Uptake of the culturally appropriate ASQ-TRAK developmental screening tool in the Australian Aboriginal and Torres Strait Islander context

D'Aprano, Anita; Brookes, Isabel ; Browne , Linda; Bartlett, Claire

Published in:
Child: Care, Health and Development

DOI:
10.1111/cch.13006

Published: 01/01/2023

Document Version
E-pub ahead of print

Received: 25 January 2021 | Revised: 7 March 2022 | Accepted: 10 March 2022

DOI: 10.1111/cch.13006

RESEARCH ARTICLE

WILEY

Uptake of the culturally appropriate ASQ-TRAK developmental screening tool in the Australian Aboriginal and Torres Strait Islander context

Anita D'Aprano[1,2,3] | Isabel Brookes[1] | Linda Browne[1] | Claire Bartlett[1,4]

[1]Department of Paediatrics, University of Melbourne, Melbourne, Victoria

[2]Melbourne Children's Research Institute, Melbourne, Victoria

[3]Menzies School of Health Research, Darwin, Northern Territory

[4]College of Education, Charles Darwin University, Darwin, Northern Territory, Australia

Correspondence
Anita D'Aprano, Department of Paediatrics, University of Melbourne, Level 2 East, Royal Children's Hospital, Parkville, VIC 3052, Australia.
Email: anita.daprano@unimelb.edu.au

Abstract

Background: Recently in Australia, access to culturally safe developmental practices for Aboriginal and Torres Strait Islander families has been enhanced by the availability of a culturally appropriate developmental screening tool, the *Ages and Stages Questionnaire – Talking about Raising Aboriginal Kids* (ASQ-TRAK). This paper aims (i) to describe the uptake of the ASQ-TRAK developmental screening tool in Aboriginal Community Controlled Organizations and mainstream services in Australia and (ii) to explore the extent to which organizations using the ASQ-TRAK have engaged training for staff.

Methods: A retrospective review of ASQ-TRAK sales and training records from January 2015 to May 2020 to determine the ASQ-TRAK distribution by jurisdiction and service type and the number of services that have engaged training.

Results: Five hundred ASQ-TRAK kits have been distributed across 77 agencies. Of those, 100 kits (20%) have been purchased by Aboriginal Community Controlled Organizations. Most have been distributed in the Northern Territory (NT) (178, 36%), Western Australia (165, 33%) and South Australia (64, 13%). Of the 15 ASQ-TRAK training workshops, nine have been in the NT. Of the 196 practitioners trained, 25 were identified as facilitators for their organization.

Conclusion: Despite substantive research translation across Australia, with evidence of its acceptability in different contexts, most Aboriginal Community Controlled Organizations have not yet accessed the ASQ-TRAK, and most organizations have not participated in training. There is an imperative to progress knowledge translation to improve quality and accessibility of culturally appropriate developmental care. Adequately resourced ASQ-TRAK implementation support is needed to ensure sustainable implementation at scale.

KEYWORDS

A boriginal child health, culturally appropriate developmental care, culturally appropriate tools, developmental screening, developmental screening tool, implementation, indigenous child health

1 | INTRODUCTION

It is undeniable that early childhood is a critical period, providing a foundation for later health and wellbeing outcomes that extend well into adulthood (Black et al., 2017; Daelmans et al., 2017). Whereas universal early childhood development (ECD) programmes are necessary, early identification of children with developmental difficulties also remains a priority. Early detection provides an opportunity to deliver targeted early intervention services during the first 5 years of life that can improve developmental trajectories (Gertler et al., 2014). Without effective early intervention, developmental issues left unaddressed can become more challenging to overcome (Moore, 2019).

To improve early detection, it is widely recommended that developmental screening be incorporated into child health services (American Academy of Pediatrics, 2008; Blair & Hall, 2006; Edmond et al., 2019) utilizing standardized tools (Goldfeld & Yousafzai, 2018). In Australia, developmental screening is universally implemented across all jurisdictions using a variety of developmental screening tools, including the Ages and Stages Questionnaires (ASQ-3), Parents' Evaluation of Developmental Status (PEDS) and Brigance (Brothers et al., 2008; Glascoe, 2002; Squires et al., 2009).

Recently in Australia, access to culturally safe developmental practices for Aboriginal and Torres Strait Islander families has been enhanced by the availability of a culturally appropriate developmental screening tool, the *Ages and Stages Questionnaire – Talking about Raising Aboriginal Kids* (ASQ-TRAK) (D'Aprano, Silburn, Johnston, Robinson, et al., 2016). Developed in response to the need identified by, and in partnership with, Aboriginal and Torres Strait Islander communities, the ASQ-TRAK is the culturally adapted ASQ-3 for Australian Aboriginal and Torres Strait Islander children. The ASQ-TRAK has been shortened, items have been modified to be culturally relevant and in plain language, each item is illustrated and, in contrast to the ASQ-3, the ASQ-TRAK is only administered by interview. Caregivers are encouraged to demonstrate all activities with their child and to celebrate the child's strengths. It has been found to be highly acceptable to Aboriginal and Torres Strait Islander families and practitioners in remote, rural and urban communities and more effective than the mainstream ASQ-3 in engaging Aboriginal and Torres Strait Islander families and eliciting useful information (D'Aprano et al., 2020; Johansen et al., 2020). Furthermore, a validation study confirmed the ASQ-TRAK has acceptable psychometric properties for this use in the target population (Simpson et al., 2016).

Peak and professional bodies and federal government departments in Australia have recognized the ASQ-TRAK as an appropriate and suitable tool to be used in the Aboriginal and Torres Strait Islander context (Australian Institute of Family Studies, n.d.; NACCHO, 2019; Royal Australasian College of Physicians, 2017). Increasingly, primary health services and education programmes are implementing the ASQ-TRAK as part of a suite of parental and child services to support Aboriginal and Torres Strait Islander children achieve their developmental potential. For example, Country Health Services in Western Australia have endorsed the ASQ-TRAK for use with Aboriginal and Torres Strait Islander families (Government of Western Australia Child and Adolescent Health Service, 2020); in South Australia, the Child and Family Health Service has distributed the ASQ-TRAK to all 26 sites across the state for inclusion in their Universal Contact Visits (Government of South Australia, 2019); and in the Northern Territory, the Department of Education Families as First Teachers programme has implemented ASQ-TRAK across all 35 remote sites to more accurately determine and plan around individual child development needs (Northern Territory Government, 2017).

To support practitioners to use the ASQ-TRAK as intended, we designed a culturally relevant 'train-the-trainer' training programme (D'Aprano et al., 2015). The 2-day practitioner workshop provides a review of early childhood development principles, instruction in accurate use of the screening tool and guidance for workplace coaching. This is followed by half-day workplace practice, where practitioners are observed administering the ASQ-TRAK. Training methods are informed by theories of adult learning and culturally appropriate learning for Aboriginal and Torres Strait Islander practitioners and customized to meet the needs of English as another language/dialect (EAL/D) learners (Yarber et al., 2015). An evaluation of this training confirmed that ASQ-TRAK training improved practitioners' skills, knowledge, competence and confidence to identify and manage developmental difficulties and promote child development (D'Aprano et al., 2015). However, to date, the ASQ-TRAK has been able to be purchased and used without practitioners participating in training. This is of concern—training and ongoing support is necessary to achieve implementation fidelity and in turn, intended outcomes (Bertram et al., 2015).

Key messages

- The ASQ-TRAK is a validated, acceptable developmental screening tool for the Australian Aboriginal and Torres Strait Islander population, with evidenced-based training. Successful research translation has resulted in 77 agencies across Australia adopting the tool.
- The ASQ-TRAK has been implemented predominantly by government services. This paper highlights that many Aboriginal Community Controlled Organizations have not yet accessed the tool and most services have not participated in the training.
- There is an imperative to progress the knowledge translation to both ACCOs and mainstream services to improve quality and accessibility of culturally appropriate developmental care. ASQ-TRAK implementation support needs to be adequately resourced to achieve sustainable implementation at scale.

There is a scarcity of data relating to the implementation of comprehensive child health programmes incorporating developmental screening tools in Aboriginal and Torres Strait Islander communities (D'Aprano, Silburn, Johnston, Bailie, et al., 2016; Edmond et al., 2019), and this holds true for the ASQ-TRAK. Although the ASQ-TRAK is increasingly being adopted across Australia, there are limited data available on where it is being implemented and how it is being supported. There is a knowledge gap in how effectively it is reaching the target audience. To better understand how Aboriginal Community Controlled Organizations (ACCOs) and mainstream services can improve 'the quality and accessibility of culturally sensitive and appropriate health care where it is needed most' (Australian Government, Department of the Prime Minister and Cabinet, 2019), we need to better understand where the ASQ-TRAK is being utilized and what training has been accessed (Bertram et al., 2015).

This study aims to

1. Describe the uptake of the ASQ-TRAK in ACCOs and mainstream services in Australia.
2. Explore the extent to which organizations using the ASQ-TRAK have engaged training for staff.

2 | METHODS

2.1 | Study design

We undertook a retrospective review of sales and training records to determine the uptake of the ASQ-TRAK in ACCO (incorporating both Aboriginal Community Controlled Health Services [ACCHS] and other ACCOs) and mainstream services in Australia and the extent to which these organizations and services have engaged training for staff.

2.2 | Procedures

The ASQ-TRAK developmental screening tool (ASQ-TRAK kit) was previously distributed through the University of Melbourne (UoM) and is now distributed through The Royal Children's Hospital (RCH) shop. It has been available for purchase since 2015, and since then, 'sales records' have been maintained, comprising the following user information: the name of the organization, type of organization (e.g., ACCHS, Government health service), programme or department, type of service, craft groups who will use the ASQ-TRAK and purpose of the ASQ-TRAK in the organization.

ASQ-TRAK training has been delivered at intervals since 2011. Initially, training was only available to research partners. Since 2017, training has been available to ACCHSs and mainstream services who are implementing the ASQ-TRAK, without being active research partners. A record of all training workshops delivered, including the number of participants, has been maintained since 2011. Data for both records are entered into Microsoft Excel (2013).

2.3 | Data analysis

These descriptive data were cleaned and analysed using Microsoft Excel (2013). Organizations were coded into seven service types: ACCHS, ACCO, Community Service, Education sector, Government Health Service, University/Research Institute and Other. The *other* category was applied to government departments (not health), general practice and not-for-profit disability services. ASQ-TRAK purchases and UoM training engagement were collated by jurisdiction and service type.

2.4 | Ethics

The data presented in this study are taken from an internal audit of distribution and training records. The UoM determined ethical clearance was not required.

3 | RESULTS

Since it has become available, 500 ASQ-TRAK kits have been distributed (Table 1). Of those, 100 kits (20%) have been purchased by ACCOs (incorporating both ACCHS and other ACCOs). There are 142 ACCHS in Australia (National Aboriginal Community Controlled Health Organisation, n.d.) (Table 2), and our records indicate that 25 ACCHSs (18%) have purchased ASQ-TRAK kits.

Most kits have been distributed in the Northern Territory (NT) (178, 36%), Western Australia (WA) (165, 33%) and South Australia (SA) (64, 13%) (see Table 1). This is despite the NT having only 7.7% of Australian Aboriginal and Torres Strait Islander children aged 0–4 years resident in their jurisdiction, WA 12.2% and SA 5.3%. New South Wales (NSW) and Queensland (QLD) have the largest resident population of Aboriginal and Torres Strait Islander children aged 0–4 years in Australia (34.2% and 28.7%, respectively); however, to date, only 8% and 10% of the ASQ-TRAK kits have been distributed to those states, respectively.

In the NT, WA and SA, where most (407, 81%) ASQ-TRAK kits have been distributed, 13% (67) were purchased by ACCHS.

The UoM team has delivered 15 ASQ-TRAK training workshops reaching 196 practitioners (Table 1). Of the 196 practitioners trained, 25 were identified as trainers for their organization (the remaining three were UoM staff). We do not have access to the total number of practitioners who are using the ASQ-TRAK in each service that has purchased the tool; however, Table 1 highlights that the majority of services have not had training through the UoM. Although 17 NT services purchased 178 ASQ-TRAK kits and had 9 workshops delivered, QLD has not accessed any workshops despite 19 services purchasing 51 ASQ-TRAK Kits.

Many of the workshops, while commissioned by a particular organization, included participation from multiple services. For example, in the NT, two workshops were sponsored by a programme supporting early childhood services and were attended by a combination of staff

TABLE 1 ASQ-TRAK kit and training uptake in Australia

Site	Aboriginal population, 0–4 years, *n* = 93,830 (%)	Service	Services types that have purchased ASQ-TRAK, *n* = 77 (%)	ASQ-TRAK kits distributed, *n* = 500 (%)	UoM ASQ-TRAK workshops delivered[a], *n* = 15	Staff trained by UoM	
						Pract, *n* = 196	Trainers, *n* = 28
NT	7229 (7.7)	All	17 (22)	178 (36)	9	93	5
		ACCHS	6	41			
		ACCO	2	2			
		Community service	4	3			
		Education sector	1	70			
		Gov health service	2	57			
		Uni/research institute	2	4			
WA	11,477 (12.2)	All	15 (19)	165 (33)	2	43	13
		ACCHS	8	13			
		ACCO	1	1			
		Community service	1	1			
		Education sector	1	39			
		Gov health service	1	102			
		Uni/research institute	2	5			
		Other	1	1			
SA	4957 (5.3)	All	11 (13)	64 (13)	2	41	4
		ACCHS	4	10			
		Community service	1	1			
		Education sector	1	1			
		Gov health service	3	49			
		Other	2	2			
Qld	26,961 (28.7)	All	19 (25)	51 (10)	0	0	0
		ACCHS	4	25			
		ACCO	1	1			
		Community service	2	6			
		Education sector	1	1			
		Gov health service	9	14			
		Uni/research institute	1	3			
		Other	1	1			
NSW	32,068 (34.2)	All	12 (16)	39 (8)	1	8	2
		ACCHS	3	3			
		ACCO	1	1			
		Community service	2	2			
		Gov health service	4	31			
		Uni/research institute	1	1			
		Other	1	1			
Vic	7106 (7.6)	All	2 (0)	2 (0)	1	11	4
		ACCO	0	0			
		Gov health service	1	1			
		Uni/research institute	1	1			

TABLE 1 (Continued)

Site	Aboriginal population, 0–4 years, $n = 93{,}830$ (%)	Service	Services types that have purchased ASQ-TRAK, $n = 77$ (%)	ASQ-TRAK kits distributed, $n = 500$ (%)	UoM ASQ-TRAK workshops delivered[a], $n = 15$	Staff trained by UoM	
						Pract, $n = 196$	Trainers, $n = 28$
ACT	899 (1.0)	All	1 (0)	1 (0)	0	0	0
		Uni/research institute	1	1			
Tas	3117 (3.3)	n/a	0	0	0	0	0

Note: Other; Gov, Government. Other includes Department for Communities (WA), Department of Human Services (SA), General Practice and Disability Service.

Abbreviations: ACCHS, Aboriginal Community Controlled Health Service; ACCO, Aboriginal Community Controlled Organization; ACT, Australia Capital Territory; ASQ-TRAK, Ages and Stages Questionnaire – Talking about Raising Aboriginal Kids; NSW, New South Wales; NT, Northern Territory; Qld, Queensland; SA, South Australia; Tas, Tasmania; Vic, Victoria; WA, Western Australia.

[a]Not included by service type as often multiagency workshops.

TABLE 2 Distribution of ASQ-TRAK kits across ACCHSs

Location	ACCHSs in each location, $n = 142$	ACCHSs that have purchased ASQ-TRAK kits, $n = 25$ (%)
Western Australia	20	8 (40)
Northern Territory	19	6 (32)
Queensland	30	4 (13)
South Australia	12	4 (33)
New South Wales	38	3 (8)
Victoria	24	0
Australian Capital Territory	1	0
Tasmania	1	0

Abbreviations: ACCHS, Aboriginal Community Controlled Health Services; ASQ-TRAK, Ages and Stages Questionnaire – Talking about Raising Aboriginal Kids.

from an ACCHS, Government Health Service and Department of Education.

4 | DISCUSSION

There has been substantive research translation of the ASQ-TRAK In the 5 years, since it has become available, uptake of the ASQ-TRAK has occurred across the NT, WA, SA, NSW and QLD with distribution of 500 ASQ-TRAK kits across 77 different agencies. The research team has delivered 15 ASQ-TRAK training workshops to a total of 196 practitioners.

The adoption of the tool has been notable in the NT, WA and SA. We have seen 81% of ASQ-TRAK kits distributed to these three jurisdictions, whereas they only have 25.2% of the population of Aboriginal and Torres Strait Islander children aged 0–4 years. This is not unexpected in view of the original adaptation study being undertaken in collaboration with two NT communities (D'Aprano, Silburn, Johnston, Robinson, et al., 2016), and the subsequent ASQ-TRAK validation also being conducted in the NT. Furthermore, the adaptation focused on use in the remote Aboriginal and Torres Strait Islander context and hence was considered most relevant to those jurisdictions that have a significant proportion of Aboriginal and Torres Strait Islander people who live in remote or very remote locations. As further evidence has emerged of the acceptability of the ASQ-TRAK to practitioners and caregivers in urban settings (D'Aprano et al., 2020; Johansen et al., 2020), there has been increasing uptake in states with a greater proportion of Aboriginal and Torres Strait Islander people living in urban centres, such as NSW and QLD.

Another important factor influencing adoption of the tool in different jurisdictions is the existing government framework for delivering mainstream universal child health checks. In the NT, WA, SA, NSW and QLD, the ASQ-3 is one of the developmental screening tools used by health services to monitor child development. Therefore, incorporating the ASQ-TRAK, which although adapted is comparable with the ASQ-3, is relatively straightforward. In contrast, in Victoria, the ASQ-3 is not included in the Key Ages and Stages Maternal Child Health Visits. Instead, the PEDS and Brigance are used as primary and secondary screens, respectively. Although this is an important reason why the ASQ-TRAK has not been adopted as readily in Victoria as in other jurisdictions, we cannot assume the acceptability of the ASQ-TRAK is generalizable to Victorian Aboriginal and Torres Strait Islander communities. Further research is underway to explore this question: a Victorian trial, supported by the Department of Health and Human Services, commenced in 2019 exploring the acceptability of the ASQ-TRAK and training in Aboriginal Maternal Child Health Initiative sites.

Although the uptake in the NT, WA and SA has been encouraging, it remains predominantly in government run services in those jurisdictions. This is the case in all jurisdictions except QLD, where just over half of all ASQ-TRAK kits have been purchased by ACCOs. This is unsurprising as governance structures in government organizations facilitate policy and practice decisions being implemented broadly across large regions, and across whole of programmes, serviced by those organizations. ACCHS, in contrast, are autonomous health services, each governed and managed by their local Aboriginal and Torres Strait

Islander community, and therefore, systems and practice may vary considerably between them. Systematic adoption of practice change is not expected. However, these data may reflect the failure of optimizing knowledge translation. It can be challenging to effectively communicate relevant research findings with ACCOs, resulting in practice improvements taking longer to implement. This further reinforces the need to establish research partnerships with ACCOs and the benefits of Aboriginal and Torres Strait Islander implementation teams (Fixsen et al., 2013).

Although we have seen a marked increase in the uptake of the ASQ-TRAK, especially in those sites where research partnerships exist, there has been inconsistent uptake of the ASQ-TRAK training. One of the main reasons for this has been a resource issue. The UoM team has not had the capacity to provide widespread ASQ-TRAK training to support and sustain the implementation of the tool with fidelity, across all regions, at scale. Services in some jurisdictions have not been able to access any training. This is problematic because it means the ASQ-TRAK is commonly being implemented with little or no training. Even in the NT, where we have the most training success, delivering nine workshops, it has not been possible to provide ongoing support of trained facilitators or ongoing monitoring of their training.

The lack of appropriate training and support carries several risks. First, we risk damaging the cultural appropriateness of the ASQ-TRAK; a key feature of the success of the ASQ-TRAK is the partnership that is developed with the caregiver (D'Aprano et al., 2020), and if administered incorrectly, we jeopardize its fundamental cultural safety. Cultural safety has also been identified as a key factor in engaging families in other Indigenous populations, outside of Australia (Gerlach et al., 2017). Second, without appropriate training, there is the possibility that the ASQ-TRAK is used as a 'checklist', which risks it being perceived as a 'test'. This is not consistent with the tool's objective or with its engaging attributes and would undermine the goals of the Aboriginal and Torres Strait Islander communities who collaborated on the adaptation and training development (Sebastian et al., 2020). Finally, without ongoing support of trained facilitators, we cannot ensure currency of practice is maintained. It is well known that support of facilitators, managers and service leaders is essential for effective and sustainable implementation at scale (Coburn, 2003). A literature review of development and implementation of training programmes for health interventions for Indigenous clients found that sustaining support and training was necessary to enhance ongoing implementation efforts (Sebastian et al., 2020). Ignoring this threatens the fidelity of ASQ-TRAK implementation and the quality of developmental monitoring practice and outcomes for young Aboriginal and Torres Strait Islander children.

There are limitations to this study. Although sales records are notable and some services have engaged in accredited ASQ-TRAK training, we have no data on the number of staff who were subsequently trained by organizations' facilitators. There are incomplete data on what organizations' facilitators have delivered and no knowledge of the effectiveness of this training. Furthermore, an understanding of whether purchase of ASQ-TRAK kits and training has translated into practice change is essential. An implementation evaluation of this sort was beyond the scope of this study but should be the focus of future research.

We suggest regional implementation teams, comprising regional Aboriginal and Torres Strait Islander facilitators and research partners, are necessary for successful implementation of the ASQ-TRAK in ACCHS and mainstream services providing developmental care to Aboriginal and Torres Strait Islander children in Australia. Regional implementation teams would provide implementation support to facilitators, managers and leaders, which can build the capacity and capability of the ACCHS and mainstream workforce to develop depth of knowledge of the ASQ-TRAK, and a sense of ownership of the programme (Coburn, 2003). Supporting services to administer the ASQ-TRAK in these ways also improves efficiency. Fixsen et al. (2009) report that when implementation teams are established, implementation time frames are significantly reduced, from 17 to 3 years, and the success rate is approximately 80% compared with 14%.

5 | CONCLUSIONS

The ASQ-TRAK has had substantive research translation. There is growing evidence that the ASQ-TRAK is acceptable in different contexts, and it is being adopted as part of practice and included in policy in many services across Australia. However, most ACCOs have not accessed the tool, and the majority of organizations have not participated in ASQ-TRAK training. There is an imperative to first, better understand the barriers to developmental monitoring and second, to progress the knowledge translation to both ACCOs and mainstream services to improve quality and accessibility of culturally appropriate developmental care. It is also essential that the ASQ-TRAK training and support needed is adequately resourced if we are to see sustainable implementation at scale. Training and support are core components of implementation and vital to fidelity, so critical to the success and quality of developmental monitoring practice and outcomes for young children (Bertram et al., 2015). This is an important part of broader requirement to address the unacceptable disparity in health outcomes of Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander Australians.

ACKNOWLEDGEMENTS

We would like to gratefully acknowledge the ASQ-3 author group, who have supported the ongoing development of the ASQ-TRAK. We would also like to acknowledge and thank the community members and staff who have contributed to this work. No funding was received for this study. Open access publishing facilitated by The University of Melbourne, as part of the Wiley - The University of Melbourne agreement via the Council of Australian University Librarians. Open access funding enabled and organized by Projekt DEAL.

CONFLICT OF INTEREST

The authors have no competing interests to declare.

DATA AVAILABILITY STATEMENT

The data presented in this study are taken from an internal audit of distribution and training records. Data sharing is not applicable to this article as no new data were created in this study. The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

The University of Melbourne determined ethical clearance was not required. No patients were recruited for this study and consent not required.

ORCID

Anita D'Aprano https://orcid.org/0000-0001-6231-5305

REFERENCES

American Academy of Pediatrics. (2008). *Bright futures: Guidelines for health supervision of infants, children, and adolescents* (3rd ed.). American Academy of Pediatrics. http://brightfutures.aap.org/3rd_Edition_Guidelines_and_Pocket_Guide.html

Australian Government, Department of the Prime Minister and Cabinet. (2019). *Closing the Gap Report 2019*. Australian Government.

Australian Institute of Family Studies. (n.d.). Communities for children outcomes measurement matrix. https://aifs.gov.au/cfca/expert-panel-project/families-and-children-outcomes-measurement-matrix. Accessed 14 August, 2020

Bertram, R. M., Blase, K. A., & Fixsen, D. L. (2015). Improving programs and outcomes: Implementation frameworks and organization change. *Research on Social Work Practice*, *25*(4), 477–487. https://doi.org/10.1177/1049731514537687

Black, M. M., Walker, S. P., Fernald, L. C. H., Andersen, C. T., DiGirolamo, A. M., Lu, C., McCoy, D. C., Fink, G., Shawar, Y. R., Shiffman, J., Devercelli, A. E., Wodon, Q. T., Vargas-Barón, E., & Grantham-McGregor, S. (2017). Early childhood development coming of age: Science through the life course. *Lancet*, *389*(10064), 77–90. https://doi.org/10.1016/S0140-6736(16)31389-7

Blair, M., & Hall, D. (2006). From health surveillance to health promotion: The changing focus in preventive children's services. *Archives of Disease in Childhood*, *91*(9), 730–735. https://doi.org/10.1136/adc.2004.065003

Brothers, K. B., Glascoe, F. P., & Robertshaw, N. S. (2008). PEDS: Developmental milestones—An accurate brief tool for surveillance and screening. *Clinical Pediatrics (Phila)*, *47*(3), 271–279. https://doi.org/10.1177/0009922807309419

Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, *32*(6), 3–12. https://doi.org/10.3102/0013189X032006003

Daelmans, B., Darmstadt, G. L., Lombardi, J., Black, M. M., Britto, P. R., Lye, S., Dua, T., Bhutta, Z. A., & Richter, L. M. (2017). Early childhood development: The foundation of sustainable development. *Lancet*, *389*(10064), 9–11. https://doi.org/10.1016/S0140-6736(16)31659-2

D'Aprano, A., Johnston, H., Jarman, R., Jeyaseelan, D., Chan, Y. P., Johansen, K., & Finch, S. (2020). Practitioners' perceptions of the ASQ-TRAK developmental screening tool for use in Aboriginal children: A preliminary survey. *Journal of Paediatrics and Child Health*, *56*(1), 94–101. https://doi.org/10.1111/jpc.14502

D'Aprano, A., Silburn, S., Johnston, V., Bailie, R., Mensah, F., Oberklaid, F., & Robinson, G. (2016). Challenges in monitoring the development of young children in remote Aboriginal health services: Clinical audit findings and recommendations for improving practice. *Rural and Remote Health*, *16*(3), 3852. https://doi.org/10.22605/RRH3852

D'Aprano, A., Silburn, S., Johnston, V., Oberklaid, F., & Tayler, C. (2015). Culturally appropriate training for remote Australian Aboriginal health workers: Evaluation of an early child development training intervention. *Journal of Developmental and Behavioral Pediatrics*, *36*(7), 503–511. https://doi.org/10.1097/DBP.0000000000000200

D'Aprano, A., Silburn, S., Johnston, V., Robinson, G., Oberklaid, F., & Squires, J. (2016). Adaptation of the ages and stages questionnaire for remote Aboriginal Australia. *Qualitative Health Research*, *26*(5), 613–625. https://doi.org/10.1177/1049732314562891

Edmond, K. M., Tung, S., McAuley, K., Strobel, N., & McAullay, D. (2019). Improving developmental care in primary practice for disadvantaged children. *Archives of Disease in Childhood*, *104*(4), 372–380. https://doi.org/10.1136/archdischild-2018-315164

Fixsen, D., Blase, K., Metz, A., & Van Dyke, M. (2013). Statewide implementation of evidence-based programs. *Exceptional Children*, *79*(3), 213–230. https://doi.org/10.1177/001440291307900206

Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, *19*(5), 531–540. https://doi.org/10.1177/1049731509335549

Gerlach, A. J., Browne, A. J., & Greenwood, M. (2017). Engaging indigenous families in a community-based Indigenous early childhood programme in British Columbia, Canada: A cultural safety perspective. *Health & Social Care in the Community*, *25*(6), 1763–1773. https://doi.org/10.1111/hsc.12450

Gertler, P., Heckman, J., Pinto, R., Zanolini, A., Vermeersch, C., Walker, S., Chang, S. M., & Grantham-McGregor, S. (2014). Labor market returns to an early childhood stimulation intervention in Jamaica. *Science*, *344*(6187), 998–1001. https://doi.org/10.1126/science.1251178

Glascoe, F. P. (2002). The brigance infant and toddler screen: Standardization and validation. *Journal of Developmental and Behavioral Pediatrics*, *23*(3), 145–150. https://doi.org/10.1097/00004703-200206000-00003

Goldfeld, S., & Yousafzai, A. (2018). Monitoring tools for child development: An opportunity for action. *The Lancet Global Health*, *6*(3), e232–e233. https://doi.org/10.1016/S2214-109X(18)30040-8

Government of South Australia. (2019). In S. Health (Ed.), *ASQ-TRAK roll-out is now live and ready to be used in sites*. Government of SA.

Government of Western Australia Child and Adolescent Health Service. Ages and stages questionnaires. 2020; https://pch.health.wa.gov.au/~/media/HSPs/CAHS/Documents/Community-Health/CHM/Ages%20and%20Stages%20Questionnaires%20ASQ.pdf?thn=0. Accessed 26 June, 2020.

Johansen, K., Jeyaseelan, D., Chan, Y. P., Simpson, S., O'Keefe, M., & D'Aprano, A. (2020). Acceptability of the culturally adapted ASQ-TRAK developmental screening tool to caregivers of Aboriginal children. *Journal of Paediatrics and Child Health*, *56*, 1946–1951. https://doi.org/10.1111/jpc.15099

Moore, T. G. (2019). *Early childhood, family support and health care services: An evidence review*. Centre for Community Child Health and the City of Port Phillip.

NACCHO NACCHO Aboriginal health news alert 2017, https://nacchocommunique.com/2017/11/16/naccho-aboriginal-childrens-health-boosting-early-learning-for-indigenous-children/. Accessed January 10, 2019, 2019.

National Aboriginal Community Controlled Health Organisation. NACCHO member services. https://www.naccho.org.au/member-services/naccho-member-services/. Accessed 14 August, 2020.

Northern Territory Government. Indigenous education strategy—Issue 17. 2017; https://education.nt.gov.au/statistics-research-and-strategies/indigenous-education-strategy/indigenous-education-strategy-issue-17/gunbalanya-families-boost-attendance?SQ_PAINT_LAYOUT_NAME=multi&curr=494478&print=yes. Accessed 14 August, 2020.

Royal Australasian College of Physicians. Provision of services under the NDIS early childhood early intervention approach—Written

submission. 2017; https://www.racp.edu.au//docs/default-source/advocacy-library/submission-to-senate-inquiry-on-ndis-ecei-approach.pdf?sfvrsn=106e011a6. Accessed 26 June, 2020.

Sebastian, S., Thomas, D. P., Brimblecombe, J., Majoni, V., & Cunningham, F. C. (2020). Factors impacting on development and implementation of training programs for health professionals to deliver brief interventions, with a focus on programs developed for indigenous clients: A literature review. *International Journal of Environmental Research and Public Health*, *17*(3), 1094–1112. https://doi.org/10.3390/ijerph17031094

Simpson, S., D'Aprano, A., Tayler, C., Toon Khoo, S., & Highfold, R. (2016). Validation of a culturally adapted developmental screening tool for Australian Aboriginal children: Early findings and next steps. *Early Human Development*, *103*, 91–95. https://doi.org/10.1016/j.earlhumdev.2016.08.005

Squires, J., Twombly, E., Bricker, D., & Potter, L. (2009). *Ages and stages questionnaires user's guide* (3rd ed.). Paul H Brookes Publishing Co.

Yarber, L., Brownson, C. A., Jacob, R. R., Baker, E. A., Jones, E., Baumann, C., Deshpande, A. D., Gillespie, K. N., Scharff, D. P., & Brownson, R. C. (2015). Evaluating a train-the-trainer approach for improving capacity for evidence-based decision making in public health. *BMC Health Services Research*, *15*, 547. https://doi.org/10.1186/s12913-015-1224-2

How to cite this article: D'Aprano, A., Brookes, I., Browne, L., & Bartlett, C. (2022). Uptake of the culturally appropriate ASQ-TRAK developmental screening tool in the Australian Aboriginal and Torres Strait Islander context. *Child: Care, Health and Development*, 1–8. https://doi.org/10.1111/cch.13006