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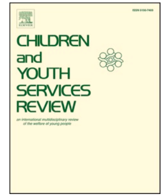

A mixed-method evaluation of Cradle to Kinder: An Australian intensive home visitation program for families experiencing significant disadvantage

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ABSTRACT

Cradle to Kinder is an Australian intensive, long-term, home visitation program that supports young families experiencing multiple stressors, including poverty, family violence, mental illness, substance use, childhood trauma, intellectual disability, child projection involvement, teenage pregnancy, or social isolation, which places them at high risk of child removal. The program adopts a multidisciplinary, whole-of-family and trauma-informed approach to provide families with long-term case management, practical support and evidence-based therapeutic parenting interventions from pregnancy for up to four years to address these underlying risk factors. The aim of this study was to evaluate: (1) the extent to which families experienced improvements in family, caregiver and infant wellbeing outcomes after 24 months engagement; and (2) caregivers' experiences of the program. A mixed-method evaluation was employed, which included two components: (1) uncontrolled pre-post quantitative assessment for 57 families using the North Carolina Family Assessment Scale and Brigance Early Child Development Assessment, completed every six months; and (2) qualitative interviews with 14 caregivers engaged in the program. The quantitative findings showed significant improvements in key domains of family functioning, parenting capabilities, infant development, and family preservation. The qualitative results validated these findings as caregivers reported favourable outcomes via participation in the program, including improved parenting skills and confidence, personal wellbeing, and child development. Suggestions for program development included greater support for fathers, increased cultural awareness, and consistency in workers. This mixed-methods study provides support for Cradle to Kinder as a promising model of family support that can improve family functioning, caregiver and child wellbeing, and prevent child removal among families experiencing significant disadvantage. These findings support the ongoing delivery of Cradle to Kinder in Australia to ensure families at greatest risk receive the support they urgently need.

1. Introduction

1.1. Overview

Young caregivers who have experienced multiple risk factors or stressors (e.g., poverty, family violence, mental illness, childhood trauma etc.) have an increased likelihood of poor parental outcomes, including delayed child development and higher rates of Child Protection involvement and child removal, compared to caregivers who have not experienced such disadvantage (e.g., Babcock Fenerci & Allen, 2018; Bucci et al., 2018; Canfield et al., 2017; Yoon et al., 2019). One way to offer increased support for these caregivers is through the delivery of home visitation programs. Several international evaluations of home visitations programs have shown improvements for both parental and child health and wellbeing outcomes (e.g., Dodge et al., 2019; Lee et al., 2018). There is recent preliminary evidence that home visitation programs delivered in the Australian context can also yield significant longitudinal improvements in maternal mental health and child outcomes for families who are experiencing some mild adversity (Goldfeld et al., 2019; Goldfeld et al., 2021). However, there is a lack of evidence for Australian home visitation programs that are specifically targeted towards families experiencing multiple risk factors or stressors that are likely involved with Child Protection. The current study describes a 24-month mixed-method evaluation of Cradle to Kinder, a long-term multidisciplinary home visitation program delivered by MacKillop Family Services to support young families residing in Victoria, Australia, who are experiencing disadvantage and at high risk of child removal.

1.2. Families experiencing disadvantage

'Disadvantage' has been broadly conceptualised as a range of difficulties that hinder life opportunities and prevent people from

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participating fully in society (Paus-Hasebrink et al., 2019). This definition encompasses, but is not limited to, exposure to risk factors or stressors such as economic poverty, intellectual disability, young pregnancy, poor physical and/or mental health, substance use, a history of family violence, and childhood trauma. Parents and their children who have been exposed to such stressors are at a significant risk of poor health and wellbeing outcomes (Babcock Fenerci & Allen, 2018; Carr et al., 2018; Madigan et al., 2019). For example, early childhood adversity, such as maltreatment, deprivation, and neglect, is associated with poor child developmental outcomes, including deficits in cognitive functioning (Bucci et al., 2018; Hong et al., 2018; Machlin et al., 2019), social-emotional development (O'Hara et al., 2015; Warmingham et al., 2020;), and behavioural challenges (McDonald et al., 2019; Yoon et al., 2019). Furthermore, these stressors place families at a higher risk of Child Protection involvement and subsequent greater rates of child removal, with exposure to multiple stressors exponentially increasing families' risk (Canfield et al., 2017; Assink et al., 2018). This can have detrimental effects on the long-term wellbeing of the child, such as an increased likelihood of future involvement with the criminal justice system (Malvaso et al., 2017). Evidence from one Australian jurisdiction indicates that the majority of unborn reports made to Child Protection services (i.e., reports due to child safety or welfare concerns during the antenatal period, which increases the risk of child removal following birth) originated from families where more than three risk factors were present, including current or previous intimate partner violence (70% of families), parental alcohol and other drug use (63%), parental mental health concerns (58%), or parental criminal activity (34%, Meiksans et al., 2021). Such families experiencing disadvantage are often unable to access appropriate support services due to inadequate resources, difficulty navigating service systems, stigma, costs, limited availability of appropriate services, diminished capacity to seek out and physically attend services, low health literacy, and a lack of services that meet their needs (e.g., culturally sensitive or trauma-informed services), resulting in ongoing intergenerational trauma and disadvantage (Spencer et al., 2019). Providing greater access to social care support interventions that are tailored and targeted for families at high risk during the antenatal and early postnatal period is essential to address the inequity these families experience and subsequently improve both parental and child health and wellbeing outcomes (Madigan et al., 2019).

1.3. Home visitation programs

Home visitation programs are one type of approach that provide targeted support for families experiencing disadvantage in the antenatal and/or postnatal periods (Goldfeld et al., 2021; Kemp et al., 2019; Olds et al., 2019). Families who are enrolled in a home visitation program are visited at regular intervals by a trained practitioner, typically a nurse or social worker, who provides tailored support through education, guidance, active listening, and case management (Goldfeld et al., 2019). This type of intervention is most suitable for families that face barriers to service access and engagement as described above, because support is delivered directly to them via outreach in their own environment at a level of frequency and intensity that is tailored to their needs (Leirbakk et al., 2017). The flexibility of bringing resources directly to the family during this early intervention period (i.e., antenatal and/or postnatal periods) is considered more accessible, comfortable, non-threatening, and tailored, thus removing typical service-system barriers (Leirbakk et al., 2017). These programs are often aimed at improving the family's home environment, increasing parental self-efficacy, and preventing adverse child development and behavioural problems. The international evidence base for the effectiveness of home visitation programs is quite mixed, with often small effect sizes and inconsistent outcomes depending on the target population group and type of home visiting model, highlighting that the impacts and benefits of home visiting vary for different families (Casillas et al., 2016). Key home visitation programs that have been delivered internationally to families experiencing multiple stressors and at risk of child removal in the antenatal/postnatal periods include the Healthy Families New York (Lee et al., 2018; USA), Minding the Baby (Slade et al., 2020), Healthy Babies Are Worth the Wait (HBWW) delivered in the United States (Ferguson & Vanderpool, 2012), and the Nurse-Family Partnership home visitation program delivered across the United States and Europe (Mejdoubi et al., 2015; Kitzman et al., 2019; Olds et al., 2019). International evaluations of these home visitation programs conducted in the USA, Europe, and United Kingdom (UK) have found some positive impacts on various parental and child outcomes, such as ideal birth outcomes (e.g., birth weight and full-term births), improvements in child social, emotional, cognitive and language development, improved maternal health, and reductions in child maltreatment and Child Protection involvement (e.g., Avellar & Supplee, 2013; Eckenrode et al., 2017; Lee et al., 2018; Slade et al., 2020).

1.4. Australian research

In contrast to the USA and UK, Australia's rates of child protection notifications (i.e., rate of referral to child welfare) and children living in out-of-home care (i.e., looked-after children) are significantly higher, indicating greater demand for family support programs (Australian Institute of Health and Welfare, 2022; Munro & Manful, 2012). Guided by the international evidence-base, home visitation programs for mothers who experience disadvantage have become more widely implemented and evaluated within the Australian landscape. One example of an effective, Australian delivered home visiting intervention is the right@home program (Goldfeld et al., 2019; Goldfeld et al., 2021; Kemp et al., 2019), which offers a home visitation program to pregnant women experiencing two or more general lifestyle risk factors (e.g., poor health, smoking, young pregnancy, chronic unemployment etc.). The intervention comprises a minimum of 25 nurse visits, with three visits scheduled antenatally and the remaining delivered during the first two years post birth. The findings of a randomised controlled trial revealed that the program significantly improved parenting capacity and safety in the home environment (Goldfeld et al., 2019). In addition, maternal mental health was shown to exhibit marked improvements at follow up (Goldfeld et al., 2021).

This home visitation research has generated an evidence base for the utility of home visitation programs in Australia. However, this program was developed for mothers exhibiting lower-level lifestyle risk factors; the mothers included exhibited relatively low rates of domestic violence, substance misuse and housing instability, and were not likely involved with Child Protection (Goldfeld et al., 2018; Kemp et al., 2008). Therefore, the extent to which home-visiting programs in Australia can support caregivers at significantly greater risk, particularly those experiencing intergenerational disadvantage, who are known to Child Protection or whose child is at risk of removal, is yet to be established. Furthermore, the influence of home visitation programs on fathers/male caregivers, and their caregiving role, has not been explored in previous Australian research (e.g., Goldfeld et al. 2019; Kemp et al., 2011; Kemp et al., 2018; Kemp et al., 2019; Sawyer et al., 2013; Sawyer et al., 2014).

1.5. The current study

The aim of the current study was to evaluate Cradle to Kinder, a long-term, intensive, whole-of-family and trauma-informed home visitation family support program from pregnancy for up to four years. It is funded by the Department of Health and Human Services (DHHS) and delivered by MacKillop Family Services across metropolitan and regional Victoria. Cradle to Kinder is specifically designed for and delivered to young families exhibiting multiple risk factors or stressors (e.g., family violence, substance use, mental health concerns, Child Protection involvement), placing their unborn child or infant at imminent risk of removal into out-of-home care (i.e., alternative placement for children who cannot live with their biological parents). MacKillop collaborated

with internal and external stakeholders (i.e., child protection, families) to implement their own version of the model as outlined in the practice guidelines (DHHS, 2013). The aim of this study was to evaluate: (1) the extent to which families experience improvements in family, caregiver, and infant wellbeing outcomes after 24 months of engagement with the program; and (2) caregivers' experiences and perspectives of the program, including consideration of how the program could be improved. It is hypothesised that there will be a significant improvement in all family, caregiver, and infant wellbeing outcomes between program intake and 24 months of program engagement. It is also hypothesised that the rate of child removal over the 24 months will be less than the average rate of child removal following an unborn report in Victoria.

2. Method

2.1. Ethical considerations

This study was approved by the Monash University Human Research Ethics Committee. All mothers and fathers who participated provided informed consent and anonymity of their data was upheld by providing each participant a unique numerical identifier for use throughout the study.

2.2. Design and setting

This paper presents a mixed-method evaluation of the Cradle to Kinder program, which has been delivered by MacKillop Family Services to two parallel groups of caregivers residing in metropolitan (Inner East areas of Melbourne) and regional Victoria (i.e., cities of Wodonga and Bendigo in the north of the state). The quantitative component comprised an uncontrolled single group pre-post study design to examine changes in family, caregiver and child health and wellbeing outcomes after 24 months of engagement with the four-year program. Quantitative measures were administered at baseline, and every 6 months during program delivery and examined the following: family environment, parenting capabilities, family interactions, family safety, family preservation, and the infant's behavioural, social, and cognitive development. Further, qualitative semi-structured interviews were conducted with caregivers after 24 months of program participation to evaluate their experiences of the program thus far. The current paper presents outcomes for families at the halfway point of program engagement (i.e., 24 months of the four-year program).

2.3. Participants and recruitment

2.3.1. Quantitative component

Caregivers were referred to the program through various sources, such as: Child and Family Information and Referral Support Team (Child FIRST) - a state-wide access point for entry into family services that anyone with a concern for child or family wellbeing can refer to (i.e., may be voluntary or mandatory engagement, on a case-by-case basis); antenatal staff (e.g., obstetricians and midwives); Child Protection; self-referral; and other family service programs. Families were considered eligible for the program if they met all of the following criteria: (1) the primary caregiver (i.e., mother and/or father) was aged 25 years and younger; (2) the mother was pregnant or within the first six weeks postpartum; (3) they were subject of an unborn report made to Child Protection regarding the welfare of their child or the primary caregiver exhibited several characteristics placing them at-risk of child removal (e.g., poverty, homelessness, alcohol and other drug use, mental ill health, family violence); (4) they exhibited sufficient English proficiency to verbally engage with the program; and (5) voluntarily agreed to participate in the program. Due to the maximum capacity of the program being 64 families, the program was prioritised for adolescents (i.e., under the age of 18), caregivers who identified as Aboriginal or Torres Strait Islander, caregivers with a lived experience of out-of-home care, or caregivers who exhibited low functioning or diminished capacity (i.e., due to a cognitive, intellectual, and/or learning disability). Specifically, the limited program capacity paired with this eligibility criteria meant that only those families at highest risk (i.e., families experiencing multiple stressors and Child Protection involvement where their baby was at risk of removal) and were strongly recommended from the referral source (i.e., Child Protection, Child FIRST) to engage, were accepted into the program.

Once caregivers were recruited into the program, they were invited to participate in the evaluation by their Cradle to Kinder worker after approximately four weeks, to first establish rapport between the caregiver and the practitioner. A total of 57 caregivers (out of a total of 64 engaged in the program) agreed to partake in the evaluation and provided consent for their outcome data to be shared with the research team for analysis. Systematic reviews of comparable programs have found small to medium effects for pre-post intervention outcomes (Avellar & Supplee, 2013). With the alpha set at 0.05, correlations between repeated measures set at 0.50, and power of 0.80, a total sample size of 45 participants was required. The study sample size of 57 exceeded this requirement. Client demographic characteristics at baseline based on geographical region are presented in Table 1 below. Whilst there were no statistically significant differences between caregivers, those in regional areas had higher rates of birth complications, family violence, substance misuse and child protection involvement. This is characteristic of the broader population of rural and regional Victoria, as they experience higher rates of exposure to such stressors, lower socioeconomic status and poorer health outcomes than those in metropolitan Victoria (Department of Health, 2022). As the research team did not have access to the data of the 7 caregivers that did not consent to participate in the evaluation, we cannot ascertain whether there were any systematic differences between caregivers who agreed and declined to participate in the evaluation. Nonetheless, the demographic characteristics of the current sample align with the program's eligibility criteria.

2.3.2. Qualitative component

Caregivers were invited by their practitioner to participate in a qualitative semi-structured interview with a trained member of the research team to explore their experiences of the program after 24-months engagement. A total of 11 mothers and 3 fathers agreed and participated in the interview. This encompassed the first 14 caregivers in sequence who were invited to participate; to the authors' knowledge, no caregivers declined. Data analysis occurred concurrently with data collection so that saturation could be adequately assessed. The interview with the 14th caregiver revealed no new themes, so recruitment efforts

Table 1
Demographic and descriptive characteristics of 57 caregivers at baseline.

	Region	
	Metropolitan ($n = 24$)	**Regional ($n = 33$)**
Mean age (SD)	19.33 (2.31)	18.44 (0.68)
Birth complications[1] (yes)	13 (54%)	18 (61%)
Aboriginal and Torres Strait Islander (yes)	7 (29%)	11 (32%)
Stable accommodation (yes)	16 (67%)	21 (64%)
Drug and/or alcohol misuse (yes)	13 (54%)	20 (60%)
Family violence issues (yes)	15 (63%)	25 (76%)
Caregiver low functioning/diminished capacity[2] (yes)	18 (75%)	25 (76%)
Current Child Protection involvement (yes)	18 (75%)	28 (85%)
Father involvement (yes)	8 (33%)	16 (48%)

[1] Birth complications included premature birth (born at 36 weeks or less), emergency caesarean, hypoglycaemia, hypothermia, gastroschisis, low birth weight, or baby in special care to withdraw from mother's cannabis use.

[2] Encompasses intellectual disability, learning disability, acquired brain injury, or other cognitive impairment.

ceased at this point. The average age of caregivers at the time of the interview was 22.5-years-old (*SD* = 3.04), ranging from 18 to 28 years. Eight caregivers (57%) were from regional Victoria, four caregivers (29%) identified as Aboriginal or Torres Strait Islander, 80% had previous child protection involvement, 64% had experienced family violence and 64% experienced mental illness or substance use concerns, which closely aligns with the characteristics of the broader sample included in the evaluation. The majority of caregivers (79%) were engaged in the program with their first child, aged 18 months on average at the time of interview.

2.4. Intervention

2.4.1. Intervention description

Cradle to Kinder is an intensive, long-term, whole-of-family, trauma-informed home visitation program delivered to young caregivers experiencing disadvantage across Victoria by MacKillop Family Services, a community service organisation that is committed to providing early intervention and support services to families. MacKillop's program provides families with a multidisciplinary team of support consisting of family support practitioners (i.e., key worker), maternal and child health nurses and early parenting workers to holistically support the key practitioner as required (DHHS, 2013). Visitation frequency varies greatly across families throughout the engagement period, depending on each family's unique needs (e.g., intensity of support may increase when responding to families during crises). On average, families are visited at home twice weekly during the first 12 months and thereafter home visits are once a week. Families receive a mean total of 884 h (*SD* = 197 h, ranging from 558 to 1311 h) of support throughout their engagement with the program, which equates to approximately four hours a week for up to four years.

Cradle to Kinder practitioners hold a caseload of approximately 1:8 families, and work alongside the whole family, including caregivers, the target child at risk, siblings, and extended family (e.g., grandparents) with an emphasis on partnership and shared decisions to facilitate engagement. Practitioners also work in partnership with any other services or professionals involved with the family (i.e., care team members, including child protection, maternal and child health nurses, childcare, specialist support services etc). There are currently 12 FTE practitioners across the program with qualifications in social work, maternal and child health, nursing, midwifery, child and family support, community services, or psychology. At the time of evaluation, practitioners had six months to seven years of experience working at Mackillop. All practitioners receive at least 70 h of comprehensive training and professional development from MacKillop to support program delivery, including MacKillop Sanctuary training (i.e., trauma-informed practice), cultural awareness training, Circle of Security (i.e., an evidence-based attachment-focused early intervention to enhance caregiver-child attachment security, Hoffman et al., 2006), Newborn Behavioural Observation Training (i.e., an attachment-focused and strength-based intervention to enhance caregivers' awareness of and responsivity to their newborn's needs, Hawthorne & Nicolau, 2017), and Infant Mental Health Training. Practitioners also engage in regular individual supervision, weekly team supervision and coaching sessions to support the delivery of evidence-based interventions and fidelity to the model, and regular supervision with a consultant infant and child psychiatrist to support infant mental health and development.

During home visitations, practitioners implement a range of trauma-informed and evidence-based interventions (e.g., psychoeducation, attachment-based strategies; emotion regulation strategies; motivational interviewing etc), to address families' risk factors and support various areas of parenting. This may include positive role modelling and attachment-focused interventions to enhance infant-parent bonding, home environment safety (e.g., removing hazards from the environment), healthy lifestyle changes (e.g., substance use reduction, healthy eating), feeding practices (e.g., breastfeeding), psychosocial improvements (e.g., housing stability, connection to the community), developing routines, improving caregiver sensitivity and responsivity, building practical parenting skills, and family crisis management. Cradle to Kinder also has a brokerage component (i.e., discretionary funding) attached to the program which is used to meet families' basic needs, purchase necessities (e.g., pram, groceries, washing machine), or facilitate engagement in services (e.g., fund psychology sessions, childcare). Further, practitioners provide case management support to address underlying risk factors (e.g., secure appropriate housing, provide transportation to appointments) and link families into relevant community wrap-around supports and specialist services as needed (e.g., mental health or drug and alcohol support, childcare, mothers' groups, GP, housing services etc). Fig. 1 presents the program's logic model. For a more detailed program description, theory of change, and program implementation evaluation, please see O'Donnell et al. (2022).

2.5. Outcome measures

2.5.1. Quantitative assessment

Cradle to Kinder practitioners completed various quantitative measures for their families at baseline (i.e., program intake) and every six months over 24 months.

Demographic data. Basic demographic information was collected at intake on a binary scale of yes/no, which included: birth complications, identification as Aboriginal or Torres Strait Islander, current stable accommodation (i.e., housing that is safe, secure, and of reasonable quality), current substance misuse, current family violence issues (e.g., living with the perpetrator) and Child Protection involvement. Age of the primary caregiver was also collected. Practitioners reported on the rate of child removal (i.e., whether the child had been removed and/or returned to their care during program engagement) throughout the 24-month period.

North Carolina Family Assessment Scale (NCFAS). Overall family functioning, parenting capacity, and family and child wellbeing was assessed using the NCFAS (Kirk & Martens, 2006). This measure consists of 58 items divided into 8 domains, including family environment (e.g., housing stability, safety in the community), parental capabilities (e.g., disciplinary practices, caregiver literacy), family interactions (e.g., family routines and rituals, communication with child/ren), family safety (e.g., absence/presence of domestic violence between caregivers), chid wellbeing (e.g., behaviour, attachment/relationship with caregiver), social/community life (e.g., social relationships, connection to community), family self-sufficiency (e.g., caregiver employment, family income), and family health (e.g., caregiver and child physical and mental health). Domain scores are measured using a six-point scale ranging from "Serious Problem = -3 to "Clear Strength = +2". The baseline assessment for the child wellbeing domain was completed at the 6-month time-point, rather than program intake, as most mothers were pregnant at this time. Whilst the NCFAS is more of a structured assessment and decision-making tool to inform future care planning and support, it has regularly been used as an outcome measure in previous evaluations of similar programs (e.g., Coates & Howe, 2016; Ingram et al., 2013). Further, the NCFAS has modest to high reliability (a = 0.79–0.91) and modest predictive validity when implemented with families involved in Child Protection (Kirk et al., 2005).

Brigance Early Child Development Assessment. Assessment of infant development were conducted using The Brigance (Brigance, 1978). The Brigance assessment is a binary scale that includes 85 items separated into six key areas, including gross motor skills (e.g., sits upright, walks), fine motor skills (e.g., places fist in mouth, puts objects in containers), receptive language skills (e.g., responds to own name), expressive language skills (e.g., makes varied sounds other than crying, says multiple syllable words), self-help skills (e.g., sucks well, feeds self), and social and emotional skills (e.g., smiles, explores their environment). Items are responded to as either "Yes, exhibits skill" or "No, does not exhibit skill". The baseline assessment time-point for the Brigance

Problem Statement: Target caregivers experience multiple risk factors or stressors that may place their child at increased likelihood of harm and subsequent removal from their care. This may include homelessness or unstable housing, family violence, mental health concerns, alcohol or other drug use, intergenerational trauma, intellectual disability or diminished capacity, and social isolation. These factors comprise caregivers' capacity to ensure their child's safety and development.

Inputs	Activities	Outputs	Short Term Outcomes (midpoint of program)	Medium Term Outcomes (end of program)	Long Term Outcomes (two years post program)
• Appropriately trained, skilled, and experienced Family Support Practitioners and Team Leaders • Wider care team staff i.e., maternal child health nurses • Staff training • Fully staffed teams • Clearly described processes for service delivery • Ongoing funding • Sufficient brokerage • Appropriate infrastructure for service provision • Sufficient office space • Organisational cars for transportation • Families' homes that have passed occupational health and safety checks to conduct home visits • Access to computers, iPads, phones • Access to organisational data systems and reporting databases	***MacKillop:*** **Family Support Practitioners:** • Organise and attend the first joint home visit with Child Protection • Conduct a comprehensive holistic assessment of the family, including child development, child wellbeing, family functioning, and parenting capacity, supported by the Best Interests Case Practice Model (BICPM) assessment framework and goal planning tool • Conduct comprehensive risk assessment using the MARAM, and ongoing risk monitoring as needed • Develop a child and family action plan in collaboration with the family and set goals to address identified concerns, guided by the BICPM framework and the North Carolina Family Assessment Scales (NCFAS) • Implement the child and family action plan • Devise and implement safety planning and risk management strategies, responding appropriately to crises as they occur • Use the brokerage to provide families with basic necessities as required (i.e., food, rent) or facilitate the achievement of the family's goals (i.e., pay for childcare, safe and secure housing, taxi vouchers to attend appointments) • Connect the families into relevant pre and postnatal services, including GPs, antenatal services, maternal and child health, childcare or early education services, group programs for parents and their infants, or cultural support, and facilitate ongoing engagement (e.g., provide transport to appointments) • Support the behaviour change of caregivers (i.e., motivational interviewing techniques) • Connect families into specialist support services for appropriate evidence-based treatment of mental health, trauma, substance use, or family violence, and facilitate ongoing engagement (e.g., CBT for depression or EMDR for trauma processing) • Adopt core therapeutic elements from evidence-based interventions, such as behavioural activation/activity scheduling, cognitive restructuring or reframing, emotion regulation strategies, and psychoeducation for caregivers • Deliver evidence-based attachment theory interventions to support parent-child attachment, bonding and skill development of non-verbal communication (mirroring, eye-contact, prosody/pitch of voice, co-regulation, eye contact) e.g., Circle of Security, Newborn Behavioural Observation, Watch Wait and Wonder interventions • Provide evidence-based parenting education, support, and skills building on the establishment of consistent age-appropriate daily routines, breastfeeding, sleep and settling etc • Engage in positive role modelling and reinforcement of parenting behaviours • Advocate on behalf of the family in care team meetings • Report any escalation of risk to child protection • Conduct regular evaluation and feedback of family progress in care plan reviews at three monthly intervals **Early Parenting Workers:** • Provide specialised and targeted parenting support to families • Implement evidence-based strategies and attachment-focused interventions to promote parent-child relationships, attachment, communication, strengthen parenting capacity, and ensure healthy child development • Provide evidence-based pregnancy and parenting education, support, and skills building on the establishment of consistent age-appropriate daily routines, breastfeeding, sleep and settling etc • Complete the Brigance Assessment every six months to assess child development, and provide appropriate follow-up as indicated (i.e., facilitate referrals to maternal child health) • Provide advise/input on child safety and risk assessment as needed **Care Coordinators (Team Leaders):** • Review and determine the appropriateness of referral • Allocate each family to a Family Support practitioner • Attend the first initial joint home visit with the Practitioner and Child Protection, and attend care team meetings, as needed • Support practitioners through regular one-on-one and team supervision and opportunities for reflection ***External to MacKillop:*** **Maternal Child Health Nurses:** • Provide regular health and development consultations to each child (aged 0-3 years) • Provide consultancy support to practitioners related to child and family health and development issues • Enhance maternal and child health may also provide short-term case management support **Child Protection Worker:** • Attend the initial home visit with the family support practitioner • Follow-up and investigate unborn reports, or reports of any escalation of risk or concerning behaviours that may place the caregiver/child at significant risk • Work collaboratively with the family support practitioner to ensure sufficient safety planning and supports are put in place • Ensure caregivers adhere to Court orders, where applicable (i.e., regular drug screens, court appearances) • Close with the family once the risk is reduced and the family can be appropriately supported by community • Attend care team meetings	• The referral is accepted • The family is allocated to a Family Support Practitioner • The family understands the purpose of the program and consents to voluntarily participate • A risk management and safety plan is completed and implemented • The family participates in the identification of their own strengths, vulnerabilities, goals, and needs • The family action plan, including goals setting, is completed • All care team members understand key areas of intervention and their roles • Families accept home visits at the frequency and intensity required that meets their needs • The family develops a positive and trusting rapport with their practitioner • Families receive appropriate evidence-based treatment and interventions that are specifically matched to their risk factors and needs • Caregivers gain new knowledge to care for their children (e.g., breastfeeding, sleep and settling patterns, attachment theories, etc) • Caregivers learn new skills or strategies to safely care for their children (e.g., emotion regulation skills, non-verbal communication skills, behavioural activation, emotional responsivity etc) • The child's development is regularly monitored by maternal and child health services • Caregivers feel supported, hopeful, and motivated to engage in relevant services as needed (e.g., antenatal support, mental health treatment) • Practitioners feel supported and encouraged throughout the program • Service provision is tailored and adapted as needed	• Improved birth outcomes • The basic needs of the child and family are met (e.g., food, clothing) • Safety needs of the child and caregiver, where relevant, are met • Risks within the home that may impede upon child wellbeing have been identified and addressed • A routine has been established for the child – they are waking, sleeping, and eating at appropriate times • Caregivers exhibit increased knowledge of parenting skills, attachment, and child wellbeing • Caregivers understand the importance of upskilling themselves and engage in evidence-based strategies • Caregivers have increased understanding and awareness of their own behaviours and wellbeing e.g., nutrition, physical activity, hygiene, effects of alcohol or other drug use, and mental wellbeing on their child • Caregivers are motivated to change their behaviours and engage with relevant services as required • Caregivers are accepted into specialist services and engage in evidence-based treatment as required e.g., alcohol or drug use/mental health for support that cannot be provided by practitioners • Caregivers have an increased understanding of the impact that their relationship has upon themselves and the child • The caregiver understands and appreciates the function of wider health services (e.g., play groups, mothers' groups, childcare) • Caregivers begin to develop trust and confidence in other care team members, and community groups	• The family home environment is safe, stable, and secure • The child has attended all key medical appointments (e.g., immunisations, regular maternal child health checks) • Positive child development - children have their physical, social, emotional, and developmental milestones and needs met • The child is ready for kinder/early education • Reduction in child substantiation • Prevention of child removal • Family preservation is maximised • Increased family functioning and family stability • Improved parenting capacity, confidence, self-esteem and resilience • Caregivers continue to engage in evidence-based treatment as required to support ongoing mental wellbeing) • The caregiver exhibits a healthier pattern of behaviours (e.g., healthy food choices for themselves and their children, reduction or abstinence of alcohol or other drugs, engagement in physical activity, clean hygiene) • The caregiver is engaging in relationships that are supportive, encouraging and helpful. Dysfunctional or harmful relationships have ended • The caregiver is attending vocational training or started learning a new skill for employment purposes • The family is actively involved in community or cultural groups • Increased ATSI and CALD child and family cultural connection and identity • Positive links and relationships between the family and their local community • Program targets are met	• Caregivers provide the child with a safe, stable, healthy, and nurturing family environment • Improved emotional, social, physical, psychological, educational, and developmental outcomes for the children • The child is ready to attend mainstream schooling • Increased family preservation, child stays in the care of the caregiver • Increased family functioning, security, stability, and safety • Caregivers are responsive and sensitive to their child's physical, social and emotional needs • Caregivers have the necessary skills, strategies and supports to effectively manage future crises • Secure and stable attachments between the child and caregiver and positive relationships between caregivers • The caregiver is financially secure, self-sufficient, and has stable ongoing employment • Strong connection between the family and their community and/or cultural group • The family are part of a community in which they feel supported, included, and engaged • The caregiver remains engaged in relevant supports/services as required • The family no longer requires any support services, and knows how to access supports if needed in the future

Assumptions:
- There is adequate demand for the service
- There is a streamlined referral pathway to identify appropriate families into the program
- Suitable referrals are made into the program
- Close consultation, collaborative relationships, and effective communication sharing between care team members, particularly between Cradle to Kinder practitioners and child protection workers
- Families are willing to participate in the program
- Program resourcing is adequate to deliver the service in an effective manner
- There is consistency and stability in the care team
- Effective partnerships and referral pathways with other services as required (e.g., mental health, drug and alcohol, family violence services, etc)
- Caregivers engage in appropriately-matched evidence-based interventions to make behaviour changes

External factors:
- Funding
- COVID-19
- Change in government
- Change in policy
- Change in client demographics in implementation areas
- Engagement of external stakeholders in the care team as required (e.g., GP, family violence specialists etc)

Fig. 1. Program Logic Model for Cradle to Kinder.

was at six months of program engagement; it was not completed at program intake as the majority of mothers were yet to give birth at that stage. The three relevant standardised age bands for this cohort were used (0–11 months, 12–23 months, and 24–36 months), to ensure the assessment was tailored to the child's age and developmental stage at each assessment time-point. The Brigance has a high degree of internal consistency ($a = 0.84$–0.99), inter-rater reliability ($a = 0.90$–0.99) and modest to high concurrent validity with other similar measures of motor

and language skills (a = 0.66–0.97, Hawker Brownlow Education, 2014).

Practitioners received comprehensive training and ongoing support and supervision to administer the NCFAS and Brigance and protect against potential rater biases. Each practitioner completed their first NCFAS and Brigance assessment with their care coordinator (i.e., team leader). Throughout implementation, the care coordinator completed a random sample of each practitioner's assessments (approximately 20%) as a double-rater to assess inter-rater reliability. Assessments were regularly discussed and revised during supervision sessions to ensure at least 90% agreement between both raters.

Adverse Childhood Experiences (ACE) survey. The presence of a caregiver's childhood adversity was assessed using the ACE survey (Koss & Marks, 1998). The ACE survey defined childhood adversity according to seven factors separated into two broad domains: abuse (i.e., psychological, physical, and sexual) and household dysfunction (i.e., substance use, mental illness, mother treated violently, and criminal behaviour). The ACE survey comprised of 10 key items that are responded to as either "Yes" or "No", with higher scores indicating a greater level of childhood adversity; the maximum total score is 10. This survey is considered a valid and reliable screen for retrospective assessment of ACEs with high internal consistency (a = 0.88, (Murphy et al., 2014). In the largest ACE study among the general population, 52% reported 1 or more category of childhood exposure, 25% reported 2 or more, and 6.2% reported 4 or more (Felitti et al., 1998).

2.5.2. Qualitative assessment

Written informed consent to participate in an audio-recorded semi-structured interview was obtained from 14 caregivers who agreed to participate in the qualitative component of the evaluation. The purpose of these interviews was to explore the experiences of caregivers engaged with Cradle to Kinder and iterate future implementation. Examples of questions asked were: "*what have you most enjoyed about this program*", "*how has being part of Cradle to Kinder impacted you and your family*" and "*what changes would you make to improve the program*". The full qualitative interview schedule is presented in Appendix A. These questions were developed by the research team and pilot tested with a sample of three caregivers. Interviews were conducted with mothers and fathers over the phone, and they were reimbursed with a $40 gift voucher for approximately 30 min of their time. Interviews were 26 min in duration (SD = 3), on average, ranging from 33 to 18 min. All interviews were conducted by a trained female research fellow, and participants were not previously known to the researcher. All interviews were audio-recorded for the purpose of transcription. Field notes were taken during the interview and later compared to each interview transcription. All recordings and transcripts were de-identified (each client received a unique ID code) and stored on a password protected computer file.

2.6. Data analyses

2.6.1. Quantitative analyses

All quantitative analyses were performed using IBM SPSS Statistics Version 26. All raw data were entered into SPSS, with missing data accounted for using multiple imputation. The quantitative outcomes of this evaluation were to examine the extent to which there were improvements in family functioning, parenting, and infant wellbeing among families who engaged in Cradle to Kinder over a period of 24 months as measured by the NCFAS and Brigance. A series of paired sample t-tests (repeated measures) were conducted to compare participants' mean differences on each outcome measure from baseline (at program intake) to 24 months. All assumptions for paired samples t-test were met. The original significance level of the pre-post change in outcome measures was set at alpha = 0.05. Two-tailed multistage Bonferroni corrections were then used to account for Type 1 error (Larzelere, & Mulaik, 1977). Cohen's d-test was used to estimate effect sizes, with the well-established benchmarks of 0.20, 0.50 and 0.80 used to indicate small, moderate, or large effects, respectively.

2.6.2. Qualitative analyses

The qualitative data were analysed using thematic analysis as outlined by Braun and Clarke (2006). This approach to analysing qualitative data involves identifying and analysing prominent or repeated patterns across the data set to extract rich and detailed meaning. It allows overall analysis and theme generation to be conducted within and across different participant groups. The analysis was considered inductive (a bottom-up approach to analysis in which the meaning is data driven) and at the latent level of analysis (examining and interpreting the underlying ideas, conceptualisations, and assumptions of the data). All audio recordings were manually transcribed verbatim by the researcher and annotated to identify notable or recurring topics in the data. Transcripts were then systematically coded (with 30% double-coded) using NVivo Version 12, a qualitative data computer software program. Bottom-up coding involved identifying the most interesting, common, or important aspects of each transcript and assigning descriptive labels to data conveying the same meaning. After the first four interviews were independently coded, a codebook comprising the primary coding themes was generated to guide the analysis for coders. The three primary coding themes that arose from the initial transcripts were caregiver outcomes, child and family outcomes, and programmatic feedback; these were retained as the main themes. The coded data were then collated together into meaningful groups to form the subthemes. The interrater reliability between the two coders was 0.93, as measured by the percentage of data that were similarly coded. Any disagreements in the assigned codes were addressed via a cooperative discussion between the two coders. The process of refining and reviewing themes was an iterative process between the two coders, until themes were representative of the data.

3. Quantitative results

3.1. Child removals

Over 24 months of the program, six of the 57 families (11%) had their child removed out of their care. Nonetheless, two of these six caregivers had their child later returned to their care within the 24-month period.

3.2. Adverse childhood experiences

Table 2 presents a summary of the adverse childhood experiences of the 57 caregivers engaged in the evaluation, which assessed the degree

Table 2
Adverse Childhood Experiences Response Items Experienced by Caregivers.

Adverse Childhood Experiences	Number
Mean total score* (SD)	6.25 (2.39)
Range	4–10
Household dysfunction	
Family member with mental illness	86%
Parental separation/divorce	86%
Family member with substance use	67%
Family member incarcerated	18%
Homelessness	67%
Contact with Child Protection	81%
Lived in out-of-home care	24%
Abuse	
Physical abuse	46%
Physical neglect	63%
Emotional abuse	79%
Emotional neglect	75%
Sexual abuse	42%

[*] N = 57. Maximum total score = 10.

to which caregivers experienced childhood adversity. The mean total score was 6.25 (SD = 2.39), ranging from 4 to 10, indicating an overall high level of childhood adversity and vulnerability among caregivers. Specifically, the majority of caregivers reported numerous experiences indicative of household dysfunction when they were a child, including having a family member with mental illness (86%) and/or substance misuse (67%), parental separation (86%), and contact with Child Protection (81%). Further, a sizeable proportion of caregivers disclosed childhood emotional abuse (79%) and emotional and physical neglect (75% and 63%, respectively).

3.3. NCFAS

Table 3 presents the mean (SD) scores of the NCFAS for families at baseline and at 24 months; Fig. 2 shows the mean scores of the NCFAS at each of the 6 monthly timepoints from baseline to 24 months. There was significant improvement across seven of the eight NCFAS domains from baseline to 24 months, with medium to strong effect sizes. The largest improvement in scores was for parental self-sufficiency, from −0.88 (1.07) at baseline to 0.03 (0.96) at 24 months (t = -4.597, p <.001, d = 0.82). Specifically, there were also significant improvements observed in family interactions, from −0.81 (1.11) at baseline to −0.07 (1.01) at 24 months (t = -4.430, p <.001, d = 0.66), and child wellbeing, from −0.13 (1.18) at baseline to 0.50 (0.94) at 24 months (t = -3.896, p =.001, d = 0.73).

3.4. Brigance

Table 4 presents the Mean (SD) Brigance scores for infants at six months[1] to 24 months of program engagement; Fig. 3 shows the mean scores of the Brigance across each six month timepoint from 6 months to 24 months. There was a significant improvement in the Mean total score from the 44th percentile (developmental delay) to the 80th percentile (healthy development). This is an improvement of 36 percentiles over the 24 months of program engagement (t = -5.889, p <.001, d = 1.32).

Table 3
Paired-samples t-test of NCFAS scores for baseline to 24 months (N = 57).

Domain	Baseline M (SD)	24 months M (SD)	t	p	Cohen's d
Family environment	-0.24 (1.25)	0.30 (0.99)	-2.626		0.49
Parental capabilities	-0.64 (1.16)	0.17 (0.87)		.005*	0.72
Family interactions	-0.81 (1.11)	-0.07 (1.01)	-4.430	<.001*	0.66
Family safety	-0.68 (1.38)	0.13 (1.04)		<.001*	0.51
Child wellbeing[1]	-0.13 (1.18)	0.50 (0.94)		.034	0.73
Social and community life	-0.78 (1.15)	0.07 (0.91)	-3.885	.001*	0.68
Self-sufficiency	-0.78 (1.15)	0.03 (0.96)	-4.597	.001*	0.82
Family health	-0.44 (0.99)	-0.17 (0.79)	-0.779	.442	NA

Note. metropolitan n = 24, rural n = 33.
[1] The baseline assessment for child wellbeing domain was completed at 6 months, rather than program intake, as most mothers were pregnant at this time.
* The Bonferroni-corrected p-value was p =.006.

Further, there were statistically significant improvements, with large effect sizes, in scores across all domains of the Brigance from 6 months to 24 months. The largest improvement was observed for receptive language skills, from 11.24 (5.90) at 6 months to 24.07 (6.93) at 24 months (t = -7.418, p <.001, d = 1.64). There were also significantly large improvements in children's gross motor skills (t = -4.629, p =.002, d = 1.01) and fine motor skills (t = -4.804, p <.001, d = 1.14) across the 24 months.

4. Qualitative results

Three superordinate themes capturing caregivers' experiences and perspectives of the program emerged from the thematic analysis: (1) Caregiver improvements; (2) Child and family outcomes; and (3) Programmatic feedback. Key subthemes and supporting quotes are included across each theme.

4.1. Caregiver improvements

All caregivers reflected on significant personal and parenting improvements because of their engagement with Cradle to Kinder. Four subthemes were identified: (1) Mental health; (2) Self-sufficiency; (3) Parenting capacity; and (4) Confidence.

4.1.1. Mental health

The majority of caregivers acknowledged that they had experienced noticeable improvements and greater stability in their mental health since engaging with Cradle to Kinder (n = 11). Participants valued that their worker encouraged and supported them to engage in counselling by enhancing their motivation to seek support and/or providing referrals to appropriate services, which was often facilitated by the program's brokerage component.

> *"They were helping me with psych appointments and covering the payment of that because he doesn't bulk bill. They encouraged me to keep fortnightly appointments with him to make sure that I had someone to talk to and to help me cope."* [C6[2]]
> *"Eighteen months ago, I would have never been able to say that I don't smoke marijuana. Now, I actually don't smoke marijuana anymore because [Cradle to Kinder worker] said that I should think about giving it up. She motivated me to work on ways to help me quit and got drug and alcohol counsellors involved."* [C1]

Participants also acknowledged that improvements in their mental health throughout program engagement stemmed from the consistent emotional support, guidance, and reassurance received from their Cradle to Kinder workers.

> *"Cradle to Kinder has helped me a lot with my depression. I'm obviously not feeling 100% better, but the fact that they are there if I am stressed and if I am getting down or anxious, I can call them. It has really helped me having them around. Having someone to talk to has increased my mood."* [C5]
> *"I actually got post-natal anxiety and depression after I had my baby. They would come over to chat and hang out with me. They were really supportive and were good at educating me on what I was going through, so that I didn't feel like I was crazy or a bad mum or anything like that. It definitely improved my mental health."* [C7]

This highlights the value of the relationship between the caregiver and Cradle to Kinder worker as the consistency and stability of "having someone there" supporting their emotional needs has been "therapeutic" for these caregivers.

[1] The baseline assessment time-point for the Brigance was at six months of program engagement; it was not completed at program intake as most mothers were yet to give birth at that stage.

[2] C = Caregiver.

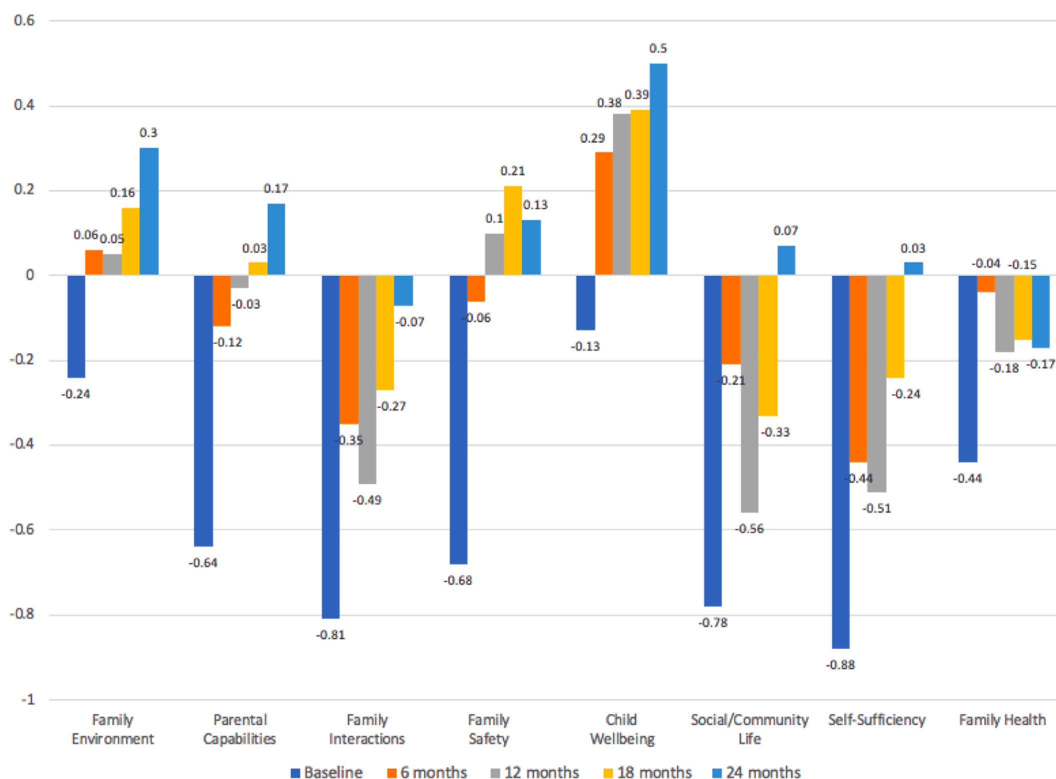

Fig. 2. Mean scores across the NCFAS domains at baseline, 6, 12, 18, and 24 months ($N = 57$).

Table 4
Paired-samples *t*-test of Brigance scores for 6 months to 24 months ($N = 31$).

Domain	6 months[1] M (SD)	24 months M (SD)	*t*	*p*	Cohen's *d*
Total infant development	44.80 (18.11)	80.65 (20.77)	-5.889	<.001	1.32
Gross motor skills	6.76 (3.09)	11.25 (3.50)	-4.629	.002	1.01
Fine motor skills	8.47 (3.54)	13.55 (1.95)	-4.804	<.001	1.14
Receptive language skills	11.24 (5.90)	24.07 (6.93)	-7.418	<.001	1.64
Expressive language skills	5.10 (2.80)	12.13 (2.47)	-8.597	<.001	1.79
Self-help skills[2]	6.87 (2.89)	10.18 (1.98)	-5.083	<.001	1.08
Social and emotional skills	9.28 (4.40)	14.00 (2.25)	-3.337	.004	0.93

Note. metropolitan $n = 16$, rural $n = 15$; due to COVID-19, face-to-face assessments were suspended thus the smaller sample size available. The Bonferroni-corrected p-value was $p = .007$.

[1] Brigance is not completed at program intake as mothers were pregnant at this time.

[2] Scores for self-help skills and emotional skills are compared at 6 months and 18 months, as these domains are not assessed among children aged 24 months or older.

4.1.2. Self-sufficiency

A consistent theme from the caregivers was the belief that they would be able to "cope on their own" once they close with the program. Indeed, caregivers ($n = 13$) identified that Cradle to Kinder had helped them develop their personal independence and self-sufficiency, by facilitating engagement in their community, education, employment, and social supports via the provision of practical and holistic wrap-around support (i.e., support with applying for jobs/university, transportation to job interviews, enrolling children in childcare etc).

> *"I'm on my own two feet a bit more now, like I have my car, I'm studying, he's in childcare, and everything is in place. It will be sad when we finish but I know that I will be able to do it without them. If they are finishing, then it means that I've gotten to a point where I will be ok on my own two feet."* [C12]
> *"All the things that they have helped us with is to set us up for when they do need to leave so that makes you feel really confident. Having my job sort of picks me up. I had not had a job before this and the last time I was studying would have been when I was at high school…it has given me my independence back."* [C3]

This demonstrates the benefit of the long-term nature of the program in increasing caregivers' self-sufficiency over a prolonged period of time and ensuring that they have the relevant skills and supports in place to sustain positive functioning and community participation post-closure.

4.1.3. Parenting capacity

The majority of participants reported that their Cradle to Kinder workers provided education and role modelling during home visits, which facilitated the development of several key practical parenting skills, such as sleep routines, feeding plans, breastfeeding, and soothing techniques ($n = 11$).

> *"The worker had experience in sleep school and settling babies, so that was really good to learn those kinds of things at the start. She taught me about sleep settling, Circle of Security, feeding, and a range of other different things."* [C12]
> *"One of my twins has started having tantrums and crying, so I always ask [Cradle to Kinder worker] questions about what the right thing is to do. She shows me the right way to do things."* [C2].

Several caregivers also reported that their worker's guidance helped them develop interpersonal skills, such as attunement, strategies for bonding, and greater sensitivity and capacity to respond to their child's

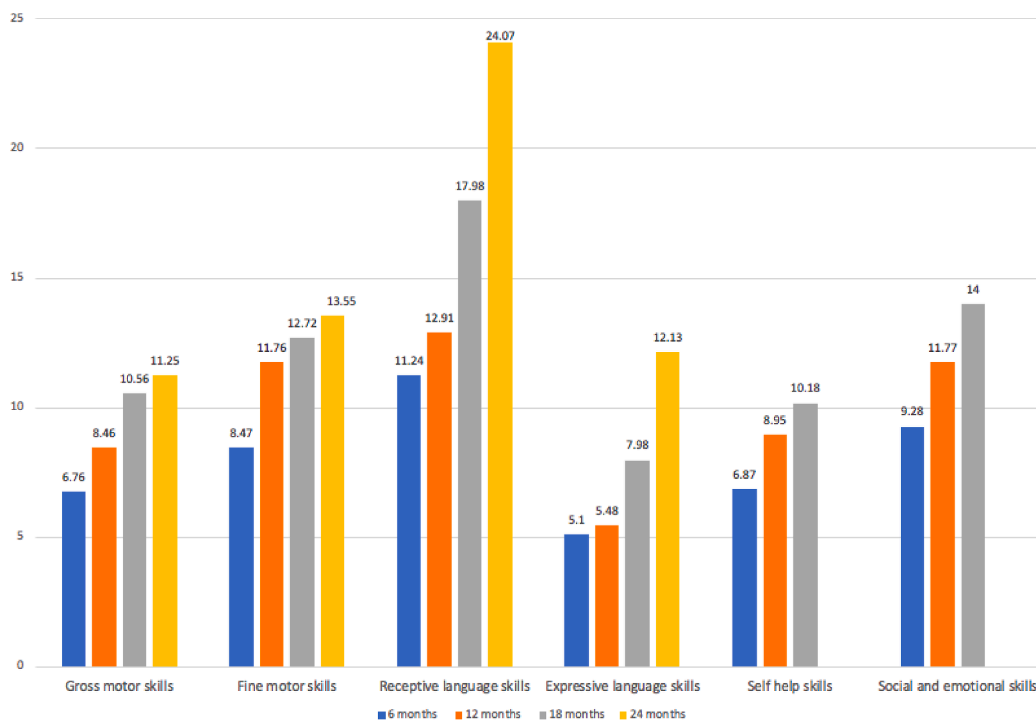

Fig. 3. Mean scores across the Brigance domains at 6, 12, 18, and 24 months ($N = 31$).

emotional needs ($n = 6$).

> "[Cradle to Kinder worker] *has given me good advice on parenting skills and responding to my child. Like when she acts like this, you should do this, when she does this, it is better to act like this. We have more options and now I know different parenting strategies."* [C13]
> *"From being a mum who didn't really have any mothering skills and not having anyone else to rely on or to ask for advice, Cradle to Kinder have always been there and they have helped me bonding with her."* [C10]

This demonstrates the value of the program's focus on delivering attachment-focused interventions, such as Circle of Security, in improving caregivers' parenting capacity and skills that are crucial for the development and maintenance of a secure parent–child relationship.

4.1.4. *Confidence*

The majority of caregivers reported that they have developed an increased sense of confidence in their parenting ability over the 24-month period of engagement with Cradle to Kinder ($n = 12$).

> *"If I look back a year ago, I was definitely not the same person to who I am now. It has just been great. I feel much more confident caring for her now."* [C2]
> *"The program has helped her* [child] *because it's helped me be a better mum. Enabling me to become more confident as a mum. They have taught me a lot."* [C9].

Caregivers attributed their newly found confidence and self-belief to the education, encouragement, and unconditional support provided by their workers.

> *"I used to think that I was the world's shittest mother but nearly every second day, [Cradle to Kinder worker] will send me a message saying that I am a good mother and to remember that. It is always helpful to hear that I am a good mother because sometimes I just feel like a big failure."* [C1]

This highlights how the trusting, safe, and supportive relationship between the caregiver and the Cradle to Kinder worker facilitated increased caregiver competency and confidence.

4.2. *Child and family outcomes*

All caregivers acknowledged significant and meaningful changes in their child(ren) and family as a whole, due to their engagement in Cradle to Kinder. Three subthemes captured the key child and family outcomes reported by caregivers: (1) Keeping families together; (2) Meeting families' needs; and (3) Positive infant development.

4.2.1. *Keeping families together*

All caregivers discussed how the support from the Cradle to Kinder program over the 24-month period had been crucial to their children remaining in their care ($n = 14$). Indeed, Child Protection had already ceased involvement with some families at the time of interviewing as a result of improved family safety, stability and security achieved throughout the program.

"If it was not for Cradle to Kinder, I would not have my children in my care. I cannot thank [Cradle to Kinder worker] enough for making me think that I am a good enough mother to actually keep my children, especially because I never had a mother to rely on myself." [C4].

"I had to give her up for a bit after losing the house, but I just recently got her back in my care again because [Cradle to Kinder worker] has helped me so much. I probably wouldn't still have her now if it wasn't for Cradle to Kinder". [C6].

This supports the program's key aim of keeping families together and preventing children from entering out-of-home care. Caregivers attributed this positive outcome to various aspects of the program, including "getting support early" during pregnancy, education and positive role modelling from their workers, receiving support for mental health or family violence concerns (i.e., referral to psychologist, implementing safety plans), having a positive relationship with their worker, and getting their child's basic needs met (i.e., using brokerage to support childcare).

4.2.2. *Meeting families' needs*

Caregivers frequently expressed appreciation of the financial support they received through the program's brokerage component, as it enabled them to provide for their children and meet their essential needs

($n = 12$):

"Everything that we have asked them, they have helped us…. "They helped me get things for my youngest son, like clothes, a cot, and some food. They paid for those essential things." [C11].
"My daughter goes to a doctor that is about $80 to be seen and sometimes it can get a bit hard to afford that, so they have helped pay for that a few times. Also, when I was pregnant, they helped me grab a few things, like a bassinet, and a new breast pump when mine broke." [C10]

Further, caregivers consistently identified that transportation to appointments, through the provision of taxi vouchers or Cradle to Kinder workers driving them, was an appreciated source of support to ensure they attended appointments for their child's health and wellbeing.

"Without the program, the boys would not have been able to go to some of their appointments that they had. Cradle to Kinder has helped me get my boys to where they need to be…My worker is always reminding me about particular appointments for them on this day and this time." [C2]

"They pick me and her up and take us to maternal child health appointments and they have also given us taxi vouchers so that we can get there - any way they possibly can to help us get to our appointments. It took away so much stress for me." [C7].

This highlights how the brokerage component can facilitate positive outcomes for these families by addressing key barriers that young caregivers face to accessing appropriate antenatal and postnatal health care for both themselves and their child.

4.2.3. Positive infant development

Caregivers recognised that engaging with Cradle to Kinder had improved the physical and social wellbeing of their child ($n = 10$). Specifically, caregivers reported that Cradle to Kinder workers often organised, facilitated or funded day-care for their child. This created opportunities for them to interact with children their age, ensured their safety, promoted positive development, and ensured that their daily needs were met.

"Due to the fact that I didn't know many people who had kids who she could socialize with, going to day-care gave her a chance to talk and socialize with other kids…they definitely helped with getting her involved with other kids." [C6]
"It is beneficial for her to be away from me for a little while and socialize with children. She is actually quite a sociable child. So when I told them that we were ready to put her in daycare, they sorted it all out for us." [C14]

Caregivers also acknowledged that their key workers supported them to engage in various recreational activities with their child, which helped to foster their infant's wellbeing, increase their connectedness within the community, and strengthen the parent–child attachment:

"They have also helped me get involved in different activities with my son, like swimming, Gymboree, and playgroup. It has been so good for him and me." [C12]
"The Cradle to Kinder worker has connected us to the community. Not only day-care, but taking [the child] to the library, swimming, my child loves swimming. They were the ones that said to get her into that because she loves it. ." [C13]

Ultimately, caregivers agreed that the provision of such opportunities to promote their child's development would not have been afforded without the support from Cradle to Kinder.

4.3. Programmatic feedback

The final superordinate theme referred to the feedback that was provided by caregivers. Caregivers provided feedback across several domains that were identified as four subthemes: (1) referral experience; (2) relationship with workers; (3) support for fathers; and (4) cultural awareness.

4.3.1. Referral experience

Upon reflection of the initial referral experience, the majority of participants highlighted the ease of transition into the program and the helpfulness of the workers who oversaw their referral ($n = 9$).

"It [referral process] *was good. It was really easy. They helped us if we needed any help with paperwork and stuff like that. It all went nice and smooth."* [C3]

In contrast, two caregivers reported that they found the initial referral stage intimidating due to the length of the process, the number of forms they were required to complete, and that their involvement in the program was initiated by the Department.

"It would have been better if it wasn't the department that referred us. If we got into it ourselves, it would have been a much nicer situation…I can opt out anytime, but it would not go down that well with the department. For the time being, while the department is involved, I have to remain involved with C2K. I don't have a problem with that though…It has been positive so far. Even when the department disappears, I think I will still stay involved." [C5]

4.3.2. Relationship with workers

All caregivers consistently praised their Cradle to Kinder workers in supporting them to achieve their goals ($n = 14$). Caregivers recognised a broad range of positive traits, such as non-judgemental, honest, encouraging, persistent, trustworthy, and supportive, which facilitated the development of trust and a positive relationship with their workers.

"The friendliness of our worker was what made us trust her. She has always been very open, upfront, and honest with us and she just tells us how it is, so I get along with her quite well." [C1]
"[Cradle to Kinder workers] just understand and are really supportive… they have supported me 100% and always backed me all the way, which I love because I need someone who's going to be there who I can trust." [C8]

Caregivers viewed their positive relationship with their worker as a key component of the program that had led to such positive outcomes, particularly as they were able to develop and strengthen their relationship over a prolonged period of time. However, this was threatened by staff turnover and leave, with some caregivers reporting disappointment with a change in workers ($n = 4$).

"I am someone that can only really settle with one person. I don't like swapping and changing to different people all of the time. That consistency is really important." [C8]
"I'll be honest, at the start I didn't really like the change of workers. I got a bit upset when my first worker left, and I was a bit worried about having to open up to someone new and get to know them." [C11]

Particularly for such caregivers who have experienced previous trauma and developed subsequent unstable or insecure attachments or relationships, the lack of worker consistency was a hurdle to program engagement. This demonstrates the importance of having long-term consistency in the relationship with workers to help caregivers regain trust in family services and facilitate positive outcomes.

4.3.3. Support for fathers

Although some women acknowledged that Cradle to Kinder offered support to their partners, it was expressed that more support could be provided ($n = 6$). Indeed, all three fathers who were interviewed agreed that they had received significant support, yet called for a greater focus on fathers in such programs, specifically in areas of parenting, social support, and coordinating referrals to external services.

"Definitely more fathers need to get involved into the program. When I see other parents in the community and council sector, I never see fathers there. It is always the mothers. It is always all about the mother. Fathers need to get more involved as well, and Cradle to Kinder need to support them as well." [C13]

Many female caregivers reported that their key worker had offered to provide support for their partners, such as referrals to counselling services:

"They have been great for him. They have got him a drug and alcohol counsellor, they are helping with his mental health issues and helping him see a psychologist. They have been excellent with both of us and the kids." [C1]

"They always made him feel welcome and asked how he was or if there was anything that he needs help with. They always offered support if he needs anything." [C10]

4.3.4. Cultural awareness

Some caregivers highlighted an increased need for greater cultural awareness in the program ($n = 3$). Caregivers expressed that they had experienced some tensions and misunderstandings with their worker due to a lack of cultural awareness, misinterpretation of cultural behaviour, or feeling unable to raise their children in line with their cultural traditions.

"As a Muslim, my cultural mentality to raising kids might be different to others. I don't think my worker understood that at the start and that's why it took time to build that trust and relationship with them." [C13]

"We never really saw a problem with co-sleeping, whereas they see that as not a good thing. That is a cultural difference. We want to try and bring up our child in line with our culture, but it is hard to do that when we are trying to follow their social and culturally acceptable rules rather than our own." [C14]

Caregivers suggested that transparent and open communication between the worker and family, cultural training for practitioners, and greater cultural diversity among the Cradle to Kinder workers would be beneficial to better meet their needs.

"If they had other workers with the same beliefs and cultural views as us, I think it would have been a little bit easier for us. People from a diverse range of cultures or people with understanding of different cultures would make a huge difference." [C14]

These factors may help to facilitate a greater sense of safety, engagement, and trust in family services among culturally diverse families engaged in Cradle to Kinder.

5. Discussion

The aims of this study were to evaluate: (1) the extent to which families engaged with Cradle to Kinder experienced improvements in family, parenting, and infant wellbeing outcomes after 24 months of engagement with the program; and (2) caregivers' experiences and perspectives of the program, including consideration of how the program could be improved. The quantitative findings demonstrated significant improvements in key domains of family functioning, parenting capacity, and infant development after 24 months of program engagement (i.e., the halfway mark of the program). The qualitative findings validated these improvements with caregivers reporting increased parenting confidence and skills, positive infant development and increased family self-sufficiency. The qualitative findings also highlighted key areas for implementation adaptation.

5.1. Summary of findings

The quantitative findings have provided encouraging evidence supporting Cradle to Kinder for families at high risk of child removal. Specifically, there were significant improvements across various domains of family functioning over 24 months, including improved family safety, self-sufficiency, family environment, parenting capability, and family interactions. Most importantly, 89% of the infants remained safely in the care of their families during the entirety of the 24-months (i.e., six children [11%] were removed from their care, of which two were then reunified). In comparison, state data indicates that 28% of infants in Victoria who were subject to unborn reports were placed in out-of-home care within 24 months (DHHS, 2016). These improvements in family functioning and family preservation are consistent with the international literature of similar home visitation programs for families involved with Child Protection (Lee et al., 2018; Mejdoubi et al., 2015). However, these findings are novel for the Australian context, as this is the first local study to evaluate a home visitation family support program for caregivers exhibiting intergenerational disadvantage and multiple stressors, placing their child at risk of removal. Indeed, these findings highlight improvements in caregiver, infant, and overall family outcomes (i.e., not just maternal-focused outcomes) among this cohort of families experiencing various risk factors, who are often excluded from or do not engage in mainstream maternal and child health programs (Goldfeld et al., 2019; Slade et al., 2020). This aligns with findings gained from evaluations of international programs in building families' capacity, skills, competency and self-sufficiency to maintain family preservation and prevent repeated engagement with Child Protection or any other intensive family service (Olds et al., 2019).

The qualitative findings validate the quantitative data, as caregivers reflected on improved mental health, increased confidence, and parenting skills (i.e., attunement, responsivity, bonding) as a result of program engagement. Indeed, such skills have been shown to be positive predictors of long-term family preservation (Channa et al., 2012). Caregivers also attributed keeping their child/ren in their care to their involvement in Cradle to Kinder, which has not been consistently achieved in previous local literature (e.g., Kemp et al., 2011; Sawyer et al., 2013). Certainly, what was shown across both the qualitative and quantitative findings is that family, caregiver and child outcomes significantly improved as a result of program engagement. It is likely that the changes related to caregiver mental health, parenting capacity and overall family functioning contributed to positive child development. Consistent with the wider international literature (Chartier et al., 2017; Avellar & Supplee, 2013; Lee et al., 2018), this study shows that a home visitation program delivered within the Australian local context for families experiencing stressors that place them at high risk of child removal can yield pre-post improvements across essential indicators relating to both the caregiver and child.

The qualitative findings also provided some deeper insight and possible explanations for the quantitative outcomes observed. These findings speak to the core components of the model and the way in which the program was implemented. A key feature of this program, highlighted in the qualitative work, was the positive rapport that caregivers had developed with their Cradle to Kinder worker, which was deemed influential to the improved outcomes observed. Relationships built on trust, consistency, and transparency, as the caregivers described, are crucial to elicit positive change among such caregivers with previous trauma and adverse childhood experiences who often lack a consistent and positive parental figure or adult role model, and have likely had lived experience in out-of-home care (Li & Julian, 2012). Understandably, clients identified staff turnover as a key barrier to program engagement, particularly if they had developed a close rapport with their initial worker. As turnover rates in the child welfare sector tend to be high (Aarons et al., 2012), it is recommended that future evaluations of family support programs measure worker continuity to determine the extent of its impact on family outcomes. Second, Cradle to Kinder's early engagement in pregnancy and ongoing long-term duration were reported to not only facilitate the development of the worker-caregiver relationship, but also promoted sustainable change. The

provision of education, attachment-focused interventions, role modelling, and other evidence-based parenting strategies during home visitation alongside practical case management support meant that the family's day-to-day needs were met and underlying risk factors could be addressed. These components have been identified as key facilitators for successful implementation of Cradle to Kinder (see O'Donnell et al., 2022) and international home visitation programs (Avellar & Supplee, 2013; Rayce et al., 2017). Indeed, when key stakeholders favourably view the core components of a program, intended outcomes are more likely to be observed (Casillas et al., 2016). Finally, while fathers have not been considered in prior evaluations of home visitation programs in the Australian literature, this evaluation highlights the value of involving fathers/male caregivers in this work. Specifically, caregivers felt that Cradle to Kinder successfully engaged male caregivers in the program (i.e., where the father was the primary caregiver or when there was a father figure involved in the family), as well as other family supports where possible (i.e., grandparents, peers, other family members). This could have contributed to the improved observed outcomes as the program adopted a whole-of-family approach and sought to build a supportive system around the child and primary caregiver.

5.2. Strengths and limitations

A key strength of this study was the reporting of caregivers' adverse childhood experiences via the ACE survey, which has not often been used in previous evaluations of family support programs (Landers et al., 2018). This measure helped to demonstrate the level of complexity, vulnerability and diversity of families engaged in the Cradle to Kinder program, as all caregivers reported 4 or more adverse childhood experiences as opposed 6% in the general population (Felitti et al., 1998). The findings support the acceptability of this program among families in Australia presenting with multiple risk factors. Notwithstanding the utility of these findings, there are three key limitations underpinning this research. First, this study encompassed a very small and specific sample of families in Australia at high risk for child removal, and the program was specifically prioritised for adolescents, Aboriginal and Torres Strait Islander caregivers, and families experiencing multiple indicators of vulnerability. Therefore, it is not known whether the current findings, and the program itself, would be generalisable to other populations outside of this criteria or families exhibiting lower levels of risk or vulnerability.

Second, the sample size for the Brigance was smaller than intended. Due to the prolonged COVID-19 lockdown in Victoria, practitioners were unable to conduct face-to-face assessments for a period of six months (April 2020 to September 2020), but continued to conduct home-visits to cite children and support families as an essential intensive support service. Subsequently, a smaller sample size that completed 24-month Brigance assessments was obtained than initially planned, as this measure was best completed in-person via direct infant observation. This in turn could have impeded upon the stability of the findings, potentially inflating the significance obtained. It is recommended that future research plan for continued COVID-19 interruptions and oversample their select groups. Nonetheless, the qualitive findings corroborated the results from the Brigance as caregivers had observed improvements in the infant's physical and social wellbeing, and in meeting key developmental milestones. Therefore, a further strength of the study is the mixed-methods design, as the qualitative findings help to triangulate the quantitative findings, and vice versa. However, due to the small sample sizes, it was not feasible to undertake more confirmatory or longitudinal analyses due to a lack of power. Therefore, the findings are largely description in nature and various caregiver or family characteristics that may have influenced program impact or rate of removal (e.g., age, geographical region) could not be controlled for, which limits the conclusions that can be made about the impact of the program. Larger sample sizes and more advanced analyses (e.g., comparing characteristics of families where children were removed compared to families that were preserved) are required for future evaluations of family support programs to gain greater insight into program impact.

Third, as this program was not embedded in maternal child health services as evidenced in previous studies dealing with families experiencing lower levels of adversity (Kemp et al., 2019; Goldfeld et al., 2021), there was no control group to compare the findings against. Thus, there could have been improvements for the participants that were attributed to factors beyond the program (e.g., natural improvement in parenting ability and/or reduction in psychosocial difficulties over time). Nonetheless, when comparing the current findings regarding rate of out-of-home care placement with all infants in Victoria with an unborn report, Cradle to Kinder families had significantly lower rates of child removal within 24 months (11%) than those with unborn reports across the state (28%, DHHS, 2016). The control group dilemma has been well-documented previously, and continues to spark ongoing debate (Hart, 2001; Schwartz et al., 1997). Nonetheless future research should aim to include some type of comparison group, even an alternative treatment program, to better distinguish the effects of home visitation family support programs. This is recommended as the next step for building the evidence-base of Cradle to Kinder.

5.3. Implications

The findings of this study demonstrate that families engaged in Cradle to Kinder for 24 months experienced significant improvements in their overall family functioning, parenting capability, infant wellbeing and family preservation. The findings suggest that this model of support can yield positive and sustainable outcomes for families experiencing significant disadvantage in the local Victorian implementation context. This study demonstrates the long-term (i.e., 24-month) program outcomes for families at highest risk of child removal due to multiple stressors, in comparison to previous Australian studies that have focused on families experiencing lower levels of adversity (e.g., Goldfeld et al., 2019; Kemp et al., 2011). Future evaluations of Cradle to Kinder are needed to determine the ongoing sustainability of such outcomes. This study has also addressed a key gap by reporting caregiver risk factors and adverse childhood experiences, which provides additional context and insight into the intergenerational disadvantage experienced by these families, which previous similar studies have often neglected to report (Landers et al., 2018). The qualitative feedback from caregivers also highlighted some ways in which service delivery may be adapted to enhance the program's implementation and reach, including further commitment to supporting fathers, more cultural awareness, and ensuring consistency in workers. These adaptations will seek to improve service delivery and enhance outcomes for families that are often marginalised in the community.

5.4. Conclusion

This mixed-methods study has shown that families experiencing multiple stressors deemed at high risk for child removal may benefit from participating in home visitation family support programs such as Cradle to Kinder. The current study demonstrated improvements in key aspects of family functioning, parenting capacity and infant development among families engaged in the program for 24 months. The ongoing implementation, evaluation and scale-up of home visitation family support programs such as Cradle to Kinder within the Australian context are warranted to yield sustainable positive change among families experiencing disadvantage across Australia.

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CRediT authorship contribution statement

Renee O'Donnell: Conceptualization, Methodology, Data curation, Project administration, Writing – original draft, Writing – review & editing. **Melissa Savaglio:** Data curation, Project administration, Writing – original draft, Writing – review & editing. **Nick Halfpenny:** Conceptualization, Writing – review & editing. **Heather Morris:** Data curation, Project administration, Writing – review & editing. **Robyn Miller:** Conceptualization, Writing – review & editing. **Helen Skouteris:** Conceptualization, Methodology, Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.childyouth.2023.107016.

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