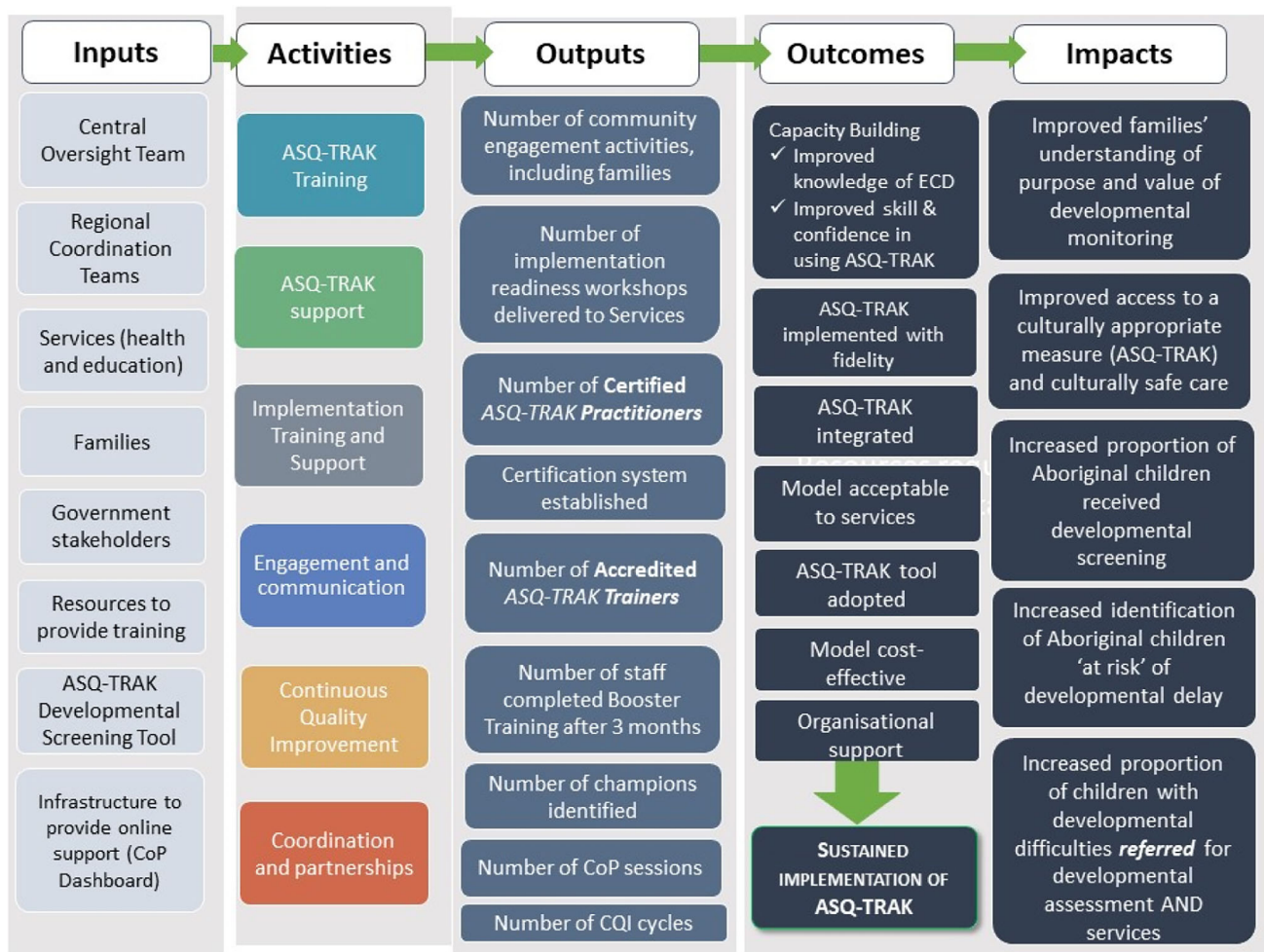


FIGURE 2 ASQ-TRAK implementation support model program logic. CoP, community of practice; CQI, continuous quality improvement; ECD, early child development.

communities to successfully integrate and sustain use of the culturally appropriate ASQ-TRAK developmental screening tool. As part of a proposed evaluation research project, a program logic model has been developed to articulate how the implementation support model might achieve the desired outcomes and impacts (see Figure 2). This will provide a framework for future research activities to build the evidence for what is required for sustainable implementation of the ASQ-TRAK.

4.4 | Key strengths and limitations

This study has considerable strengths. First, a genuine co-design approach was adopted throughout the process of developing the model which built on existing partnerships with the community organisations. This is reflected in the number of stakeholders who did participate in the co-design meetings, the inclusion of community partners as co-authors on this article and the commitment by the community partners to future research to evaluate this model. Second, there was strong Aboriginal and Torres Strait Islander leadership in the co-design process. All but one of the co-design meetings was co-facilitated by an

Aboriginal partner to foster a safe space for Aboriginal and Torres Strait Islander stakeholders to be heard. Third, we spent considerable time working with community-organisation key leaders in the planning stage to maximise participation of stakeholders. This included drafting internal communications, providing plain-language information about the activity to stakeholders and offering two meetings for each community-partner organisation to increase opportunities for stakeholders to attend. Furthermore, we implemented meeting processes that optimised attendance, such as accessible email communication, simple registration processes and meeting reminders. Finally, future research and next steps have already been considered and will be co-designed with the community partners, leading to research that is co-created and highly relevant to community.

While this was a co-design approach, one of the potential limitations is that it was initiated by the researchers in the ASQ-TRAK project team, rather than the community-partner organisations. We know that community initiated and led processes can enhance access and engagement,²³ so this may have promoted greater participation. Second, despite the plan and preference for face-to-face co-design workshops, they were all conducted online due to pandemic restrictions. It is

likely that this impacted on engagement of some participants. Engagement requires relationships to be built which can be more challenging online. While this was beyond our control, it is possible that we would have had greater Aboriginal and Torres Strait Islander participation thereby increasing the Aboriginal and Torres Strait Islander voice if we were able to meet face-to-face in their community. Finally, although we worked with community-organisation key leaders to maximise participation of relevant stakeholders, we may not have had appropriate representation, particularly of Aboriginal and Torres Strait Islander people. This project was recognised as a priority by the community-partner organisations and the staff, however, committing to a 90-min workshop can be challenging for busy staff with multiple, competing demands. The additional load of community responsibilities can further restrict Aboriginal and Torres Strait Islander community members' availability. While we did implement strategies to support attendance and engagement, greater flexibility may have enhanced participation. Consideration needs to be given to having flexibility with time: longer time frames over which workshops can be scheduled; time to reschedule workshops if key stakeholders are unavailable; and offering additional workshops. The time and resources required to undertake co-design remain a significant and real challenge. However, without taking the time to build respectful partnerships with Aboriginal and Torres Strait Islander communities we risk perpetuating the status quo.

5 | CONCLUSION

The ASQ-TRAK is the first culturally adapted developmental screening tool for Aboriginal and Torres Strait Islander children. It is an evidence-based, strengths-based approach to developmental screening that has high acceptability across different Aboriginal and Torres Strait Islander contexts, demonstrating high utility. While substantive knowledge translation has seen the ASQ-TRAK successfully utilised in many services, there is now the need to move beyond ASQ-TRAK distribution and support evidence-based scale-up. This implementation support model provides an opportunity to inform the ongoing tools and processes necessary for future sustainability of ASQ-TRAK implementation nationally. This will transform the way ACCOs and mainstream services provide developmental care, ensuring that Aboriginal and Torres Strait Islander children have access to high quality, culturally safe developmental care. It is only through robust and well-implemented developmental screening that more Aboriginal and Torres Strait Islander children will receive timely early childhood intervention services, and have the opportunity to change their developmental trajectory to optimise their long-term health and wellbeing.

AUTHOR CONTRIBUTIONS

Project conceptualisation: Anita D'Aprano, Helen Skouteris, Rebecca Fry, Sarah Carmody, John Boffa, Abigail Dent, Amanda Docksey, Nick Halfpenny, Esmail Manahan and Holly Mosse. *Methodology:* Anita D'Aprano, Helen Skouteris, Rebecca Fry, Sue-Anne Hunter and Sarah Carmody. *Data curation:* Anita D'Aprano, Sue-Anne Hunter, Rebecca Fry, Sue-Anne Hunter, Louise Cooke, Abigail Dent,

Amanda Docksey, Adam Dunn, Nick Halfpenny, Meg Hewett, Adrienne Lipscomb, Esmail Manahan, Belinda Morton, Holly Mosse and Dawn Ross. *Formal analysis:* Anita D'Aprano, Melissa Savaglio, Rebecca Fry, Sue-Anne Hunter and Sarah Carmody. *Drafting of manuscript:* Anita D'Aprano, Melissa Savaglio, Sarah Carmody and Helen Skouteris. *Review, revisions and approval of manuscript:* all authors.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

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

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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