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The Reflective Fostering Programme – Improving the wellbeing of children in care through a group intervention for foster carers: A randomised controlled trial

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Abstract

Background: Foster carers (including kinship carers) play an essential part in the lives of children in care, but the role can be challenging, necessitating effective support. However, there is a lack of evidence for which types of support are most effective in supporting carers and improving the wellbeing of the children in care.

Design: A definitive, superiority, two-armed, parallel, pragmatic, randomised controlled trial, evaluating whether adding the Reflective Fostering Programme to usual support was more effective and cost-effective than usual support alone, for foster carers of children between four and 13 years old.

Findings: 524 participants joined the study. Over 12 months, the children of those carers attending the Programme did not yield significantly greater improvements in children's

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psychosocial functioning (the primary outcome) or emotion regulation compared to usual support; however, there was evidence of significantly enhanced carers' reflective capacity, reduced carer burnout and stress levels and improved child–carer relationships. The health economic evaluation demonstrated the Programme had a higher probability of being cost-effective compared to usual support.

Conclusions: The Reflective Fostering Programme found evidence of greater improvements in a range of carer-related outcomes, carer-identified problems and the carer–child relationship, alongside evidence to suggest it is cost-effective compared to usual support. However, there were no significant differences between groups in terms of the child's emotional and behavioural wellbeing or their capacity for emotion regulation.

Plain language summary

Foster and kinship carers play a vital role for children in care but need effective support. In this study, the Reflective Fostering Programme improved carers' ability to be reflective about their own and their child's thoughts and feelings, reduced stress levels and improved the child–carer relationships. Offering the Programme was also good value for money. However, there was no difference compared to the group of carers who were receiving their usual support in terms of the children's emotional or behavioural wellbeing.

Keywords

reflective capacity, children looked after, foster carers, kinship carers, mentalization

Introduction

Care-experienced young people are widely recognised as one of the most vulnerable groups in society. Compared to the general population, they have higher rates of mental health difficulties and are more likely to meet criteria for a specific mental health disorder, such as reactive attachment or post-traumatic stress disorder (Engler et al., 2022). A systematic review of outcomes of these children who grew up in care (i.e., children under the legal care of a local authority) suggests that they are more likely than those in the general population to struggle in multiple domains, including education, employment, income, housing, mental health, substance abuse and criminal involvement (Gypen et al., 2017). At the same time, a number of protective factors for care-experienced children that reduce the risk of poor outcomes have been identified, including having a stable foster care placement, having positive experiences of education and having supportive relationships (Gypen et al., 2017).

In England and Wales, national data suggest that almost 3,000 children come into care every month, with an increase of 7% between 2020 and 2024, due primarily to a significant increase in the number of unaccompanied asylum-seeking young people entering care (The Fostering Network, 2023). Those who come into care are more likely than children in the community to have grown up living in deprivation or as part of families in acute stress, and about two-thirds (68%) have experienced abuse or neglect (Office for National Statistics [ONS], 2022). In the UK, the preferred setting for children who cannot be cared for in their family home is foster care, where the child is cared for in a family-like setting (Children Act 1989, c.41). The role of foster care is to provide an alternative family environment for children in the care of the state

(Pinto and Luke, 2022) to give them the best opportunity to be safe and to thrive (National Institute for Health and Care Excellence [NICE], 2021). In some situations, the foster carer may be a family member or friend, in which case they are referred to as 'kinship carers' or 'connected carers'. Kinship foster carers are not usually registered to look after any child but have a specific role in relation to a particular child (or children); as such, there are often significant differences in the type of preparation they have for the role, as well as their training and the challenges they may be dealing with. Foster carers (including registered kinship carers) in the UK are registered with either an approved independent fostering agency (IFA) or with a local authority (LA) and may provide a number of different types of care (short-term, long-term, respite, emergency care, etc.).

Where effective, foster care can provide a vital level of care and stability to children who have often experienced significant disruptions and help address the needs of these children for a sense of belonging and feeling understood (Steenbakkers et al., 2018). A supportive home environment allows children to form healthy positive relationships, build self-esteem and flourish (Asif et al., 2024). For children in care, foster care can be an intervention in itself, and the foster carer has the potential to be a key agent of change in promoting healthy development in the child (Harkness, 2019). A key factor in a successful foster placement is the quality of the relationship between carers and the children in their care (Bernedo et al., 2016).

In England, the number of approved foster carer households in LAs decreased steadily between 2020 to 2024, going down by 14% in that period (Ofsted, 2024). In previous years, the decrease in LA mainstream fostering households had been offset by increases in the number of fostering households in IFAs, but from 2022 onwards, the number of IFA fostering households has steadily declined (Ofsted, 2024). Furthermore, while the number of children coming into care continues to be high, the number of mainstream foster carer households being newly approved has reduced by 18%, leading to what The Fostering Network has described as a 'retention and recruitment crisis' (Ellis and Williams, 2024). Among the reasons for this crisis were carers lacking the necessary support from their fostering services to meet the challenges of their role (Ott et al., 2023). In The Fostering Network's *State of the Nations' Foster Care* report for 2024, based on a survey of over 3,000 current and former foster carers in the UK, more than half (58%) reported that they had experienced burnout or poor wellbeing because of their fostering role, and 60% of foster carers said that they had either considered (46%) or were still considering (14%) leaving fostering, with reasons including a lack of support from their fostering service (54%) or the experience of burnout or poor wellbeing related to their role (53%) (Ellis and Williams, 2024). This supports previous research which identified high levels of 'secondary traumatic stress' and burnout in foster carers in the UK, which may be related to the challenge of caring for children who often display challenging behaviour, as well as the limited opportunity many carers have to pay sufficient attention to the impact of their role on their own wellbeing (Bridger et al., 2020). Attachment difficulties in the child, often resulting from maltreatment, can directly affect the relationship between child and carer, making it particularly challenging for foster carers to understand the child and respond in a way that does not inadvertently perpetuate their difficulties (Turner et al., 2022).

To meet the needs of children who cannot be cared for in the family home, it is therefore essential that fostering agencies not only increase the number of carers coming into the profession but also ensure that they retain their existing foster/kinship carers and support them to play their role as fully as possible. One key to this is to provide effective, evidence-based support. Fostering agencies in the UK already provide a range of support to their carers including mandatory training, supervision and peer support. However, there is a lack of a clear evidence-base for which types of support are most effective in supporting carers and, through them, in improving the wellbeing of the children in their care (Baginsky et al., 2017). A systematic review and meta-analysis identified only three interventions that met the authors' criteria for having 'limited or moderate' evidence of effectiveness, and in all three interventions (two of which were for pre-schoolers and the third for adolescents) effect sizes were small to moderate, with no evidence of effectiveness beyond six months (Bergström et al., 2020). However, in an umbrella review of the evidence-base, Pixley (2024) highlighted a consistent theme: the importance of supporting the relationships that sustain the fostering placement, and the importance of examining whether interventions that aim to support such relationships continue to have an impact beyond the end of the intervention. A review by the Department for Education (DfE) emphasised the value of sensitive and reflective parenting (Baginsky et al., 2017); however, few interventions in fostering explicitly focus on helping carers to manage their own feelings, including a sense of stress or burnout, so they can be more emotionally available to support the child–carer relationship (Leve et al., 2012).

The Reflective Fostering Programme is an intervention designed to help carers to support the children in their care by focusing on the carer–child relationship (Redfern et al., 2018). Preliminary evaluations suggest that the Programme may be effective at reducing carer stress and promoting emotional and behavioural wellbeing in school-age children in foster care (Midgley et al., 2019). Drawing on the principle of 'reflective parenting' (Slade, 2007), the focus of the Programme is on improving the relationship between the carer and the child by increasing foster carers' parental reflective functioning (mentalizing), i.e., the capacity of the carer to envision their child as being motivated by mental states such as feelings, wishes and desires, and to reflect on their own mental experiences and how they are shaped by interactions with the child (Luyten et al., 2017b). Developmental research has demonstrated that caregivers with high parental reflective capacity are able to tolerate distress in the children they are caring for as well as manage their own stress levels (Krink et al., 2018). In particular, by attending to their own state of mind and experiences (self-mentalizing), caregivers can manage their stress better, become more attentive to the child's own mind and feelings (other-mentalizing) and so provide more sensitive caregiving (Camoirano, 2017). This in turn supports the carer–child relationship, increasing the likelihood over time of children developing secure attachments (Camoirano, 2017) and reducing the rate of both internalising (emotional) and externalising (behavioural) problems in children.

The overall objective of the current study was to evaluate the effectiveness of the Reflective Fostering Programme for foster or kinship carers of children between the ages of four and 13. The aim was to establish whether adding the Programme to usual support is more effective than usual support alone:

- in promoting the emotional and behavioural wellbeing of children in care in the short-term (four months) and medium-term (12 months from baseline, primary outcome), where baseline refers to the point at which carers consented to join the study and first completed measures;
- at increasing foster carer parental reflective capacity; reducing levels of foster carer stress and burnout; increasing foster carer quality of life and meeting their personal goals; and improving the carer–child relationship, both in the short-term (four months) and medium-term (12 months from baseline);
- in reducing placement instability in the medium-term (12 months from baseline).

Alongside this, and contributing to this primary aim, the study included:

- an internal pilot to assess recruitment and randomisation procedures, examine retention and data completion rates for the primary outcome after six months and to explore any issues of contamination across the trial arms;

- an economic evaluation to assess the cost-effectiveness of adding the Reflective Fostering Programme to usual support compared to usual support on its own;
- a process evaluation to describe how the Reflective Fostering Programme and usual support were delivered, assessing intervention fidelity, understanding how contextual factors shaped intervention delivery and examining contamination across arms, and providing explanations for the observed effects of main trial findings (findings of this process evaluation have been reported in Katangwe-Chigamba et al., 2025; Ruby et al., 2025).

Method

Design

A two-armed, parallel, randomised controlled trial (RCT), i.e., one in which participants were randomly allocated to one of two groups which were followed up concurrently, was carried out to evaluate the effectiveness (the extent to which an intervention achieves its intended effect of improving outcomes) and cost-effectiveness (value for money) of the Reflective Fostering Programme.

Randomisation was at the individual level using a one-to-one allocation ratio. Participants were randomised to either: the usual support group, who continued to receive the support, advice and guidance that carers receive from their local fostering services as part of their role as a foster or kinship carer; or the intervention group, who were invited to attend the Reflective Fostering Programme in addition to this usual support. As with the majority of RCTs of psychosocial interventions, it was not possible for participants to be blind to which group they were allocated to, but researchers involved in data collection and analysis were blind to allocation.

Full details of the study design are set out in Midgley and colleagues (2021a), including the approach to assessing harm and adverse events, and a list of changes made to the protocol during the course of the study is available in Supplementary Material File 1 (online only). With the agreement of the funder, the start of the internal pilot was delayed by three months at the start of the Covid-19 lockdown in the UK, to adapt the Reflective Fostering Programme for online delivery. This online delivery was tested outside the trial during that three-month period and found to be feasible (Redfern et al., 2023), and the internal pilot then began in April 2021.

Public and patient involvement

Foster and kinship carers (as Experts by Experience) were involved at each stage of the study, including study design, planning, delivery, study oversight and interpretation of data. Full details concerning the role of the Experts by Experience are set out in Irvine and colleagues (in press) and Izzidien, Stemp and colleagues (2025).

Ethics

Ethical approval was granted by the University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority (Ethics protocol number cLMS/SF/UH/04242).

Setting

The original intent was to work with LAs in England and Wales. However, following the internal pilot (see below), it was recognised that to meet recruitment targets and ensure that participants were representative of the diversity of carers in England and Wales, the study protocol needed to be amended to allow recruitment via IFAs and Anna Freud (a children's mental health charity).

Sample size

The target for recruitment was 720 carers to provide 90% statistical power. This sample size was based on a mean, between group difference of 0.3 standard deviations in the primary outcome measure, the Strengths and Difficulties Questionnaire (SDQ; Goodman and Goodman, 2012), i.e., around 2.0 units. An estimate for dropout rates assumed no more than 15% non-completion of measures by four months and 25% at 12 months. For further details see Midgley and colleagues (2021a).

Participants

Participants were registered foster carers (including kinship carers) looking after a child in care aged four to 13 years at the time of entry to the study.

Inclusion criteria:

- The carer was over 18 years of age.
- The carer was currently fostering a child in care, aged between four and 13 years.
- The child had been in this placement for at least four weeks.
- The care plan was for the child to remain in this placement for more than four months.

Exclusion criteria:

- Carer had insufficient English language ability to engage with the Programme and complete research assessments.
- Carers who had previously attended the Reflective Fostering Programme or whose partners had attended the Programme.
- Carers who had previously received training in the intervention or on how to deliver the intervention.

The carer was asked to complete questionnaires about the eligible child in their care; if the carer had more than one child in their care who met the inclusion/exclusion criteria, they were asked to choose one of them as the 'nominated child' for the purposes of data collection. They were advised that they were free to nominate whichever child they wanted but if they were unsure, we suggested this could be the child about whom they had the greatest concerns.

Intervention

The Reflective Fostering Programme. The Programme is a group-based intervention for foster and kinship carers, co-delivered by two facilitators – a member of the fostering support team (usually a social worker) and a foster or kinship carer (Redfern et al., 2018). It involves 10, two- to three-hour sessions, delivered weekly over approximately one school term, with a specific focus each week (Midgley et al., 2021a). Facilitators of the Programme were selected by sites on the basis of their interest in the role and their capacity to undertake the two-day training and weekly supervision required and to deliver the Programme to at least one group of participants. The Programme was originally developed to be delivered in person but was adapted to be delivered online in response to the Covid-19 pandemic and subsequent lockdown in the UK in 2020 (Redfern et al., 2023).

The content of the Programme includes psychoeducation about attachment and mentalizing to support carers in understanding their children's current needs and difficulties. It also includes practical techniques and tools specific to the Programme that help carers keep in mind and practise the skills of mentalizing self and other, and to promote self-care and wellbeing. Carers are invited to practise various techniques at home in between sessions, with an emphasis on noticing and managing arousal levels in the self and increasing mentalizing, stress reactivity and confidence around parenting skills. These techniques include devoting some thought and time to building a 'Carer Map' which plots out their own stance as a carer and all the influences that have contributed towards making them into the carer they are, and which affect their current thoughts and feelings.

The primary aim of the Programme, therefore, is to improve foster carers' mentalizing capacity (of both self and other), with the hypothesis that this will lead to a reduction in foster carer stress and improve the carer's sense of parental efficacy. There is an emphasis in the Programme on the importance of self-mentalizing via a tool called the Carer APP (Midgley et al., 2021b). A related proximal aim is to improve the quality of the foster carer–child relationship, with the expectation that this will enhance placement stability and foster child wellbeing. The Theory of Change model for the approach is set out in Figure 1.

Usual support

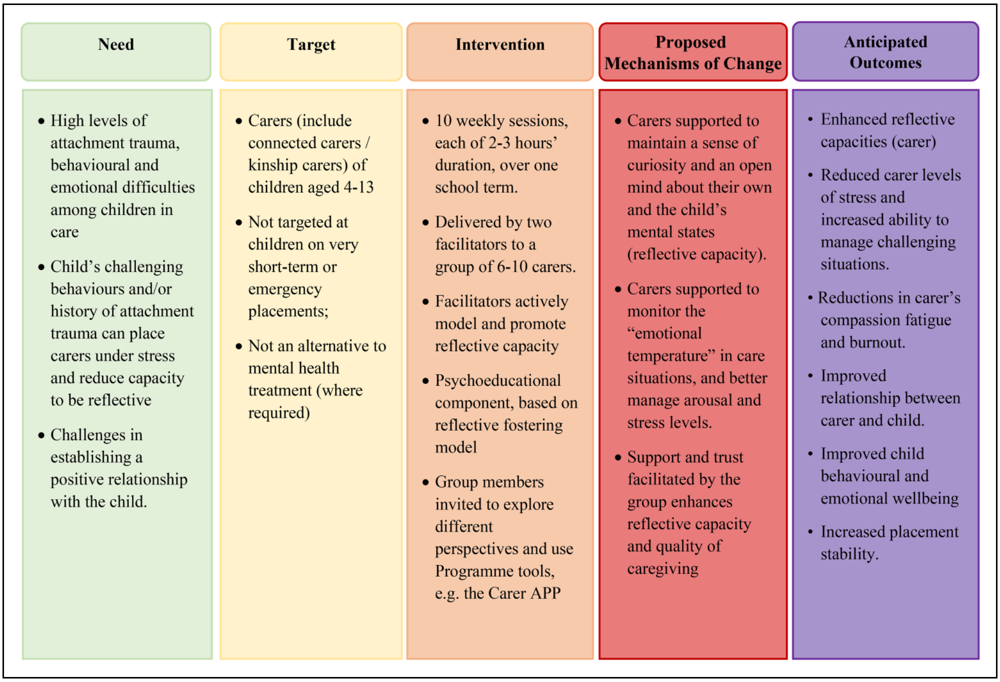
Defined as the support, advice and guidance that all foster carers receive in their role as foster or kinship carers. The content and range of this usual support was not pre-defined by the study and varied according to the LA or IFA with which the carers were registered. In order to map usual support more fully, data on this were collected via a Site Profile Questionnaire. This identified that mandatory training (such as safeguarding, first aid) was universal across all agencies. In addition, foster carers received support from their supervising social worker and were generally connected with other foster carers through support group events organised by their fostering service. Training and support groups were held both online and in person. Some sites offered additional training that was available at the request of the foster carer or upon review of the foster carer and the child in their care.

Sites differed in terms of how training was delivered, with some delivering training by in-house practitioners and others sourcing additional specialised courses from external providers. Most sites offered variations of nurturing and attachment courses and trauma-informed training. Several sites also offered training founded on therapeutic models such as Playfulness, Acceptance, Curiosity and Empathy (PACE; Golding and Hughes, 2012). Most offered courses to support managing challenging behaviour and other specialised courses. (For full details of usual care and how it was experienced by carers, see Katangwe-Chigamba et al., in preparation.)

Recruitment and randomisation

Recruitment of carers took place across eight cycles of recruitment and delivery (three per year). The first cycle formed the internal pilot phase of the study. Delivery of the Programme took place within one school term; recruitment took place in the preceding term.

LAs and IFAs sent out brief details of the study to potentially eligible carers in their service. Carers were invited to contact the study site co-ordinator if they were interested, to find out



Need	Target	Intervention	Proposed Mechanisms of Change	Anticipated Outcomes
• High levels of attachment trauma, behavioural and emotional difficulties among children in care • Child's challenging behaviours and/or history of attachment trauma can place carers under stress and reduce capacity to be reflective • Challenges in establishing a positive relationship with the child.	• Carers (include connected carers / kinship carers) of children aged 4-13 • Not targeted at children on very short-term or emergency placements; • Not an alternative to mental health treatment (where required)	• 10 weekly sessions, each of 2-3 hours' duration, over one school term. • Delivered by two facilitators to a group of 6-10 carers. • Facilitators actively model and promote reflective capacity • Psychoeducational component, based on reflective fostering model • Group members invited to explore different perspectives and use Programme tools, e.g. the Carer APP	• Carers supported to maintain a sense of curiosity and an open mind about their own and the child's mental states (reflective capacity). • Carers supported to monitor the "emotional temperature" in care situations, and better manage arousal and stress levels. • Support and trust facilitated by the group enhances reflective capacity and quality of caregiving	• Enhanced reflective capacities (carer) • Reduced carer levels of stress and increased ability to manage challenging situations. • Reductions in carer's compassion fatigue and burnout. • Improved relationship between carer and child. • Improved child behavioural and emotional wellbeing • Increased placement stability.

Figure 1. Theory of Change model.

more. Recruitment conducted by Anna Freud was directly open to all foster and kinship carers in the UK who met the study inclusion/exclusion criteria but were not affiliated to one of the study's fostering service partners. To support this additional approach to recruitment, fostering support organisations (such as The Fostering Network, the Muslim Foster Network and Kinship) shared details of the study with their members. Furthermore, the study was promoted via local media, newsletters and in community settings.

For all strands of recruitment, once carers indicated they wanted to take part in the study, their details were entered into the study database and a link was sent for participants to provide online consent. Once provided, participants were asked to complete baseline measures online. Completion triggered the randomisation process. Randomisation was managed online once a suitable number of participants was recruited at a site. If a site did not recruit enough participants to run their own group plus a control group (14–20 participants), the research team merged them with participants from another site. Participants were randomised individually to the Reflective Fostering Programme arm or the control arm.

Randomisation was by minimisation using Taves' method, one-to-one, using the following minimisation factors: age of child (four to nine vs 10–13), number of previous placements (one or less vs two or more) and recruiting by the LA or IFA where the carer is registered. The research assistants working on the trial were blinded to allocation.

Data collection

All participants were asked to complete study measures at three time points – baseline, four months (post-intervention) and then 12 months after baseline (see Midgley et al., 2021a). At each follow-up, carers were sent a link from the study database by email asking them whether the nominated child remained in their care. If they did, a link was sent asking them to complete the questionnaires. Participants unable or unwilling to complete the measures online were offered the option to do these by telephone with a member of the central research team. Completion of all measures at each time point took around one hour.

In some cases, at follow-up children were no longer at that same placement. In these cases, we sought to identify their new carer and approached them about joining the study and completing measures for the child. If the original participants were caring for another child, then they were invited to complete the carer-focused measures. If they were no longer fostering, or they had no children in their care at that time, then they were withdrawn from study follow-up.

Measures

Carer-completed measures

Foster Carer Demographics Form. Collected information on characteristics of the foster carer, their fostering experience and the age and gender of the nominated child.

Strengths and Difficulties Questionnaire (SDQ; Goodman and Goodman, 2012). The primary outcome measure. It is a brief, carer-reported questionnaire, assessing emotional and behavioural difficulties in children aged three to 17, with five subscales: emotional, conduct, hyperactivity-inattention, peer and social. It has good internal consistency (Cronbach's alpha .73) and retest stability (mean of 0.62).

The Parenting Stress Index – Short Form (PSI 4-SF; Abidin, 2012). A self-report measure used to assess caregiver functioning, the functioning of the child and the level of stress in the caregiver–child relationship. There are 36 items which use a 5-point Likert scale. It has high internal consistency (Cronbach's alpha above .9).

The Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017a). Measures the carers' capacity for reflective functioning in their caregiving role. It has 18 items with three subscales: prementalizing states of mind (PM), certainty about mental states (CMS) and interest/curiosity (IC). The IC subscale reflects the carer's interest and curiosity in the child's mental states (with higher interest implying greater mentalizing capacity about the child), while PM reflects a lack of ability and/or willingness to consider the intentional stance of the child, with a high score suggesting poorer mentalizing capacity. CMS is defined as the parent's ability to recognise the opaqueness of the child's mental states. It has good internal consistency (Cronbach's alpha > .75) and moderate test–retest reliability (ICCs between .57-.68) (Kamza et al., 2024).

Professional Quality of Life Questionnaire (Stamm, 2010). A 30-item measure, with three subscales of compassion fatigue, secondary traumatic stress and burnout. Higher scores indicate higher levels of all three domains. It has good reliability, with Cronbach's alpha coefficients typically ranging from .80 to .90 for the subscales.

Emotion Regulation Checklist (ERC; Shields and Cicchetti, 1997). Includes 24 items to assess the carer's view of a child's emotional lability/negativity (high scores reflect greater dysregulation) and capacity for emotion regulation (higher scores indicate greater capacity to regulate emotions). The internal consistency of both scales on the ERC has been shown to be adequate (L/N Cronbach's alpha = .96; ER Cronbach's alpha = .83).

Carer Defined Problem Scale (Scott et al., 2001). Records the progress towards a carer's personalised concerns in relation to the child. Carers identify the three most significant concerns/problems they would most like to see changed and at each time point indicated the severity of each from 0 ('Not a problem') to 10 ('Couldn't be worse').

The Child Health Utility instrument (CHU9D; Stevens, 2012). A paediatric, generic, preference-based measure of health-related quality of life which is suitable for estimation of quality adjusted life years (QALYs) for use in cost-utility analysis, proxy-completed by the carer in this trial.

The Child and Adolescent Service Use Schedule (CA-SUS). Records service-use data for the purpose of cost estimation and was adapted and tested for use with children in care in an earlier feasibility study (Midgley et al., 2017). The CA-SUS covered the previous three months at baseline assessment and the period since last completed at the four- and 12-month follow-up assessments.

Placement Stability Log. Records information about any changes of social worker, change of school or placement change and (where available) reasons for any change.

Other measures

Site Profile Questionnaire. Gathers information from sites on the general characteristics of the service as well as the nature of the usual support offered. This was collected from the sites as they joined the study and repeated when they had finished in the study.

Reflective Fostering Fidelity Rating Scale (RFFRS). A 14-item, observational rating system to evaluate model fidelity of group facilitators. Each item is rated on a scale of 1 to 5, with an average score of 3 or above to indicate a satisfactory level of fidelity. The measure was completed in relation to each session by consultants (supervisors), based on observation of four five-minute clips of the session. (See Midgley et al., 2021a, for details of the measure, selection of clips and the rating process.)

Data analysis

The data analysis followed a formal Statistical Analysis Plan (SAP) that was agreed with the Trial Steering Committee before the commencement of any analyses. A general linear model, using general estimating equations (GEE), was used for the analysis of the primary and secondary outcome measures. The GEE approach to estimation incorporates the clustering in outcome values by intervention groups within the intervention arm. Whilst clustering of support in the control arm was possible (due to the social worker providing support for multiple participants), clustering for this arm could not be modelled due to lack of information collected on social workers within this arm of the study. Thus, clustering was considered to exist, for analytical purposes, in the intervention arm only (i.e., an example of 'partial clustering'). Each participant within the control arm was considered a 'cluster of one' for analysis purposes. The linear model included the following covariates: recruiting 'site' (as a random effect); the relevant outcome measure at baseline; age of child and the child's previous number of placements (i.e., design factors); and assigned group. Outcomes were assumed to follow a normal distribution and checked via inspection of the model residuals.

The primary analysis used the intention-to-treat principle, i.e., analysing participants according to the group to which they were randomly allocated, irrespective of intervention, or level of intervention, received. For the primary outcome (SDQ) three estimates of efficacy (i.e., the adjusted between-group estimate resulting from the linear model) were conducted. The first resulted from a model ignoring clustering and the second from the model incorporating the partial clustering from intervention groups. A third estimate resulted from the partial clustering model but was based upon multiple imputations (10) to impute missing outcome data. A secondary Complier Average Causal Effect (CACE) analysis of the primary outcome was also carried out to estimate the effect of the intervention when participants were considered to have 'complied with' the intervention (i.e., those attending at least four sessions).

Three pre-specified subgroup analyses were carried out. Firstly, intervention delivery type, i.e., either in person or online, was considered. This used a model including only those in the intervention arm and used delivery type as a fixed effect. The remaining subgroup analyses considered the moderating effect of the child's age and the number of previous placements on the SDQ at 12 months. The primary analysis model, with GEE estimates, was used with an additional interaction term, child's age-by-group or previous placements-by-group. One *post hoc* subgroup analysis (i.e., not pre-specified in the statistical analysis plan but decided upon after the primary analysis was complete) was also carried out. This considered the moderating effect of foster versus kinship carers, again using an interaction term.

Economic analyses followed a Health Economic Analysis Plan (HEAP) that was agreed with the Trial Steering Committee before commencement of analyses. The economic evaluation took a broad perspective covering all health and social care services, including those provided within the education sector or by private and non-statutory services, plus education facilities to capture use of specialist schools. As outlined in the protocol (Midgley et al., 2021a), the primary economic evaluation was a cost-effectiveness analysis carried out at the 12-month follow-up with outcomes expressed in terms of the primary measure of outcome (SDQ). Secondary analyses included: (1) a cost-utility analysis using QALYs generated from the CHU9D; and (2) a cost-consequences analysis considering costs alongside a range of outcomes for both the child and foster carer. The estimation of costs and QALYs are outlined in Supplementary Material File 2 (online only).

Costs and effects (SDQ and CHU9D) were compared between groups in terms of mean differences and 95% confidence intervals from non-parametric bootstrap regressions (1,000 replications) to account for the non-normal distribution of economic data. Cost-effectiveness was assessed using the net-benefit approach following standard approaches (Drummond et al., 2015). A joint distribution of incremental mean costs and effects for the two groups was generated using non-parametric bootstrapping to explore the probability that each intervention is the optimal choice, subject to a range of maximum values a decision-maker would be willing to pay for improvements in outcome (SDQ and QALYs). Cost-effectiveness was explored using incremental cost-effectiveness ratios (Briggs, 1999), with uncertainty represented by cost-effectiveness planes and cost-effectiveness acceptability curves (Fenwick et al., 2001). All economic analyses were adjusted for covariates in line with the effectiveness analyses, and missing data were imputed using multiple imputation using chained equations.

Results

Internal pilot study

In the final report of the internal pilot (October 2021), no concerns were identified regarding the delivery of facilitator training or the intervention. Participant retention was high, with only one withdrawal from the pilot study, and there was a high level of completion of outcome assessments. Although some informal sharing about Reflective Fostering was reported, no significant concerns about contamination were identified.

Recruitment levels in the internal pilot phase were lower than expected, partly due to the ongoing impact of the Covid-19 restrictions and lockdowns. Some groups of carers (specifically, male carers, kinship foster carers and those with Asian/Asian British ethnicity) were identified as under-represented compared to national figures. As a result, an additional project (InCLUDE – Increasing Collaboration and Learning with Underserved communities for Diversity and Equity) was conducted to identify, understand and address barriers to participation among underserved groups, both in this study and in children's care research more broadly (Izzidien, Stemp et al., 2025). Among other changes, this led to a decision to add additional fostering sites (including a number of IFAs and one mental health charity) to help promote overall recruitment and ensure it was inclusive and representative. The impact of this work on recruitment is reported below, and a more detailed report can be found in Izzidien, Stemp and colleagues (2025).

Study participants

Recruitment started in April 2020, and the last participants joined the study in April 2023. Five hundred and twenty-four participants were recruited into the study. Seven participants were found to be ineligible post-randomisation and were excluded from analyses, providing a valid sample of 517. The CONSORT diagram (Figure 3) sets out the participant flow through the trial. As the recruitment process was different for Anna Freud (compared to those joining via an LA fostering agency or IFA), a separate CONSORT diagram setting out the first stages of recruitment via Anna Freud is set out in Figure 2.

The carers in the study (Table 1) can be considered broadly representative of the diversity of mainstream foster and kinship carers in England and Wales (Ofsted, 2024) in terms of age, gender and ethnicity, with significant improvements in diversity and inclusion identified following the work of the InCLUDE project (Izzidien, Stemp et al., 2025). On average the participants were experienced carers, with a mean of eight years in the role of foster or kinship carer. Participants came into the study with high levels of parental and secondary traumatic stress, compassion fatigue and burnout. There were no substantial differences between the baseline characteristics of the carers in the two arms of the study.

The majority of children nominated to be reported on in the study (over 60%) had been in a different type of care prior to the current placement, with over one third having experienced two or more previous out-of-home placements (Table 2). The children coming into the study showed mean ratings of 18.2 on the SDQ, which are considerably higher than the mean ratings (14.7) for children in care in England (DfE, 2024), and are at levels considered to be in the 'clinical' range (17>), indicating high levels of emotional and behavioural difficulties. There were no substantial differences between the two groups.

Programme fidelity and engagement

Forty Reflective Fostering groups were run across eight cycles of recruitment. The mean number of participants in each group was 6.8. The mean attendance for all participants was 75% of sessions. Sixty-two participants (25% of those who started) attended all 10 sessions. In total, 84.5% of individuals attended four or more sessions, which was the minimal level of engagement considered by the Programme developers as having 'complied' with the intervention.

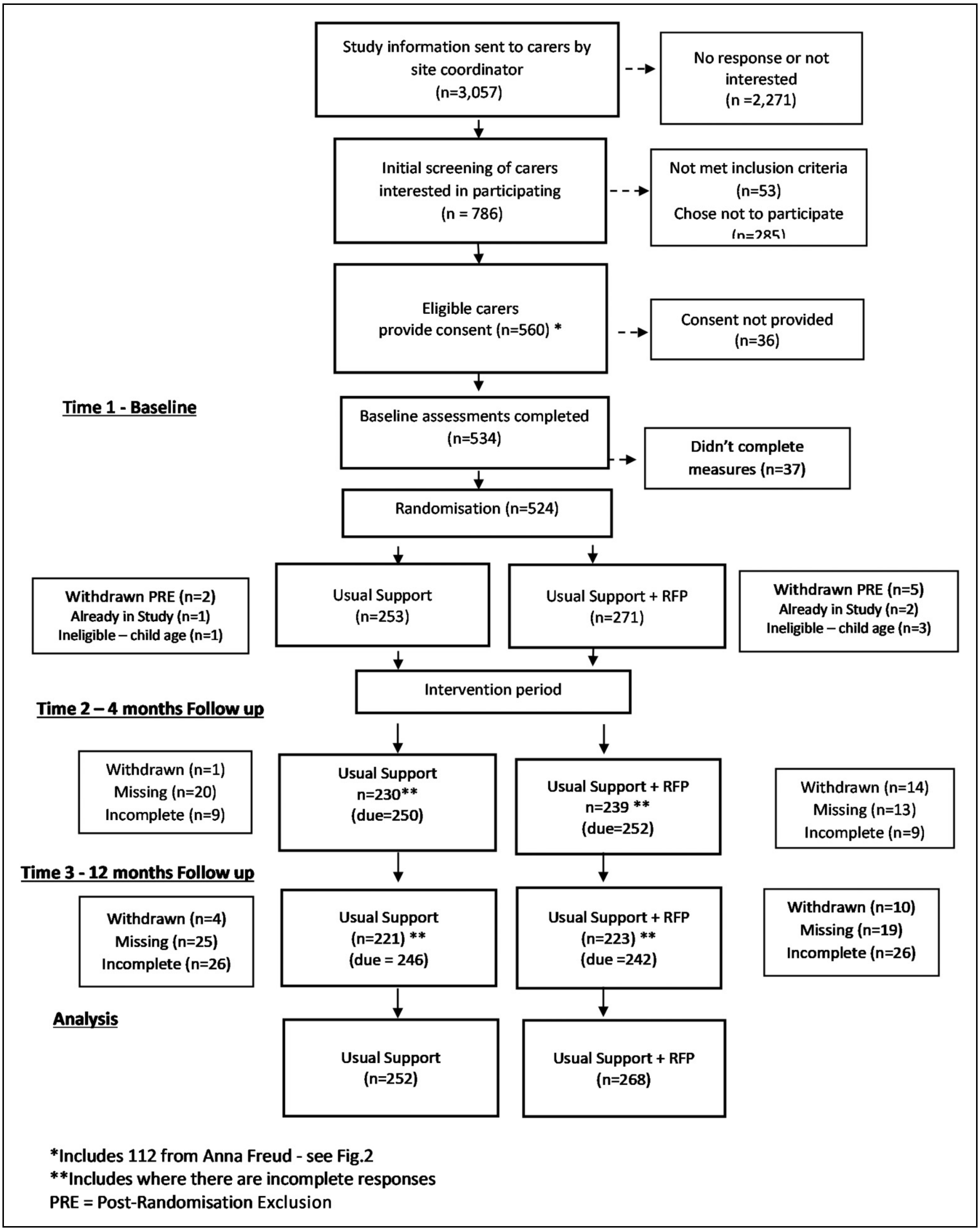


Figure 3. Consort diagram (including Anna Freud recruitment from point marked*).

Ratings of Programme fidelity were available on the RFPR for 365 (out of 400) sessions. Taking a mean score of 3 or above to indicate a satisfactory level of fidelity, 230 sessions (63.0%) were deemed to be delivered at a satisfactory level or above. The mean fidelity score was 3.2 (SD = 0.67).

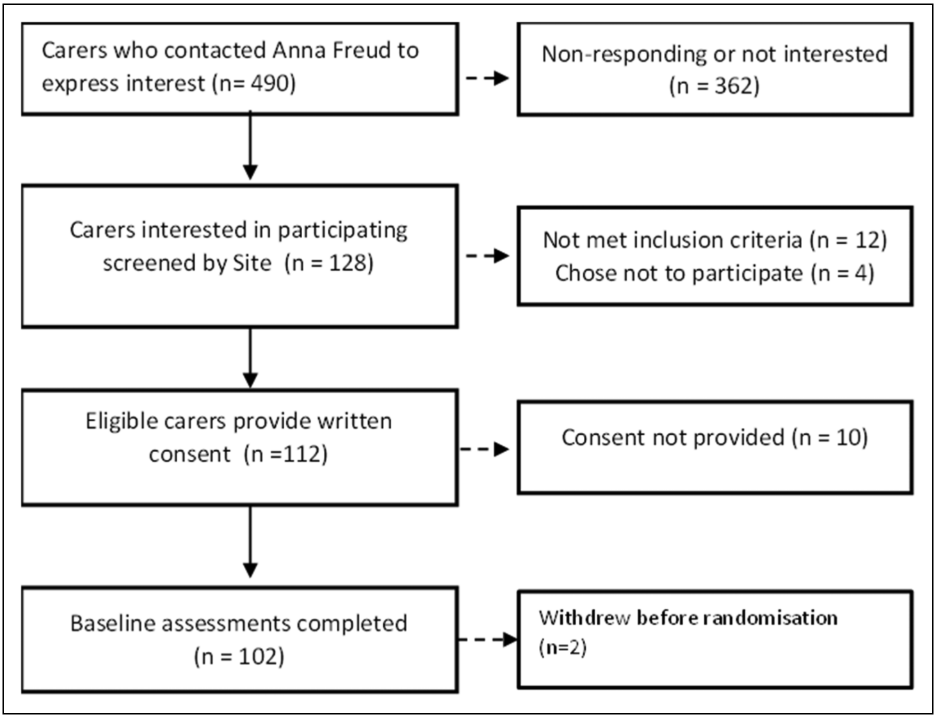


Figure 2. Consort diagram for initial stages of Anna Freud recruitment.

The effectiveness of the Reflective Fostering Programme compared to usual care

Children in both groups showed reductions in emotional and behavioural problems, as per the SDQ total score at four months, and maintained these reductions at 12 months (the study's primary outcome) but with no significant difference between groups (see Table 3). At four months, the estimated intervention effect was 0.568 (95% CI: -0.210 to 1.346, $p = 0.152$) and at 12 months 0.394 (95% CI: -0.531 to 1.320, $p = 0.404$). The analysis was also carried out excluding the effect of clustering in the intervention arm. The resulting estimates of effect were near identical at four months (estimate = 0.592; 95% CI: -0.262 to 1.446, $p = 0.174$) and 12 months (estimate = 0.423; 95% CI: -0.581 to 1.427, $p = 0.408$). Further, the analysis carried out using multiple imputation resulted in similar estimates at four months (estimate = 0.421 95% CI: -0.371 to 1.212, $p = 0.297$) and 12 months (estimate = 0.153; 95% CI: -0.794 to 1.100, $p = 0.750$). The estimated 12-month difference from the main analysis equates to a Cohen's Effect Size of 0.051, i.e., 5.1% of a standard deviation. When looking at those who had 'complied' (i.e., attended at least four sessions), findings were comparable, i.e., the CACE adjusted mean difference was 0.466, with a Cohen's Effect Size of 0.060, i.e., 6.0% of a standard deviation.

A similar pattern of improvement was found in relation to each of the subscales of the SDQ, other than the peer problems, where limited change was observed over time in both the groups. No significant differences between children in the two arms of the study were found on any of the SDQ subscales (conduct problems, emotional problems, hyperactivity, peer problems and prosocial behaviour) at four months or 12 months. The assumption of normally distributed residuals, assessed through visual inspection of plots, was deemed to hold.

Table 1. Carer baseline characteristics.

	Intervention N = 268	Control N = 249	Total N = 517
Gender:			
Male	45 (16.8%)	40 (16.1%)	85 (16.4%)
Female	223 (83.2%)	209 (83.9%)	432 (83.6%)
Age (years):			
Mean (SD)	53.8 (8.50)	53.1 (8.71)	53.5 (8.60)
Time as carer (years):			
Mean (SD)	8.3 (7.46)	7.8 (6.82)	8.1 (7.16)
Ethnicity:			
Asian/Asian British	9 (3.4%)	8 (3.2%)	17 (3.3%)
Black/Black British	21 (7.8%)	20 (8.0%)	41 (7.9%)
Mixed Ethnicity	7 (2.6%)	5 (2.0%)	12 (2.3%)
Other ethnic groups	1 (0.4%)	2 (2.0%)	3 (0.6%)
White	230 (85.8%)	214 (85.9%)	444 (85.9%)
Highest education:			
Postgraduate	20 (7.5%)	16 (6.4%)	36 (7.0%)
Bachelor's degree	69 (25.8%)	55 (22.1%)	124 (23.9%)
Trade/vocational training	40 (14.9%)	39 (15.7%)	79 (15.3%)
'A' levels	46 (17.2%)	42 (16.9%)	88 (17.0%)
'O' levels/GCSE	82 (30.6%)	84 (32.9%)	166 (32.1%)
No formal qualifications	11 (4.1%)	15 (6.0%)	26 (5.0%)
Marital status:			
Single, never married	28 (10.5%)	25 (10.4%)	53 (10.3%)
Married/domestic partnership	199 (74.3%)	176 (70.7%)	37 (7.3%)
Widowed	6 (2.2%)	7 (2.8%)	13 (2.5%)
Divorced	30 (11.2%)	34 (13.7%)	64 (12.4%)
Separated	5 (1.9%)	7 (2.8%)	12 (2.3%)
Fostering type:			
Foster carer	223 (83.2%)	207 (83.1%)	430 (83.2%)
Connected/kinship carer	45 (16.8%)	42 (16.9%)	87 (16.8%)
Number of children currently fostered:			
One	110 (41.0%)	83 (33.3%)	193 (37.3%)
Two	94 (35.1%)	111 (44.6%)	205 (39.7%)
Three	44 (16.4%)	42 (16.8%)	86 (16.6%)
Four	17 (6.3%)	10 (4.0%)	27 (5.2%)
Five	2 (0.8%)	3 (1.2%)	5 (1.0%)
Six	1 (0.4%)	0	1 (0.2%)

Children in both arms of the study showed small reductions in the 'emotional lability/negativity' subscale of the ERC, at both time points, but there were no group differences in either of the ERC subscales at either time point. Ratings on the Carer Defined Problems Scale (CDPS) indicated that both groups showed some degree of progress towards their goals at both four and 12 months, with those in the intervention arm of the study showing statistically significant improvements at four months, compared to usual care but with the difference no longer statistically significant at 12 months (see Table 3).

Table 4 reports changes in the carer-related outcome measures at four and 12 months. Across all measures, carers in both groups showed small but positive changes across all domains, including

Table 2. Nominated child baseline characteristics.

	Intervention N = 268	Control N = 249	Total N = 517
Gender:			
Male	157 (58.6%)	144 (57.8%)	301 (58.2%)
Female	111 (41.4%)	105 (42.2%)	216 (41.8%)
Age (years):			
Mean (SD)	10.0 (2.51)	10.0 (2.59)	10.0 (2.55)
Time in care (years):			
Mean (SD)	3.1 (2.38)	2.8 (2.57)	3.0 (2.48)
Baseline SDQ total score			
Mean (SD)	18.2 (7.53)	18.2 (7.12)	18.2 (7.33)
No. of out-of-home placements:			
None (this is first)	89 (33.2%)	100 (40.2%)	189 (36.6%)
One	79 (29.5%)	63 (25.3%)	142 (27.5%)
Two or more	100 (37.3%)	86 (34.5%)	186 (36.0%)
Location before current placement:			
With birth family	109 (40.3%)	113 (45.4%)	222 (42.9%)
In kinship care	19 (7.1%)	9 (3.6%)	28 (5.4%)
With different foster carer	132 (49.3%)	116 (46.6%)	248 (48.0%)
Residential care setting	4 (1.5%)	5 (2.0%)	9 (1.7%)
Adoptive family	1 (0.4%)	5 (2.0%)	6 (1.2%)
Unknown	3 (1.1%)	1 (0.4%)	4 (0.8%)

Note. SD = standard deviation; SDQ = Strengths and Difficulties Questionnaire.

mentalizing capacity, levels of stress and professional quality of life, at both time points. At four months, the only statistically significant differences between carers in the two groups was in relation to mentalizing (parental reflective functioning) capacity, where those in the intervention group had a statistically significant greater increase in their ‘interest and curiosity’ in the child and a decrease in their use of ‘pre-mentalizing’ modes of thinking (both considered indications of ‘effective’ mentalizing). By 12 months, the differences on the PRFQ between the two groups in terms of the carer’s ‘interest and curiosity about the child’ remained statistically different, although the carer’s reduction in the use of ‘pre-mentalizing modes’ was close to reaching statistical significance.

Although both groups showed small improvements by four months, no statistically significant differences between the two groups were found in relation to any aspects of parenting stress (PSI) or professional quality of life (PQoL) at this time point. However, by 12 months carers in the intervention arm showed small but statistically significant greater reductions in ‘parental distress’, as well as in ‘parent–child dysfunctional interaction’ (both subscales of the PSI). They also reported small but significantly lower levels of carer burnout and of secondary traumatic stress (two of the three scales on the PQoL). There were no significant differences between the two groups at 12 months in relation to ‘compassion fatigue’ (PQoL) or the reporting of the ‘difficult child’ subscale of the PSI.

With regard to placement stability, by 12 months the number reported to have experienced a change in placement was similar in both groups: 37 (15.4%) in the intervention arm and 44 (18.6%) in the control arm. This difference was not statistically different (Chi-squared = 0.918, p = 0.338).

Fifteen carers received the intervention in person with a mean (SD) SDQ at 12 months of 15.8 (8.35), and the remaining 189 received the intervention online with a mean (SD) SDQ at 12 months

Table 3. Child-related outcomes.

	Intervention	Control	Adjusted Difference (95% CI)	p-value
Strengths and Difficulties Questionnaire				
Total score:				
Baseline	18.2 (7.53)	19.2 (7.12)	–	
4 months	16.8 (7.54)	17.4 (7.72)	0.55 (−0.23, 1.33)	p = 0.116
12 months (primary outcome)	16.5 (8.16)	17.0 (7.40)	0.40 (−0.53, 1.33)	p = 0.473
Emotional problems:				
Baseline	3.9 (2.57)	3.9 (2.56)	–	
4 months	3.3 (2.49)	3.5 (2.45)	0.25 (−0.04, 0.56)	p = 0.092
12 months	3.2 (2.52)	3.4 (2.44)	0.16 (−0.17, 0.49)	p = 0.344
Conduct problems:				
Baseline	4.1 (2.57)	4.0 (2.50)	–	
4 months	3.8 (2.47)	3.7 (2.46)	0.01 (−0.27, 0.29)	p = 0.970
12 months	3.7 (2.67)	3.7 (2.34)	0.13 (−0.20, 0.61)	p = 0.454
Hyperactivity:				
Baseline	6.8 (2.74)	6.6 (2.68)	–	
4 months	6.4 (2.82)	6.5 (2.82)	0.25 (−0.05, 0.55)	p = 0.103
12 months	6.1 (2.92)	6.2 (2.82)	0.23 (−0.15, 0.61)	p = 0.230
Peer problems:				
Baseline	3.4 (2.43)	3.7 (2.32)	–	
4 months	3.4 (2.36)	3.7 (2.50)	0.08 (−0.22, 0.39)	p = 0.610
12 months	3.5 (2.50)	3.6 (2.51)	–0.04 (−0.35, 0.28)	p = 0.829
**Prosocial:*				
Baseline	6.0 (2.54)	5.9 (2.57)	–	
4 months	6.1 (2.34)	6.0 (2.63)	–0.17 (−0.48, −0.14)	p = 0.261
12 months	6.3 (2.51)	6.1 (2.54)	–0.20 (−0.56, 0.16)	p = 0.280
Emotion Regulation Checklist				
Composite:				
Baseline	2.3 (0.29)	2.3 (0.29)	–	
4 months	2.3 (0.28)	2.3 (0.31)	0.00 (−0.03, 0.04)	p = 0.804
12 months	2.3 (0.29)	2.3 (0.29)	0.01 (−0.03, 0.04)	p = 0.703
Lability/negativity:				
Baseline	33.7 (7.86)	34.0 (7.81)	–	
4 months	33.1 (7.54)	33.6 (8.27)	0.36 (−0.48, 1.19)	p = 0.402
12 months	32.7 (8.09)	33.0 (7.99)	0.53 (−0.71, 1.35)	p = 0.540
Emotion regulation:				
Baseline	22.4 (3.50)	22.2 (3.62)	–	
4 months	22.8 (3.47)	22.4 (3.55)	–0.30 (−0.77, 0.17)	p = 0.210
12 months	22.4 (3.65)	22.1 (3.62)	–0.19 (−0.77, 0.39)	p = 0.516
Carer–defined problems				
Total:				
Baseline	20.3 (6.42)	19.8 (6.78)	–	
4 months	17.3 (6.09)	18.1 (7.15)	1.21 (0.23, 2.19)	p = 0.015
12 months	16.6 (7.42)	17.1 (7.41)	0.60 (−0.66, 1.85)	p = 0.350

Notes. Adjusted Difference based upon a Generalised Estimating Equation linear model including clustering by therapy group. *indicates measures where a higher score indicates an improvement. CI = confidence interval.

of 16.6 (8.18). When compared formally using the primary analysis model but excluding those in the control group, the children cared for by those carers attending the Programme in person had slightly lower SDQ scores at 12 months, but the adjusted difference was not statistically significant (estimate = -1.9, 95% C.I.: -5.8 to 2.0, p = 0.335).

The two remaining pre-specified subgroup analyses considered the moderating effect of the child's age or the number of previous placements for the child on the SDQ total score at 12 months. The primary analysis model was used with an additional interaction term, child's age-by-group or previous placements-by-group. Neither of these terms were statistically significant (p = 0.619 and p = 0.502, respectively). The *post hoc* subgroup analysis, comparing impact on the SDQ total score at 12 months of children cared for by foster or kinship carers, was also not statistically significant (p = 0.542).

Adverse events and harm

The Incident Report Form identified two incidents where a carer became distressed during a Reflective Fostering Programme session. Both concerned the same participant, and in both cases the distress was assessed as not being related to the intervention. No risk disclosures requiring safeguarding action took place during either intervention sessions or data collection.

The cost-effectiveness of the Reflective Fostering Programme compared to usual care

Full economic results are reported in Supplementary Material File 2 (SF2; online only). In brief, few differences in cost over the 12-month follow-up period were evident (SF2 Table S5), except accommodation costs, which were lower in the intervention group (adjusted mean difference -£2,646; 95% CI -5,759 to 478). The Reflective Fostering Programme group reported lower use of formal foster care and residential care and higher use of informal accommodation arrangements (e.g., living with friends or relatives) and time at home with birth parent(s) (SF2 Table S4). This accommodation cost difference was larger than the cost of the intervention (mean £518 per participant), resulting in lower overall total costs per participant for the Reflective Fostering arm compared to usual care (adjusted mean difference -£2,163; 95% CI -6,047 to 1,722). Differences in outcomes used in the economic evaluation (SDQ and QALYs) were small but better for the Reflective Fostering arm compared with usual care (SF2 S6). Cost-effectiveness analyses found a higher probability of the Reflective Fostering Programme being cost-effective compared to usual care for the SDQ (85% to 98% probability) and QALYs (89% to 90% probability at the NICE preferred thresholds of £20,000 to £30,000 per QALY) (SF2 Figures 1 to 4).

Discussion

This study builds on two previous evaluations, which had provided preliminary indications of the effectiveness of the Reflective Fostering Programme (Midgley et al., 2019, 2021b). A definitive, RCT was conducted to examine whether attending the Reflective Fostering Programme alongside usual support improved the wellbeing of foster/kinship carers and children in their care compared to carers who received usual support alone. While originally designed as a test of the Programme when delivered in-person, the start of the Covid-19 lockdown in the UK in 2020, which coincided with the planned start of the trial, meant that the Programme was adapted to be delivered online, and this was the version tested in this study.

Table 4. Carer-related outcomes.

	Intervention	Control	Adjusted Difference (95% CI)	p-value
Parental Reflective Functioning Questionnaire				
Pre-mentalizing:				
Baseline	2.0 (0.80)	2.1 (0.87)	–	
4 months	1.9 (0.69)	2.1 (0.91)	0.11 (0.00, 0.22)	p = 0.047
12 months	1.9 (0.85)	2.0 (0.82)	0.11 (−0.01, 0.24)	p = 0.075
Certainty about mental states:				
Baseline	4.2 (0.97)	4.1 (0.96)	–	
4 months	4.2 (1.00)	4.3 (1.03)	0.09 (−0.06, 0.24)	p = 0.247
12 months	4.3 (0.95)	4.3 (1.00)	−0.01 (−0.16, 0.15)	p = 0.948
**Interest and curiosity:*				
Baseline	5.7 (0.85)	5.7 (0.83)	–	
4 months	5.8 (0.89)	5.6 (0.83)	−0.18 (−0.31, -0.05)	p = 0.005
12 months	5.8 (0.93)	5.6 (0.94)	−0.20 (−0.34, -0.05)	p = 0.009
Parenting Stress Index				
Parental distress:				
Baseline	27.7 (8.14)	28.4 (8.78)	–	
4 months	26.5 (8.42)	27.9 (9.56)	0.75 (−0.31, 1.82)	p = 0.167
12 months	25.7 (8.46)	28.3 (9.52)	2.04 (0.69, 3.40)	p = 0.003
Parent-child dysfunction interaction:				
Baseline	29.1 (8.01)	29.2 (8.62)	–	
4 months	28.0 (7.94)	28.8 (9.36)	0.74 (−0.23, 1.72)	p = 0.136
12 months	27.5 (8.48)	29.1 (9.24)	1.73 (0.35, 3.12)	p = 0.014
Difficult child:				
Baseline	33.2 (9.40)	33.3 (9.83)	–	
4 months	32.3 (8.93)	32.6 (10.16)	0.17 (−0.89, 1.23)	p = 0.745
12 months	31.5 (9.69)	32.3 (9.72)	0.54 (0.86, 1.94)	p = 0.450
Professional Quality of Life Questionnaire				
Compassion fatigue:				
Baseline	41.5 (5.48)	41.2 (5.83)		
4 months	41.6 (5.82)	41.1 (6.62)	0.10 (−0.78, 0.97)	p = 0.822
12 months	41.9 (5.86)	41.1 (6.62	−0.68 (−1.56, 0.20)	p = 0.132
Burnout:				
Baseline	22.0 (5.70)	22.5 (6.21)		
4 months	21.8 (5.84)	22.4 (6.19)	0.09 (−0.59, 0.77)	p = 0.793
12 months	20.8 (6.01)	22.4 (6.19)	1.26 (0.52, 2.00)	p = 0.001
Secondary traumatic stress:				
Baseline	21.2 (5.48)	21.6 (6.14)		
4 months	20.7 (5.25)	21.4 (6.13)	0.48 (−0.25, 1.20)	p = 0.196
12 months	20.7 (6.10)	21.9 (6.00)	0.79 (0.08, 1.50)	p = 0.030

Notes. Adjusted Difference based upon a Generalised Estimating Equation linear model. *indicates measures where a higher score indicates an improvement. CI = confidence interval.

Five hundred and twenty-four foster carers took part in the study. The sample was broadly representative of carers in England, including groups often under-represented in research, such as carers from Asian backgrounds, kinship carers and male carers (Izzidien, Stemp et al., 2025). The carers who took part were generally quite experienced (a mean of eight years as carers), with almost two-thirds caring for more than one child at the time of joining the study. Their levels of self-reported parenting stress at the point of joining the study were high, and their levels of compassion fatigue, secondary trauma and burnout reflected previous studies, which have shown high levels of parenting stress and compassion fatigue among foster carers (Hannah and Woolgar, 2018; Rusu et al., 2025). The nominated children in their care showed high levels of emotional and behavioural difficulties (as rated by the SDQ), greater than the mean levels of SDQ among care-experienced children generally in England and comparable to a clinical population (Becker et al., 2004).

Almost 85% of those randomised to the Reflective Fostering arm of the study attended what the Programme developers considered to be a 'meaningful' number (four or more) of sessions, with a mean attendance of 7.5/10 sessions. This relatively high attendance rate reflects the overall acceptability of the online, group-based intervention. While the majority of sessions (63%) were delivered at a level deemed to be 'satisfactory' in terms of fidelity of the model, over a third of sessions were not, which indicates some challenges in the training and supervision of facilitators. (For a more in-depth exploration of the co-facilitator model and the experience of those delivering the Programme, see Ruby et al., 2025.)

By the end of the study (12 months from baseline) carers who attended the Programme, compared to those receiving usual care, had greater reflective capacity, improved wellbeing (as indicated by better quality of life, lower burnout and stress levels) and reported lower dysfunction in the child–carer relationship. However, when examining the psychosocial functioning of the children (as measured by the SDQ at 12 months, the primary outcome), as well as their capacity for emotion regulation, there were no statistically significant between-group differences. With regard to the carer-defined problems (a more individualised way of evaluating change in relation to specific problem areas which carers hoped to be addressed), both arms of the study showed improvements, with significantly greater improvements in the intervention arm at four months; while these improvements were maintained at 12 months, the difference between the two arms of the study was no longer statistically significant.

The finding that there was no significant difference between the two groups in the main child-focused outcome (the SDQ), while significant differences were found in a range of carer-related outcomes (stress, burnout, reflective capacity), as well as overall cost-effectiveness, requires careful attention. The study aimed to recruit 720 carers but only 517 were included in the primary analysis of the SDQ. This raises the possibility of a statistical Type II error, i.e., a real difference exists but was missed with our sample. However, the estimate of between-group difference was just 0.394 with a 95% confidence interval ranging from -0.531 to 1.320. Similar estimates were obtained from several alternative sensitivity analyses. It seems unlikely, therefore, that a meaningful additional benefit from the Reflective Fostering Programme on the SDQ exists but was missed.

The Theory of Change model for the intervention (Figure 1), based on an understanding of the role of reflective functioning (mentalizing) in the carer–child relationship, sets out how the Programme intended to help carers to develop and maintain a sense of curiosity about the child, a capacity to monitor the 'emotional temperature' in care situations and separate their own feelings from those of the children for whom they care. The Theory of Change suggests that when carers are able to do this, it will enable them to reduce their levels of parenting stress, compassion fatigue and burnout, thus making it possible for them to build stronger and more supportive relationships with the children in their care. This, in turn, is expected to help promote the behavioural and emotional wellbeing of the child and increase placement stability. By focusing on building these core capacities in carers, the aim of the Programme was for carers to develop skills that they would be able to continue to make use of beyond the end of the 10-week intervention.

The findings of the current study partially support this Theory of Change, when comparing outcomes to those carers who were offered usual care without the Programme. Findings suggest that the Programme does increase carers' reflective functioning, as measured by increased levels of interest and curiosity and reductions in the use of 'pre-mentalizing modes' of thinking, at four months, with these changes maintained at 12 months from baseline. This increase in mentalizing capacity was associated with reductions in levels of burnout and parental stress, and reductions in the level of parent–child 'dysfunction interaction'. Other than the change in reflective functioning, these changes (when compared to usual care) were only apparent at 12 months, which may suggest that this improved capacity to mentalize (self and the child) was the initial change, and that reductions in stress, secondary trauma and levels of burnout then followed more slowly. This is supported by data from the process evaluation (Katangwe-Chigamba et al., 2025), where carers who attended the Programme spoke about the way it offered them 'me time', which allowed them to better 'stop and think in the moment'. This potentially facilitated an ability to better cope with stress, deal with outbursts and better communicate with the children in their care (Katangwe-Chigamba et al., 2025). The fact that these changes in the carer continued to be seen well beyond the end of the intervention suggests that the skills developed during the Programme could be retained by carers who attended, which is important not only for the 'identified' child reported on for this study, but also the other children who carers may go on to care for or were caring for simultaneously.

This ongoing impact is especially important when considering the findings of a recent systematic review of interventions for children in foster care, which found that interventions did not demonstrate any effectiveness for outcomes assessed in the longer term (>6 months) (Trubey et al., 2024). The findings therefore support the first part of the Theory of Change model and suggest that an increased reflective functioning 'happens' first, and then over time this leads to improved foster carer wellbeing as carers use their reflective capacity to care for the children they are looking after. As these changes were maintained at the 12-month follow-up, it suggests that the underlying mechanism of change had taken place. This is in line with previous studies that have suggested that increases in self-care among foster carers are associated with reductions in levels of secondary traumatic stress (Bridger et al., 2020), and that increases in parental interest and curiosity, as measured by the PRFQ, are associated with degrees of satisfaction in parenting and improved carer–child communication (Rostad and Whitaker, 2016). The improved carer–child relationships associated with increased carer mentalizing capacity and reduced stress were evidenced in this study by the change in ratings of the parent–child 'dysfunctional interaction' at 12 months.

However, the study provided no evidence of a systematic difference between the two arms of the study in terms of the behavioural and emotional wellbeing of the child (SDQ total score and subscales), the primary outcome for the study nor in the child's capacity for emotion regulation nor in levels of placement stability. The children of carers in the Reflective Fostering arm of the study did show significantly greater improvement in the carer-defined problems at four months, but this difference was no longer statistically significant at 12 months. As foster carers were the direct recipients of the intervention, it is perhaps not surprising that the statistically significant impacts were primarily found in the carer-related outcomes, rather than in the assessments of the children themselves, for whom the impact would be mediated via the carer. Whether this suggests that changes in the carer do not impact on the child's psychosocial wellbeing or may take longer to demonstrate impact cannot be confirmed without a longer follow-up period. For comparison, in a study investigating the effect of foster carer commitment on infant's SDQ scores, a significant association was only identified at the 2.5-year follow-up, although improvements in reactive attachment disorder symptoms were identified earlier (Turner et al., 2022). It is also possible that the carer-completed

SDQ, originally developed as a screening measure, is not sufficiently sensitive as a measure to detect change in children's psychosocial wellbeing within children's social care populations, or that the very high levels of psychosocial difficulties identified in the children at baseline cannot be significantly impacted by a relatively short-term parenting intervention in isolation. This possibility is supported by the findings of a meta-analytic review conducted by Schoemaker and colleagues (2020), which found that parenting interventions in fostering and adoption generally have clearer impact on carer-related outcomes than child outcomes. Of the eight domains examined, Schoemaker and colleagues found that parenting interventions were effective in improving sensitive parenting, dysfunctional discipline, parenting knowledge and attitudes, as well as parenting stress but that they were not effective on any of the child-related outcomes (including placement stability), other than in relation to behaviour problems. The authors concluded that any impact on child outcomes 'are thus indirect and may take some time to be revealed because they are dependent on the development and interaction of parent and child behaviours over time' (Schoemaker et al., 2020: 1165). Given that previous studies have demonstrated that foster carers' levels of parenting stress are one of the strongest predictors of children's mental health outcomes (Goemans et al., 2020), we might expect that reductions in parenting stress, burnout and secondary trauma in carers, as well as reductions in problematic carer–child interactions, would gradually impact on the wellbeing of children in care; longer-term follow-up might be able to establish whether this is indeed the case or not.

From an economic perspective, the results suggest the Reflective Fostering Programme has a high probability of being cost-effective compared to usual care, despite the lack of statistically significant differences in effectiveness between the groups on the SDQ and QALY measures. This finding was driven by lower costs in the Reflective Fostering group as a result of lower use of LA accommodation over the 12-month follow-up period, alongside higher use of lower-cost accommodation types, including informal foster care and living at home with birth parent(s). The economic results, which meet the NICE criteria for cost-effectiveness (cost per QALY below £20,000), alongside evidence of benefit for foster carers on a range of outcomes, suggest consideration should be given to the provision of the Reflective Fostering Programme.

Strengths and limitations

The current study was the largest UK evaluation to date of a parenting intervention for foster and kinship carers and was unusual in having a 12-month follow-up phase and a fully integrated cost-effectiveness evaluation. This is of particular importance given the challenges that are widely recognised in conducting RCTs in children's social care settings (Dixon et al., 2014). The completion of the follow-up questionnaires (75%) was high, especially given the follow-up period and the demands on foster carers' time. Unlike the majority of studies in children's social care (Stemp et al., 2025), the sample was broadly representative of foster and kinship carers in England, largely due to the work done in the InCLUDE project, and implementation of the intervention took place in a 'real world' context, using practitioners to deliver the Programme who would usually be involved in offering support to foster and kinship carers. This makes it possible to assume that the findings can be implemented and generalise meaningfully to the field of children's social care in England and Wales.

Nevertheless, there were a number of significant limitations to the study. The research was originally designed to deliver the Reflective Fostering Programme as an in-person, group-based intervention for carers. However, due to the Covid-19 lockdown in the UK, the Programme had to be adapted for online delivery, marking a major adaptation of the intervention as originally conceived. Although this was a significant change to the original study protocol, carers reported that the online delivery was acceptable, and it did present a range of opportunities: it made the Programme more accessible to carers who traditionally find it difficult to attend training in person, such as out-of-county carers, and was largely found to be acceptable to both those delivering and those attending the Programme (Katangwe-Chigamba et al., 2025; Redfern et al., 2023). It is notable that once lockdown eased, nearly all organisations kept their Programme delivery online.

The study aimed to recruit 720 carers but only 517 were included in the primary analysis of the SDQ. The raises the possibility of a statistical Type II error, i.e., a real difference exists but was missed with our sample. However, the estimate of between-group difference was just 0.394 with a 95% confidence interval ranging from -0.531 to 1.320. Similar estimates were obtained from several alternative sensitivity analyses. Thus, plausibly, the largest benefit we would expect from the Reflective Fostering Programme is 1.32 units on the SDQ, substantially lower than the effect for which the study was originally designed to detect. It seems unlikely, therefore, that a meaningful benefit from the Reflective Fostering Programme on the SDQ exists but was missed.

One significant limitation of the study was the reliance on carer-reported measures, both in relation to carers themselves and in relation to the children in their care. For evaluations of parenting programmes for foster and kinship carers, there have been recommendations that measures should be collected directly from children (Vallejo-Slocker et al., 2024); however, there are practical and ethical reasons why this is often not possible (e.g., Irvine et al., in press). For example, there are complexities to obtaining consent for school-age children in care to take part in research, where parental consent may need to be sought from multiple informants, including social workers, LA managers and/or birth parents. For this reason, no data were collected directly from children in the main RCT; we only included children as participants in our sub-study, Relationship Stories (Cresswell et al., under review), which looked at whether and how any impact of the Programme was evident in carer–child interactions. In addition, it proved difficult to follow up the majority of the children who moved placement during the course of the study, limiting our ability to analyse the degree to which such moves impacted on the children's wellbeing. A further limitation was the focus on one child within each participating foster or kinship care family. The study was therefore unable to consider the broader impact of the Reflective Fostering study on other current, and indeed future, children and young people accommodated by carers.

Implications for practice

The current study took place during a period where there is an increasing focus on the needs of children in care, as well as a recognition of the challenges the field faces in providing the necessary support (MacAlister, 2022). The challenges faced by the sector are reflected in the high level of burnout and poor wellbeing reported by carers themselves, which in turn reflect the complexity of caring for children who often present with attachment difficulties and challenging behaviour, and contexts in which children's social care systems are struggling with insufficient resources and high levels of risk. One reason cited by carers for considering leaving in Ott and colleagues' (2023) study was the lack of support from their fostering service, making the need to identify effective (and cost-effective) parenting programmes for foster and kinship carers a priority.

Stress levels in foster carers have been shown to be robustly linked to reduced wellbeing in carers (Rusu et al., 2025), while compassion fatigue is associated with lower intent to continue fostering and lower job satisfaction (Hannah and Woolgar, 2018). For that reason, the NICE guidelines on *Looked-After Children and Young People* (NICE, 2021) place emphasis on the importance of providing support and training for carers, including approaches that promote self-care for carers and help prevent burnout, as well as supporting positive relationships for children in care. It is clear that the Reflective Fostering Programme offers fostering agencies the opportunity to support foster carers by helping to reduce stress, burnout and compassion fatigue, all of which are known to contribute to carer retention and wellbeing. As foster carers often care for multiple children during their careers, any impact on carers is likely to have a multiplying impact on the children in their care. The study also demonstrated an improvement in the child–carer relationship which should, in time, lead to greater placement stability. However, support for foster carers is likely to be only one part of the puzzle, and the wider systems around the child and carer – including mental health services, social work teams and the wider policy and legal framework – need to support the relationship and not add to the difficulties (MacAlister, 2022). It may be that interventions that directly work with children, alongside parenting interventions such as the Reflective Fostering Programme, are necessary to directly impact on the child's mental health and wellbeing, especially for children such as those in this study, who are presenting with high levels of emotional and behavioural difficulty.

Conclusions

Foster and kinship carers need to access a range of support and learning to enable them to provide the best possible care for children. At a time when there is a national shortage of foster carers across the UK, and significant concerns around both recruitment and retention of carers, the Reflective Fostering Programme is a cost-effective resource for fostering services within LAs and IFAs to use to improve the support offered to carers. Compared to usual care, the Programme was found to improve reflective capacity, reduce burnout and stress within carers in the medium term, supporting improved relationships with the child. These changes can ultimately help build a more resilient foster or kinship carer. However, although 'problematic interactions' between carers and children, as well as carer-defined problems, showed greater reductions compared to usual support in the short term, there were no statistically significant differences between the groups with regard to the impact on the emotional and behavioural wellbeing of the children, as measured by the SDQ, or their capacity for emotion regulation. It may be that a longer-term follow-up period would be needed to see such impact or that the SDQ is not a sufficiently sensitive measure to assess change in the wellbeing of children in care; however, it is also likely that for children presenting with high levels of emotional and behavioural difficulties, a relatively short-term intervention is not sufficient on its own to show a direct impact on those behaviours but can support carers to manage their role more effectively, achieve progress in areas that are of individual significance to them and help them to build a stronger carer–child relationship.

Note

Data will be stored in an appropriate repository in due course. Requests for access to data should be made to Nick Midgley (nicholas.midgley@ucl.ac.uk).

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Supplemental material

Supplemental material for this article is available online.

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