National Institute for Health and Care Excellence

Draft for consultation

Looked-After Children and Young People (update)

[H] Evidence review for interventions to support readiness for school in looked after children and young people

NICE guideline NGXXX

Evidence reviews underpinning recommendations 1.2.21, and 1.6.1 to 1.6.3

April 2021

Draft for consultation

These evidence reviews were developed by NICE Guideline Updates Team

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Interventions to support readiness for school for looked-after children and young people

Review questions

a) What is the effectiveness of interventions to support readiness for school?

b) Are interventions to support readiness for school acceptable and accessible to looked-after children and young people and their care providers? What are the barriers to, and facilitators for the effectiveness of these interventions to support readiness for school?

Introduction

Looked-after children are at a greater risk of poor educational outcomes. In 2017, 56.3% of looked-after children had a special educational need, compared with 45.9% of children in need and 14.4% of all children. At key stage 2, 32% of looked-after children and young people reached the expected standard in reading, writing and maths (compared with 61% of those who were not looked after). In 2016, 0.10% of looked-after children were permanently excluded from school, compared to 0.08% of all children. Pre-emptive interventions that support readiness for school prior to a looked-after child's entry into preschool, primary, or secondary education could help to improve educational outcomes while the child is at school,

Looked after children and young people are currently entitled to a pupil premium to support their education, however there is uncertainty about which specific educational interventions work. The (2010) NICE guideline for looked-after children and young people did not include recommendations on specific educational interventions. A NICE surveillance review found new evidence that indicated recommendations on school readiness might be needed. This review was conducted to consider the effectiveness of this and other readiness for school interventions among looked-after children and young people.

Summary of protocol

PICO table

Table 1: PICO for review on interventions to support readiness for school in looked-after children and young people

Population	Looked after children and young people (wherever they are looked after) from birth until age 18. Including: • Children and young people who are looked after on a planned, temporary basis for short breaks or respite care purposes, only if the Children Act 1989 (section 20) applies and the child or young person is temporarily classed as looked after. • Children and young people living at home with birth parents but under a full or interim local authority care order and are subject to looked-after children and young people processes and statutory duties. • Children and young people in a prospective adoptive placement. • Children and young people preparing to leave care.

	• Looked-after children and young people on remand, detained in secure youth custody and those serving community orders.
Intervention	Health and social care interventions and approaches to support readiness for school in looked-after children and young people, prior to, or during entry into pre-school, primary school, or secondary school education. Example interventions and approaches of interest include: • Interventions to promote readiness for pre-school (early years) education (including interventions delivered in the home/nursery setting by education specialists) • Interventions to promote readiness for primary school • Interventions to promote readiness for secondary school • Interventions to promote positive relationships (as relates to their impact on educational outcomes) • Transition programmes • Teacher-delivered and carer-delivered interventions • School-based and home-based interventions • Tutoring programmes • Coaching and mentoring • Other pedagogical interventions (e.g. ready for school packages, such as “Letterbox”)
Comparator	Comparator could include standard care, waiting list, or another approach to support readiness for school in looked-after children, young people
Outcomes	• Preschool developmental progress (e.g. achieving age-appropriate “good level of development” (GLD)) • Educational outcomes (academic skills; academic achievement; grade achievement; homework completion; school attendance) • Adverse events (school absence, school exclusion or suspension) • Behavioural, cognitive, and social functioning at school • Knowledge and beliefs about school and education

SPIDER table

Table 2: SPIDER table for review on interventions to support care placement stability in looked-after children and young people

Sample	Looked after children and young people (wherever they are looked after) from birth until age 18.
Phenomenon of Interest	Health and social care interventions and approaches to support readiness for school in looked-after children and young people, prior to, or during entry into pre-school, primary school, or secondary school education.
Design	Including focus groups and interview-based studies (mixed-methods studies will also be included provided they contain relevant qualitative data).
Evaluation	Qualitative evidence related to interventions to support readiness for school will be examined. Evidence should relate to the views of looked after children, their carers, and providers who would deliver eligible interventions on: • The accessibility and acceptability of the intervention, including information about the source and type of intervention used. • Barriers to and facilitators for intervention effectiveness in supporting readiness for school.
Research type	Qualitative and mixed methods
Search date	1990
Exclusion criteria	• Mixed-methods studies reporting qualitative data that cannot be distinguished from quantitative data. • Countries outside of the UK (unless evidence concerns an intervention which has been shown to be effective in reviewed quantitative evidence) • Studies older than the year 2010 (unless not enough evidence, then progress to include studies between 1990 to current)

Methods and process

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. For further details of the methods used see Appendix N. Methods specific to this review question are described in this section and in the review protocol in Appendix A.

The search strategies for this review (and across the entire guideline) are detailed in Appendix B.

Declarations of interest were recorded according to NICE's 2018 conflicts of interest policy.

Effectiveness evidence

Included studies

The search for this review was part of a broader search for the whole guideline. After removing duplicates, a total of 36,866 studies were identified from the search. After screening these references based on their titles and abstracts, 151 studies were obtained and reviewed against the inclusion criteria as described in the review protocol for interventions to support readiness for school (Appendix A). Overall, 15 studies were included, reporting on nine original studies.

The evidence consisted of nine original randomised controlled trials, no qualitative evidence was identified for this review question. See the table below for a summary of included studies. For the full evidence tables please see Appendix D. The full references of included

studies are given in the reference section of this chapter. These articles considered 7 different readiness-for-school or developmental catch-up interventions.

Excluded studies

In total, 136 references were excluded because they did not meet the eligibility criteria. See Appendix J for a list of references for excluded studies, with reasons for exclusion.

Summary of studies included in the evidence

Quantitative evidence

Study (country)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
Preschool interventions					
Bernard 2017 (USA)	Children in foster care (infant aged)	Attachment and biobehavioural catch up for infants (ABC-I)	Developmental Education for Families (DEF)	ABC-I: 24 DEF: 28	Receptive language score (at 3 years of age)
Lind 2017 (USA)	Children living in foster care (age at intervention approximately 2.5 years)	Attachment and biobehavioural catch up for toddlers (ABC-T)	DEF	ABC-T: 63 DEF: 58	Attention problems score (approximately 2 year f/u) Cognitive flexibility (approximately 2-year f/u)
Lipscomb 2013 (USA)	Children living with non-biological parents or in kinship care (aged 3- 4 years)	Head Start (HS) programme	CAU	HS: 154 CAU: 99	Pre-academic skills (1-year follow up) externalising behavior problems (1-year follow up) Teacher-child relationship (1-year follow up)
Raby 2019 (USA)	Children living in foster care (age 2 – 3 years)	ABC-T	DEF	ABC-T: 45 DEF: 43	Receptive vocabulary (composite score over 2 years follow up)
Lewis-Morrarty 2012 (USA)[1]	Children living in foster care (intervention delivered prior to age 20 months)	Attachment and biobehavioural catch up for infants and toddlers (ABC-I/T)	DEF	ABC-I: 17 DEF: 20	Cognitive flexibility (at 4-6 years) Theory of mind (at 4-6 years)
Lee 2016a, Lee 2016b, (USA)	Children living with non-biological parents or in kinship care (aged 3- 4 years)	HS	CAU	HS: 97 CAU: 65	Maths score (at age 5 – 6) Reading score (at age 5 – 6)
Entering primary school-age education					
Pears 2007 (USA)	Children living in foster care entering second grade	Therapeutic playgroups (TP)	CAU	TP: 10 CAU: 10	Foster parent rated social competence and behavioural

Study (country)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
	(age 7-8) from kindergarten				functioning (2 week f/u) Foster parent rated emotional regulation and lability (2-week f/u) Assessor-rated emotional lability (2-week f/u) Teacher-rated emotional regulation and lability score (f/u 1 month following the start of school)
Pears 2012 (USA) Pears (2013) Pears (2016) Lynch (2017)	Children living in foster care entering kindergarten (age 5-6)	Kids in Transition to School (KITS) programme	CAU	KITS: 102 CAU: 90	Initial sound fluency; Letter naming fluency; Concepts about print; Caregiver rating of pre-reading skills; preschool PIPPS score, CBCL social competence; Emotional understanding; inhibitory control; behavioural regulation; emotional regulation (end of summer prior to kindergarten, following intervention) Teacher-reported aggressive behaviour; Teacher-reported delinquent behaviour; Teacher-reported oppositional behaviour (measured end of kindergarten year) Days free from internalising symptoms; days free from externalising symptoms (over 12 months of kindergarten) Positive attitudes towards alcohol; positive attitudes towards antisocial behaviours; involvement with deviant peers; self-competence (measured third grade – 9 years old)

Study (country)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
Entering secondary school-age education					
Kim 2011, Smith 2011, (USA)	Girls in foster care, in final year of elementary school (mean age approximately 11.5 years)	Middle School Success (MSS)	Care as usual (CAU)	MSS: 48 CAU: 52	Internalising and externalising symptoms score (24-month f/u) Prosocial behaviour score (12-month f/u) Delinquent behaviour (36 months) Association with delinquent peers (36 months) Substance use (36 months)
[1]Part of a three-armed trial including a non-foster community comparison group					

See Appendix D for full evidence tables

Qualitative evidence

No qualitative evidence was identified for this review question

Summary of the effectiveness evidence

Pre-school

Table 3: Summary GRADE table (Attachment and biobehavioural catch-up for infants (ABC-I) vs Developmental Education for Families (DEF))

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Receptive language score at 3 years of age (Peabody Picture Vocabulary Test)	52	MD 9.97 (1.58 to 18.36)	Very Low	Effect favours intervention group, but it may be less than the MID
Association between being in the intervention group and receptive language score at 3 years of age (Peabody Picture Vocabulary Test)	52	β 9.39 (0.82 to 17.96)	Very low	Intervention was associated with a more favourable outcome

Table 4: Summary GRADE table (Attachment and biobehavioural catch-up for toddlers (ABC-T) vs Developmental Education for Families (DEF))

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Attention problems score at approx. 2 years follow up (Attention Problems Scale in the preschool Child Behaviour Checklist)	111	MD -0.90 (-1.66 to -0.14)	Very Low	Effect favours intervention group, but it may be less than the MID
Cognitive flexibility score at approx. 2 years follow up (Dimensional Change Card Sort task for pre-schoolers)	111	MD 5.13 (0.51 to 9.75)	Very Low	Effect favours intervention group, but it may be less than the MID

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Receptive vocabulary assessed at approx. 36, 48, and 60 months of age for a composite score (Peabody Picture Vocabulary Test (PPVT third edition).	88	MD 7.10 (0.32 to 13.88)	Very Low	Effect favours intervention group, but it may be less than the MID

Table 5: Summary GRADE table (Attachment and biobehavioural catch-up for infants and toddlers (ABC-I/T) vs Developmental Education for Families (DEF))

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Theory of mind score at 4-6 years of age (penny hiding game task)	37	MD 1.96 (0.84 to 3.08)	Very Low	Effect favours intervention group, but it may be less than the MID
Cognitive flexibility score at 4-6 years of age (Dimensional Change Card Sort task)	37	MD 2.60 (1.01 to 4.19)	Very Low	Effect favours intervention group, but it may be less than the MID

Table 6: Summary GRADE table (Head start programme vs care as usual)

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Association between being in the intervention group and assessor-rated pre-academic skills composite score at 1 year (Woodcock-Johnson III subscales)	253	β 0.16 (0.02 to 0.30)	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and teacher-rated teacher-child relationship at 1 year (student-teacher relationship scale)	253	β 0.30 (0.12 to 0.48)	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and teacher/ caregiver-reported behaviour problems at 1 year (Achenback Child Behaviour Checklist)	253	β -0.18 (-0.36 to 0.00)	Very Low	Intervention was associated with a more favourable outcome
Maths score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Math Reasoning (for girls)	162	MD 4.40 (3.48 to 5.32)	Very Low	Effect favours intervention group
Maths score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Math Reasoning (for boys)	162	MD -8.40 (-9.23 to -7.57)	Very Low	Effect favours control group
Reading score at 4-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Oral Comprehension (for girls)	162	MD 4.80 (4.18 to 5.42)	Very Low	Effect favours intervention group
Reading score at 4-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Oral Comprehension (for boys)	162	MD -3.20 (-3.95 to -2.45)	Very Low	Effect favours control group
Association between being in the intervention group and child-teacher relationship at 5 - 6 years of age (modified Robert Pianta scale)	162	β -0.30 (-1.01 to 0.41)	Very Low	No association was observed between intervention and outcome

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Association between being in the intervention group and caregiver-rated positive approach to learning at 5 - 6 years of age (Achenbach /Edelbrock/ Howell score)	162	β 0.11 (-0.01 to 0.23)	Very Low	No association was observed between intervention and outcome
Association between being in the intervention group and teacher-rated aggressive score at 5 - 6 years of age (Adjustment Scales for Preschool Intervention)	162	β -1.57 (-1.41 to 4.55)	Very Low	No association was observed between intervention and outcome
Association between being in the intervention group and teacher-rated hyperactive score at 5 - 6 years of age (Adjustment Scales for Preschool Intervention)	162	β -3.28 (-6.26 to -0.30)	Very Low	Intervention was associated with a more favourable outcome

1 **Entering primary school-age education**

2 ***Table 7: Summary GRADE table (Therapeutic playgroups vs care as usual)***

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Change in foster parent-rated social competence at 2 weeks follow up (Child Behavior Checklist)	20	MD 1.53 (0.63 to 2.43)	Very Low	Effect favours intervention group
Change in foster parent-rated externalising behaviours at 2 weeks follow up (Child Behavior Checklist)	20	MD -2.20 (-5.59 to 1.19)	Very Low	Could not differentiate
Foster parent-rated internalising behaviours at 2 weeks follow up (Child Behavior Checklist)	20	MD 1.30 (-2.52 to 5.12)	Very Low	Could not differentiate
Teacher-rated social problems at 1 month following the start of school (Teacher Report Form)	20	MD 0.00 (-2.72 to 2.72)	Very Low	Could not differentiate
Teacher-rated externalising behaviours at 1 month following the start of school (Teacher Report Form)	20	MD 0.90 (-7.12 to 8.92)	Very Low	Could not differentiate
Teacher-rated internalising behaviours at 1 month following the start of school (Teacher Report Form)	20	MD 0.10 (-6.71 to 6.91)	Very Low	Could not differentiate
Foster parent-rated emotional regulation at 2 weeks follow up (Emotion Regulation Checklist)	20	MD -0.03 (-0.20 to 0.14)	Very Low	Could not differentiate
Foster parent-rated emotional lability at 2 weeks follow up (Emotion Regulation Checklist)	20	MD -0.14 (-0.34 to 0.06)	Very Low	Could not differentiate
Assessor-rated emotional lability at 2 weeks follow up (Emotion Regulation Checklist)	20	MD -0.41 (-0.65 to -0.17)	Very Low	Effect favours intervention group, but it may be less than the MID
Teacher-rated emotional regulation at 1 month following the start of school (Emotion Regulation Checklist)	20	MD -0.18 (-0.69 to 0.33)	Very Low	Could not differentiate

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Teacher-rated emotional lability at 1 month following the start of school (Emotion Regulation Checklist)	20	MD 0.22 (-0.26 to 0.70)	Very Low	Could not differentiate

Table 8: Summary GRADE table (Kids in Transition to School (KITS) programme vs care as usual)

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Initial sound fluency score following intervention before school (subtest of the Dynamic Indicators of Basic Early Literacy Skills)	192	MD 0.81 (-1.22 to 2.84)	Very Low	No meaningful difference
Letter naming fluency following intervention before school (subtest of the Dynamic Indicators of Basic Early Literacy Skills)	192	MD 0.23 (-2.81 to 3.27)	Very Low	No meaningful difference
Concepts about print score following intervention before school (Concepts About Print test)	192	MD 0.65 (-0.37 to 1.67)	Very Low	No meaningful difference
Caregiver rating of pre-reading skills following intervention before school (recognition letters of the alphabet and write first name)	192	MD -0.13 (-0.37 to 0.11)	Very Low	No meaningful difference
Association between being in the intervention group and early literacy skills following intervention before starting school (composite of indicators of early literacy skills, above)	192	β 0.10 P<0.05	Very Low	Intervention was associated with a more favourable outcome
Prosocial skills score following intervention before school (Preschool Penn Interactive Peer Play Scale score)	192	MD -0.05 (-0.17 to 0.07)	Very Low	No meaningful difference
Social competence score following intervention before school (Child Behaviour Checklist)	192	MD -0.10 (-0.67 to 0.47)	Very Low	No meaningful difference
Emotional understanding score following intervention before school (matching vignettes to correct emotional state)	192	MD -0.21 (-1.01 to 0.59)	Very Low	No meaningful difference
Association between being in the intervention group and prosocial skills following intervention before starting school (composite of indicators of prosocial skills, above)	192	β 0.4 P>0.05	Very Low	No association was observed between intervention and outcome
Inhibitory control score following intervention before school (composite score: Inhibitory Control subscale; the Attentional Focusing subscale (of the Children's Behavior Questionnaire); the Inhibit subscale from the Brief Rating Inventory of Executive Function–Preschool Version; and two computer-administered tasks)	192	MD 0.03 (-0.18 to 0.24)	Very Low	No meaningful difference
Behavioural regulation score following intervention before school (composite score: the Activity Level subscale and Impulsivity subscale (of the Childrens	192	MD 0.14 (-0.11 to 0.39)	Very Low	No meaningful difference

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Behaviour Questionnaire); the Externalizing subscale (of the Child Behaviour Checklist); the Lability subscale of the Emotion Regulation Checklist)				
Emotional regulation score following intervention before school (Composite score: the anger subscale and the reactivity/soothability subscale of the Children's Behaviour Questionnaire; the Emotion Regulation scale of the Emotion Regulation Checklist; and the Emotion Control subscale of the BRIEF–P)	192	MD 0.00 (-0.22 to 0.22)	Very Low	No meaningful difference
Association between being in the intervention group and self-regulatory skills following intervention before starting school (assessed by composite of indicators of self-regulation, above)	192	β 0.11 P<0.05	Very Low	Intervention was associated with a more favourable outcome
Teacher-reported aggressive behaviour at the end of kindergarten year (the aggressive behavior subscales of the Teacher Report Form)	192	MD -1.84 (-4.81 to 1.13)	Very Low	No meaningful difference
Teacher-reported delinquent behaviour at the end of kindergarten year (the delinquent behavior subscales of the Teacher Report Form)	192	MD -0.58 (-1.21 to 0.05)	Very Low	No meaningful difference
Teacher-reported oppositional behaviour at the end of kindergarten year (the oppositional subscale of the Conners' Teacher Ratings Scales-Revised: Short version)	192	MD -0.81 (-1.78 to 0.16)	Very Low	No meaningful difference
Days free from internalising symptoms over 12 months of kindergarten (symptom reports from caregivers on the Child Behavior Checklist)	192	MD 26.00 (0.05 to 51.95)	Very Low	Effect favours intervention group, but it may be less than the MID
Days free from externalising problems over 12 months of kindergarten (symptom reports from caregivers on the Child Behavior Checklist)	192	MD 26.60 (-2.76 to 55.96)	Very Low	Could not differentiate
Association between being in the intervention group and child oppositional and aggressive behaviours at the end of kindergarten year (composite of indicators of oppositional and aggressive behaviours, above)	192	β -0.17 P<0.05	Very Low	Intervention was associated with a more favourable outcome
Positive attitudes towards alcohol at 9 years of age (questions adapted from the Monitoring the Future National Survey Questionnaire)	192	MD -0.30 (-0.50 to -0.10)	Very Low	Effect favours intervention group, but it may be less than the MID
Positive attitudes towards antisocial behaviours at 9 years of age (based on two questions - "What are some of the things you think teenagers do for fun with their friends?" and "What are some of the things you think teenagers do	192	MD -0.09 (-0.27 to 0.09)	Very Low	Could not differentiate

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
when their moms or dads are not there?")				
Involvement with deviant peers at 9 years of age (based on responses to questions about whether "none", "some", or "all" of their friends were involved in five rule-breaking or deviant behaviors)	192	MD -0.19 (-0.44 to 0.06)	Very Low	No meaningful difference
Self-competence at 9 years of age (six questions on the Global Self-Worth Scale of the Self-Perception Profile for Children)	192	MD 1.91 (0.82 to 3.00)	Very Low	Effect favours intervention group, but it may be less than the MID
Association between being in the intervention group and positive attitudes towards alcohol at 9 years of age (questions adapted from the Monitoring the Future National Survey Questionnaire)	192	β -0.34 P<0.05	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and positive attitudes towards antisocial behaviour at 9 years of age (based on two questions - "What are some of the things you think teenagers do for fun with their friends?" and "What are some of the things you think teenagers do when their moms or dads are not there?")	192	β -0.11 P<0.05	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and self-competence at 9 years of age (six questions on the Global Self-Worth Scale of the Self-Perception Profile for Children)	192	β 1.95 P<0.01	Very Low	Intervention was associated with a more favourable outcome

1 **Entering secondary school-age education**

2 ***Table 9: Summary GRADE table (Middle School Success vs care as usual)***

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Association between being in the intervention group and foster parent and girl reported internalising problems at 6 months (Parent Daily Report Checklist)	100	β -0.28 P<0.01	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and foster parent and girl reported externalising problems at 6 months (Parent Daily Report Checklist)	100	β -0.21 P<0.01	Very Low	Intervention was associated with a more favourable outcome
Association between being in the intervention group and foster parent and girl reported prosocial behaviour at 6 months (Parent Daily Report Checklist)	100	β 0.15 P>0.05	Very Low	No association was observed between intervention and outcome
Prosocial behaviour score at 12 months follow up (subscale from Parent Daily Report Checklist)	100	MD 0.06 (0.01 to 0.11)	Very Low	Effect favours intervention group, but it may be less than the MID

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect[a]
Association with delinquent peers score at 12 months follow up (modified version of the general delinquency scale from the Self-Report Delinquency Scale)	100	Beta -0.21, SE 0.09, P<0.05	Very Low	Effect favours intervention group, but it may be less than the MID
Caregiver-reported Internalising/externalising symptoms score at 2 years follow up (Achenbach System of Empirically Based Assessment)	100	MD 0.27 (-3.03 to 3.57)	Very Low	No meaningful difference
Delinquent behaviour score at 3 years follow up (Self-Report Delinquency Scale)	100	MD -0.65 (-1.43 to 0.13)	Very Low	Could not differentiate
Association with delinquent peers score at 3 years follow up (modified version of the general delinquency scale from the Self-Report Delinquency Scale)	100	MD -0.34 (-0.71 to 0.03)	Very Low	Could not differentiate
Composite substance use score at 3 years follow up (girls were asked how many times in the past year they had (a) smoked cigarettes or chewed tobacco, (b) drank alcohol (beer, wine, or hard liquor), and (c) used marijuana).	100	MD -0.74 (-1.33 to -0.15)	Very Low	Effect favours intervention group, but it may be less than the MID
Tobacco use score at 3 years follow up (see above)	100	MD -0.87 (-1.69 to -0.05)	Very Low	Effect favours intervention group, but it may be less than the MID
Alcohol use score at 3 years follow up (see above)	100	MD -0.31 (-0.78 to 0.16)	Very Low	Could not differentiate
Marijuana use score at 3 years follow up (see above)	100	MD -1.04 (-1.74 to -0.34)	Very Low	Effect favours intervention group, but it may be less than the MID

(a) No meaningful difference: crosses line of no effect but not line of MID; Could not differentiate: crosses line of no effect and line of MID; May favour: confidence intervals do not cross line of no effect but cross MID; Favours: confidence intervals do not cross line of no effect or MID

See appendix F for full GRADE tables.

Economic evidence

Included studies

A systematic review was conducted to cover all questions within this guideline update. The study selection diagram is available in Appendix G. The search returned 3,197 publications since 2000. Additionally, 29 publications were identified through reference tracking. Of these records, 3,225 were excluded on basis of title and abstract for this review question. One publication was inspected in full and found to be relevant for inclusion. An updated search was conducted in November 2020 to identify any newly published papers. The search returned 584 publications. After screening titles and abstracts five publications were considered for full text inspection but did not meet the inclusion criteria and were excluded from the evidence report.

Summary of included cost effectiveness evidence

Study	Comparators	Costs	Effects	ICER	Uncertainty	Applicability	Limitations
Lynch 2017 US 192 children in pre-schooler age (kinship and non-kinship) Cost-effectiveness analysis	Kids in transition to school (KITS) intervention	$6,422 (£4,523)	IFD: 310.5 EFD: 218.6	$64/IFD (£45/IFD) $63/EFD (£44/EFD)	At a threshold of $100 (£70) willingness to pay KITS was cost-effective 78.7% of times (IFD) and 75.3% for EFD	Partially applicable	Very serious limitations
	Standard foster care	$4,746 (£3,343)	IFD: 284.5 EFD: 192.0				

EFD, externalising free days; ICER, incremental cost-effectiveness ratio; IFD, internalising free days

Economic model

No economic modelling was undertaken for this review question.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee were hopeful for results that would define the success of interventions to support readiness for school in terms of clear educational outcomes while the child was at school. For example, the committee were particularly interested in outcomes that would relate to academic success in UK settings e.g. a child's Key Stage level (the educational knowledge expected of students at various ages in the UK). For developmental outcomes among pre-school children, the committee were interested in "Good Level of Development" or GLD as defined by a child meeting Early Learning Goals, as set out in the Early Years Foundation Stage (EYFS). Other outcomes outlined in the protocol were both important and clearly defined such as homework completion, school attendance, school absence, school exclusion, or school suspension.

Secondary in importance to these outcomes, were behavioural, cognitive, and social outcomes while the child was at school. While these outcomes were important, they may be more difficult to define, and their relationship to academic success one step removed from the more critical outcomes described above. Similarly, measures of a child's knowledge and beliefs about school may not translate directly into academic success and, regardless, may be better captured by qualitative evidence.

The committee considered the evidence from the 9 included randomised controlled trials. Outcomes reported for preschool interventions captured some developmental outcomes (such as receptive language/vocabulary scores, cognitive flexibility scores, theory of mind scores, attention problems) and some pre-academic outcomes (such as pre-academic skills scores and maths/reading scores). Other reported outcomes related to social and behavioural outcomes (such as child-teacher relationship, behaviour problems, aggressive/hyperactive scores) or more surrogate outcomes such as "positive approach to learning" scores. The committee recognised the validated nature of some of the scores e.g. the Child Behaviour Checklist and did not recognise other scores (such as the Woodcock-Johnson III tests of achievement), however, in all cases, it was unclear how such scores related to true academic or developmental success in this group of children. One test (the theory of mind score) was not considered to have been conducted properly to measure what it was attempting to measure. The committee felt the test described in the paper was more of a test of ability to imitate, rather than a true theory of mind test.

Outcomes reported for children entering primary school were varied including pre-academic measures (such as sound fluency, letter naming, concepts about print, and pre-reading skills), relational outcomes (such as social competence and prosocial skills), behavioural outcomes (such as aggression, internalising, and externalising symptoms), emotional outcomes such as (emotional regulation and understanding) and outcomes relating to confidence such as self-competence. In addition, some outcomes were reported which have relevance to physical health such as “attitudes towards substance use” but also have some relation to behaviour at school. Once again, the committee noted the lack of clear academic outcomes such as appropriate Key Stage level. Presented research frequently use scales designed for research rather than “real-life” measures of academic success which would have more relevance.

No academic outcomes were reported in studies of secondary school-age interventions. Outcomes reported included measures of behavioural problems (such as delinquent behaviour, association with delinquent peers, internalising and externalising problems) social outcomes (such as prosocial behaviour) and substance use outcomes (such as alcohol, tobacco, and marijuana use scores). The committee noted the lack of outcomes relating to educational success for these interventions. The reported outcomes were considered as surrogate, since better behaviour may lead to better educational outcomes, and improved social outcomes may relate to other experiences of relational success in the school setting for looked after children and young people.

The quality of the evidence

The overall quality of all the presented evidence was noted to be very low by the criteria outlined in GRADE. This was for several reasons. Included research studies were all considered at high risk of bias, often due to poor reporting of methods. This meant there was lack of clarity regarding: how randomisation and allocation concealment was performed; whether participants were lost to follow up (and how many); whether there was missing data (and how much); whether a blinding procedure was carried out for assessments; and whether the trial and analysis were performed in accordance with a pre-defined protocol. The lack of certainty regarding a pre-defined protocol was particularly problematic since many studies had measured multiple relevant outcomes at different time points but may have only reported selected (or composite) outcomes at selected time points. In addition, some studies used versions of multivariable modelling in which it was unclear how the variables entered into the model had been selected. In GRADE, all included research studies were considered as having very serious risk of bias. It would be difficult to determine the direction of the bias in all cases, however, if selection of outcomes or analysis has occurred this is often a bias in favour of finding a statistically significant result in favour of the intervention group. Similarly, some of the outcomes measured had very subjective components, if the assessors had prior knowledge of the intervention group this may have led to a bias in the direction of a positive intervention effect (where the intervention is believed to be effective).

The committee also noted the lack of UK evidence. Most included studies were from America which the committee noted had a very different social care system. As a result, studies from outside of the UK were marked down for quality on account of indirectness. The committee considered that they would have difficulty recommending a readiness for school intervention without some experience or evidence that similar interventions had been implemented successfully in the UK population.

Finally, the committee commented on the confidence intervals which were frequently too wide to be able to discern an important effect between study groups. The reasons for this were discussed with the committee which included the sample sizes in the reporting studies, which were generally small, and the measures themselves, which may be considerably variable within the intervention groups meaning that a larger sample size is required to observe a statistically significant difference between comparison groups.

The GRADE rating of all evidence considered was “very low”. Taking this into account the committee considered that it would be inappropriate to make any strong recommendations

regarding the use of readiness for school interventions. Rather, the committee would make use of “consider” (weaker strength) recommendations which reflect the uncertainty of the evidence base.

Finally, the committee noted that much of the evidence focussed on looked-after children who were already in the school system and were being prepared to start the school year at the same time as other school children. The committee determined that school-readiness interventions should also apply to children moving from school to school in the middle of a school year or returning to school following extended absence, events that occur more commonly in the looked-after children population. Recommendations were worded to reflect the possibility of these events.

Benefits and harms

Preschool interventions

The committee considered RCT evidence looking at the Attachment and Biobehavioural Catch-up intervention for infants and toddlers (ABC-I/T). It was noted that these were the only interventions that were compared to another active intervention (not counting usual care). ABC-I/T was compared to developmental education for families (DEF). ABC-I/T was distinct from DEF in its focus on promoting sensitive caregiving and use of video feedback. Included studies found that ABC-I was associated with significantly improved receptive language score at three years of age, even after adjusting for baseline differences between comparison groups. Participants receiving ABC-T had improved attention problems and cognitive flexibility at 4 years of age, and improved receptive vocabulary across 3-6 years of age. Participants receiving ABC-I/T were found to have improved theory of mind and cognitive flexibility scores across ages 4-6. For all these results it was not possible to tell if the difference observed between groups was important, since confidence intervals were wide.

The committee discussed the ABC-I/T intervention and its similarity to interventions already recommended in the NICE guidance on attachment disorders (NG26) – in this case the committee considered its use for preschool development. Similarities between ABC-I/T and these recommendations included the focus on teaching nurturing, non-frightening, and sensitive caregiving; the need for parental education and guidance about child development and the impact of trauma, neglect and disrupted attachments; encouraging caregivers to promote child-led play; and the use of a video-feedback programme consisting of 10 sessions over a few months, highlighting parental strengths and areas for improvement. The committee considered the overlap between the population considered in NG26 and those considered in the current guideline. The committee felt that all looked after children and young people were “at risk of” attachment difficulties, and therefore that the evidence-base considered in NG26 was relevant to the current guideline. Therefore, the committee chose to cross-refer to guidance in NG26 to answer the question of what interventions should be considered for pre-school children to assist their development in care.

The committee considered RCT evidence looking at the Head Start programme intervention for 3 to 4-year-olds. In one study, there was no difference between Head Start and usual care observed for maths and reading scores at 5-6 years of age. After adjusting for baseline differences, studies found that being in the Head Start intervention group was associated with greater pre-academic skills, teacher-child relationship, and behaviour problems at 1-year follow up, as well as improved hyperactivity scores at 5-6 years of age. For these results it was not possible to tell whether the differences between groups were important.

The committee reflected that the comparison groups (care as usual) for the Head Start trials were likely to have received some if not many of the same services as the Head Start group. It was felt that Head Start was too broad an intervention, and the evidence of effect too weak, for its recommendation within the current guideline. Head Start encompassed preschool education; medical, dental, and mental health care; nutrition services; and services to help parents foster their child's development. Therefore, the committee considered it was not

possible to isolate the aspect of the intervention that might be important for developmental outcomes in a looked-after child or young person. Finally, the committee noted that several services offered in Head Start were already available for looked-after children in the UK population.

Interventions for entering primary-school education

The committee considered RCT evidence looking at the Kids in Transition to School (KITS) intervention, targeted at children aged 5-6 years old entering kindergarten. After adjustment for differences at baseline, KITS was associated with improved early literacy skills and self-regulatory skills following the intervention. After adjustment for differences at baseline, KITS was associated with improved oppositional and aggressive behaviours. Over 12 months of kindergarten, participants in the KITS intervention group experienced more days free from internalising symptoms. At 9 years of age, children in the KITS group were found to have greater self-competence and fewer positive attitudes towards alcohol, after adjustment for baseline differences this group was also associated with fewer positive attitudes towards antisocial behaviours. For these results it was not possible to tell whether the differences between groups were important.

For the KITS intervention, the committee considered the broad reported improvements across several reported dimensions and the considerably long follow up period. However, it was noted that many differences between intervention groups were only observed after statistical adjustment in a multivariable model. In addition, it was not clear that the effects observed were greater than the minimum important difference. Resource impacts of the KITS intervention are discussed below.

The committee considered RCT evidence looking at therapeutic playgroups used in children in kindergarten entering second grade (7-8 years). At 2 weeks following the intervention foster parent-rated social competence was improved in the intervention group (mean difference 1.53 (0.63 to 2.43). Emotional lability was also improved in the intervention group; however, it was not possible to tell if this was an important difference.

The committee noted that of all the evidence presented, the only reported effect size that was greater than the level of the minimum important difference was that found for foster-parent-rated social competence at 2-week follow-up in looked-after children who had received therapeutic playgroups (compared to care as usual). The committee considered the use of playgroups in children and noted the differences in quality between usual playgroups and guided therapeutic playgroups which included learning opportunities to improve socialisation and the attention of small child-to-staff ratios. However, it was recognised that evidence consisted of a small trial (n=20) and that results at longer-term follow up (1 month) were not able to differentiate an effect. Because of this, and the expense of running therapeutic playgroups, the committee did not recommend them specifically. But they agreed that early-years education should include opportunities to improve socialisation, such as early-years education in playgroups as well as other opportunities to encourage child-led play.

Interventions for entering secondary-school education

The committee considered RCT evidence looking at the Middle School Success (MSS) programme for foster girls entering secondary school education (age 11-12). Compared to care as usual, after adjusting for baseline differences, MSS was found to be associated with improved internalising problems and externalising problems at 6 months follow up. At 12 months follow up, the MSS group was found to have a greater prosocial score. At 3 years follow up, the MSS group was found to have improved substance use scores (including tobacco use and marijuana use scores).

Similarly to results from other readiness for school interventions, the committee observed that improvements were found in the intervention group across several behavioural outcomes. However, effect sizes may be unimportant, and many impacts were only observed

after adjustment in multivariable modelling. The committee considered the broadly positive findings with the use of readiness for school interventions. However, the committee did not wish to specifically recommend one model of readiness for school intervention over another.

In terms of harms of the intervention, the committee considered the reviewed interventions were likely to be benign. However, it was raised that, particularly in a child returning to school after prolonged absence, the necessity to cope with the possibility of peers and parents of other children "finding out" about the "looked after" situation of a child could be traumatic, and particularly a risk if the child is receiving special interventions for education. These risks must be balanced with the opportunities for benefit that a child may receive from efforts to support their readiness for school. Other evidence suggested that looked-after children and young people did not necessarily want more professionals or programmes in their lives.

The committee therefore agreed there was a broad benefit of tailored transition support into new school placements. They favoured approaches that would help ease the looked-after person into the new school placement but not single them out, for example, structured visits to the school beforehand, school preparation for the carer, meeting the designated teacher, and handover between designated teachers.

The committee also agreed that transition to a new school placement may need input from professionals beyond those in education and therefore recommended the inclusion of other relevant caring professionals for transition support and decision making (e.g. healthcare).

Cost effectiveness and resource use

The committee was presented with evidence from one published cost-effectiveness study (Lynch 2017) comparing the Kids in Transition to School intervention (KITS) to standard foster care in looked after children entering kindergarten in the US. The study concluded that KITS was more effective than standard foster care at increasing the number of days free from internalising symptoms (IFD) and days free from externalising behaviour (EFD) over a period of 12 months, but KITS was also more costly (ICER: £45 per IFD and £44 per EFD). The committee agreed that the study had limited applicability to the UK context because it was conducted from a US perspective and had a relatively short 1-year time horizon, which may be insufficient to capture the longer-term consequences of the intervention. The committee noted that the study had very serious limitations because it was informed by a single randomised controlled trial of very low quality. The committee also noted that IFD and EFD were not specific measures of readiness for school and that the economic analysis only focussed on these measures even though a number of other potentially more relevant or meaningful outcomes had been captured in the trial.

The committee discussed that KITS was a resource-intensive intervention, delivered over 24 sessions to groups of 12-15 children by a lead teacher and 2 assistant teachers using a manualised set of strategies and 8 caregiver group meetings led by a facilitator and co-facilitator. Given the available evidence, the committee felt that KITS was unlikely to be an effective use of resources.

The committee also considered the potential costs and resources of delivering other interventions for which there was effectiveness evidence but no published economic evidence. There was some evidence that therapeutic playgroups led to an improvement in parent-rated social competence in looked-after children of primary school age. This intervention was delivered in accordance with a curriculum manual in 14 sessions over 7 weeks with a student-to-staff ratio of 3:1. The committee felt therapeutic playgroups would be more affordable than interventions involving multiple 1:1 sessions delivered individually in the home, but noted that the evidence on differences between usual playgroups and guided therapeutic playgroups was from a small trial with no long-term follow up. Therefore, the committee recommended that early-years education including playgroups, and other opportunities to encourage child-led play should be considered to support social competence in LACYP, but did not specifically recommend therapeutic playgroups.

The committee agreed that the resource impact of these recommendations is low. Early years support should be provided as a statutory service, so no additional resource is required. Transition support and services is also currently supported by the Virtual School. Furthermore, these interventions can be funded through the Pupil Premium which is part of statutory education funding provision for LACYP.

Other factors the committee took into account

The committee discussed who should be involved with the care of a looked-after child transitioning between schools. In the absence of evidence, the committee made a consensus recommendation to "consider the use of multidisciplinary specialist support for transition services tailored to the child's needs." The committee felt that transition to school should be tailored to the needs of the child, a bespoke model, which is better suited to delivery by a multidisciplinary team (e.g. composed of education specialists, social workers, occupational therapists, and psychologists to intervene as needed).

This evidence review supports recommendations 1.2.21, and 1.6.1 to 1.6.3.

Recommendations

1.6.1 Consider the following to support social competence in looked-after children:

- early years education, including playgroups
- other opportunities to encourage child-led play.

1.6.2 Plan bespoke, individual transition support for supporting readiness for school and resilience in looked-after children and young people moving between schools and settings (including those moving out of care to permanency). This includes:

- moving from preschool to primary school
- moving from primary to secondary school
- moving in the middle of a school year
- returning to school after an extended absence.

Individual transition support for school moves may include structured visits to the school beforehand, school preparation for the carer, meeting the designated teacher, and handover between designated teachers (for example, drawing from weekly diaries and life story work).

1.6.3 Think about providing multidisciplinary specialist support for transition between school placements, tailored to the looked-after child or young person's needs and alongside or part of the virtual school. For example, including healthcare professionals in transition support for looked-after people who have medical conditions that affect their education.

1.2.21 For guidance on attachment difficulties, follow the NICE guideline on children's attachment.

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Cost effectiveness

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Appendices

Appendix A – Review protocols

Review protocol for readiness for school interventions for looked-after children and young people

ID	Field	Content
0.	PROSPERO registration number	[Complete this section with the PROSPERO registration number once allocated]
1.	Review title	Interventions to support readiness for school in looked after children and young people
2.	Review question	4.1a What is the effectiveness of interventions to support readiness for school? 4.1b Are interventions to support readiness for school acceptable and accessible to looked-after children and young people and their care providers? What are the barriers to, and facilitators for the effectiveness of these interventions to support readiness for school?
3.	Objective	Quantitative To determine the effectiveness and harms of interventions and approaches to support readiness for school in looked-after children and young people. Qualitative To determine if interventions to support readiness for school are acceptable and accessible to looked after children, their carers, and providers who would deliver them. To determine other barriers and facilitators to the effectiveness of these interventions.
4.	Searches	**Sources to be searched** • PsycINFO (Ovid) • Embase (Ovid)

		• MEDLINE (Ovid) • MEDLINE In-Process (Ovid) • MEDLINE Epubs Ahead of Print • PsycINFO (Ovid) • Social policy and practice (Ovid) • Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Database of Abstracts of Reviews of Effect (DARE) • EconLit (Ovid) – economic searches only • NHSEED (CRD) - economic searches only **Supplementary search techniques** • Studies published from 1st January 1990 to present day. • A supplementary search of ERIC database was performed using terms relating to looked after children and education. **Limits** • Studies reported in English • No study design filters will be applied • Animal studies will be excluded • Conference abstracts/proceedings will be excluded. • For economic searches, the Cost Utility, Economic Evaluations and Quality of Life filters will be applied. The full search strategies for MEDLINE database will be published in the final review. For each search the Information Services team at NICE will quality assure the principal database search strategy and peer review the strategies for the other databases using an adaptation of the PRESS 2015 Guideline Evidence-Based Checklist

5.	Condition or domain being studied	This review concerns the readiness for school of looked after children and young people who are nearing entry into a new educational placement.
6.	Population	Looked after children and young people (wherever they are looked after) from birth until secondary school age who are nearing entry into a new educational placement. Including: • Children and young people who are looked after on a planned, temporary basis for short breaks or respite care purposes, only if the Children Act 1989 (section 20) applies and the child or young person is temporarily classed as looked after. • Children and young people living at home with birth parents but under a full or interim local authority care order and are subject to looked-after children and young people processes and statutory duties. • Children and young people in a prospective adoptive placement. • Children and young people preparing to leave care. • Looked-after children and young people on remand, detained in secure youth custody and those serving community orders.
7.	Intervention	Health and social care interventions and approaches to support readiness for school in looked-after children and young people, prior to, or during entry into pre-school, primary school, or secondary school education. Example interventions and approaches of interest include: • Interventions to promote readiness for pre-school (early years) education • Interventions to promote readiness for primary school • Interventions to promote readiness for secondary school • Interventions to promote positive relationships (as relates to their impact on educational outcomes)

		• Transition programmes • Teacher-delivered and carer-delivered interventions • School-based and home-based interventions • Tutoring programmes • Coaching and mentoring • Other pedagogical interventions (e.g. ready for school packages, such as “Letterbox”)
8.	Comparator	<u>Quantitative evidence</u> Comparator could include standard care, waiting list, or another approach to support readiness for school in looked-after children, young people <u>Qualitative evidence</u> Not applicable
9.	Types of study to be included	<u>Quantitative evidence</u> • Systematic reviews of included study designs • Randomised controlled trials If insufficient evidence, progress to non-randomised prospective controlled study designs If insufficient evidence, progress to non-randomised, non-prospective, controlled study designs (for example, retrospective cohort studies, case control studies, uncontrolled before and after studies, and interrupted time series) <u>Qualitative evidence</u> Including focus groups and interview-based studies (mixed-methods studies will also be included provided they contain relevant qualitative data). Must be related to acceptability, accessibility of interventions or other barriers to and facilitators for their effectiveness to support readiness for school.

10.	Other exclusion criteria	• Studies including mixed populations (i.e. looked after and non-looked after children) without reporting results separately for LACYP • Strategies, policies, system structure and the delivery of care that is covered in statutory guidance about looked after children and young people <u>Quantitative evidence exclusions</u> • Countries outside of the UK (unless not enough evidence, then progress to OECD countries) • Studies older than the year 2000 (unless not enough evidence, then progress to include studies between 1990 to current) <u>Qualitative evidence exclusions</u> • Mixed-methods studies reporting qualitative data that cannot be distinguished from quantitative data. • Countries outside of the UK (unless evidence concerns an intervention which has been shown to be effective in reviewed quantitative evidence) • Studies older than the year 2010 (unless not enough evidence, then progress to include studies between 1990 to current)
11.	Context	This review is for part of an updated NICE guideline for looked-after children and young people. In 2017, 56.3% of looked-after children had a special educational need, compared with 45.9% of children in need and 14.4% of all children. At key stage 2, 32% of looked-after children and young people reached the expected standard in reading, writing and maths (compared with 61% of those who were not looked after). In 2016, 0.10% of looked-after children were permanently excluded from school, compared to 0.08% of all children. Improving readiness for school may improve educational outcomes for LACYP. Local authorities have a duty to support looked-after children and young people. This includes providing individual care plans covering for educational needs.

12.	Primary outcomes (critical outcomes)	<u>Quantitative outcomes</u> • Preschool developmental progress (e.g. achieving age-appropriate "good level of development" (GLD)) • Educational outcomes (academic skills; academic achievement; grade achievement; homework completion; school attendance) • Adverse events (school absence, school exclusion or suspension) • Behavioural, cognitive, and social functioning at school • Knowledge and beliefs about school and education <u>Qualitative outcomes</u> • Qualitative evidence related to interventions to support readiness for school will be examined. Evidence should relate to the views of looked after children, their carers, and providers who would deliver eligible interventions on: o The accessibility and acceptability of the intervention, including information about the source and type of intervention used. o Barriers to and facilitators for intervention effectiveness in supporting readiness for school.
13.	Secondary outcomes (important outcomes)	None
14.	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into EPPI reviewer and de-duplicated. 10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4).

		Study investigators may be contacted for missing data where time and resources allow.
15.	Risk of bias (quality) assessment	Risk of bias and/or methodological quality will be assessed using the preferred checklist for each study type as described in Developing NICE guidelines: the manual. The risk of bias across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group http://www.gradeworkinggroup.org/ GRADE and GRADE CERQual will be used to assess confidence in the findings from quantitative and qualitative evidence synthesis respectively.
16.	Strategy for data synthesis	Quantitative data Meta-analyses of interventional data will be conducted with reference to the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al. 2011). Fixed- and random-effects models (der Simonian and Laird) will be fitted for all syntheses, with the presented analysis dependent on the degree of heterogeneity in the assembled evidence. Fixed-effects models will be the preferred choice to report, but in situations where the assumption of a shared mean for fixed-effects model is clearly not met, even after appropriate pre-specified subgroup analyses is conducted, random-effects results are presented. Fixed-effects models are deemed to be inappropriate if one or both of the following conditions was met: • Significant between study heterogeneity in methodology, population, intervention or comparator was identified by the reviewer in advance of data analysis. • The presence of significant statistical heterogeneity in the meta-analysis, defined as $I^2 \geq 50\%$.

		• Meta-analyses will be performed in Cochrane Review Manager V5.3 If the studies are found to be too heterogeneous to be pooled statistically, a simple recounting and description of findings (a narrative synthesis) will be conducted. <u>Qualitative data</u> Information from qualitative studies will be combined using a thematic synthesis. By examining the findings of each included study, descriptive themes will be independently identified and coded in NVivo v.11. The qualitative synthesis will interrogate these 'descriptive themes' to develop 'analytical themes', using the theoretical framework derived from overarching qualitative review questions. Themes will also be organised at the level of recipients of care and providers of care. <u>Evidence integration</u> A segregated and contingent approach will be undertaken, with sequential synthesis. Quantitative and qualitative data will be analysed and presented separately. For non-UK evidence, the data collection and analysis of qualitative data will occur after and be informed by the collection and analysis of quantitative effectiveness data. Following this, all qualitative and quantitative data will be integrated using tables and matrices. By intervention, qualitative analytical themes will be presented next to quantitative effectiveness data. Data will be compared for similarities and incongruence with supporting explanatory quotes where possible.
17.	Analysis of sub-groups	Results will be stratified by the following subgroups where possible. In addition, for quantitative synthesis where there is heterogeneity, subgroup analysis will be undertaken using the following subgroups.

		Age of LACYP: • LACYP going into early years education • LACYP going into primary education • LACYP going into secondary education and further education until age 18 Subgroups, of specific consideration, will include: • Looked-after children on remand • Looked-after children in secure settings • LACYP who are outside of mainstream education (e.g. off-roll or in pupil referral units) • Looked-after children and young people with mental health and emotional wellbeing needs • Looked-after children and young people who are unaccompanied children seeking asylum or are refugees • Looked-after children and young people who are at risk or victims of exploitation (including female genital mutilation) and trafficking • Looked-after children and young people who are teenage and young parents in care • Looked-after children and young people with disabilities; speech, language and communication needs; special education needs or behaviour that challenges. • Looked-after children and young people who are placed out of area • Looked-after children and young people who are LGBTQ
18.	Type and method of review	☐ Intervention ☐ Diagnostic ☐ Prognostic ☐ Qualitative

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☐ Service Delivery
☒ Other (please specify): mixed methods review</td></tr>
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<tr><td>21.</td><td>Anticipated or actual start date</td><td>[For the purposes of PROSPERO, the date of commencement for the systematic review can be defined as any point after completion of a protocol but before formal screening of the identified studies against the eligibility criteria begins.
A protocol can be deemed complete after sign-off by the NICE team with responsibility for quality assurance.]</td></tr>
<tr><td>22.</td><td>Anticipated completion date</td><td>[Give the date by which the guideline is expected to be published. This field may be edited at any time. All edits will appear in the record audit trail. A brief explanation of the reason for changes should be given in the Revision Notes facility.]</td></tr>
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<tr><td>Preliminary searches</td><td>☐</td><td>☐</td></tr>
<tr><td>Piloting of the study selection process</td><td>☐</td><td>☐</td></tr>
<tr><td>Formal screening of search results against eligibility criteria</td><td>☐</td><td>☐</td></tr>
<tr><td>Data extraction</td><td>☐</td><td>☐</td></tr>
<tr><td>Risk of bias (quality) assessment</td><td>☐</td><td>☐</td></tr>
<tr><td>Data analysis</td><td>☐</td><td>☐</td></tr>
</table></td></tr>
<tr><td>24.</td><td>Named contact</td><td>5a. Named contact
[Give development centre name]

5b Named contact e-mail</td></tr>
</table>

		[Guideline email]@nice.org.uk [Developer to check with Guideline Coordinator for email address] **5e Organisational affiliation of the review** National Institute for Health and Care Excellence (NICE)
25.	Review team members	From the Guideline Updates Team: • Caroline Mulvihill • Stephen Duffield • Bernadette Li • Rui Martins
26.	Funding sources/sponsor	This systematic review is being completed by the Guideline Updates Team, which is part of NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: [NICE guideline webpage].
29.	Other registration details	[Give the name of any organisation where the systematic review title or protocol is registered (such as with The Campbell Collaboration, or The Joanna Briggs Institute) together with any

		unique identification number assigned. If extracted data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.]
30.	Reference/URL for published protocol	[Give the citation and link for the published protocol, if there is one.]
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: • notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts • issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE. [Add in any additional agree dissemination plans.]
32.	Keywords	Looked after children, looked after young people, education, readiness for school, interventions, systematic review
33.	Details of existing review of same topic by same authors	[Give details of earlier versions of the systematic review if an update of an existing review is being registered, including full bibliographic reference if possible. NOTE: most NICE reviews will not constitute an update in PROSPERO language. To be an update it needs to be the same review question/search/methodology. If anything has changed it is a new review]
34.	Current review status	☐ Ongoing ☐ Completed but not published ☐ Completed and published ☐ Completed, published and being updated ☐ Discontinued
35..	Additional information	[Provide any other information the review team feel is relevant to the registration of the review.]

36.	Details of final publication	www.nice.org.uk

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Appendix B – Literature search strategies

Effectiveness searches

Bibliographic databases searched for the guideline:

- Cochrane Database of Systematic Reviews – CDSR (Wiley)
- Cochrane Central Register of Controlled Trials – CENTRAL (Wiley)
- Database of Abstracts of Reviews of Effects – DARE (CDSR)
- PsycINFO (Ovid)
- EMBASE (Ovid)
- MEDLINE (Ovid)
- MEDLINE Epub Ahead of Print (Ovid)
- MEDLINE In-Process (Ovid)
- Social policy and practice (Ovid)
- ERIC (ProQuest)

A NICE information specialist conducted the literature searches for the evidence review. The searches were originally run in June 2019 with an additional search of the ERIC database in October 2019.

Searches were run on population only and the results were sifted for each review question (RQ). The searches were rerun on all databases reported above in July 2020 and again in October 2020.

The principal search strategy was developed in MEDLINE (Ovid interface) and adapted, as appropriate, for use in the other sources listed in the protocol, taking into account their size, search functionality and subject coverage.

The MEDLINE strategy below was quality assured (QA) by trained NICE information specialist. All translated search strategies were peer reviewed to ensure their accuracy. Both procedures were adapted from the 2016 PRESS Checklist. The translated search strategies are available in the evidence reviews for the guideline.

The search results were managed in EPPI-Reviewer v5. Duplicates were removed in EPPI-R5 using a two-step process. First, automated deduplication is performed using a high-value algorithm. Second, manual deduplication is used to assess 'low-probability' matches. All decisions made for the review can be accessed via the deduplication history.

English language limits were applied in adherence to standard NICE practice and the review protocol.

A date limit of 1990 was applied to align with the approximate advent of the Children Act 1989.

The limit to remove animal studies in the searches was the standard NICE practice, which has been adapted from: Dickersin, K., Scherer, R., & Lefebvre, C. (1994). Systematic Reviews: Identifying relevant studies for systematic reviews. *BMJ*, 309(6964), 1286.

No study design filters were applied, in adherence to the review protocol.

Table 1: search strategy

Medline Strategy, searched 10th June 2019 **Database: Ovid MEDLINE(R) 1946 to June 10, 2019** **Search Strategy:**
1 child, orphaned/ (659)
2 child, foster/ (71)
3 child, adopted/ (46)
4 adolescent, institutionalized/ (126)
5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (123)
6 ("care leaver*" or "leaving care").tw. (31)

Medline Strategy, searched 10th June 2019
Database: Ovid MEDLINE(R) 1946 to June 10, 2019
Search Strategy:

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (236)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (111)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (74)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (2973)

11 "ward of court*".tw. (12)

12 or/1-11 (4225)

13 residential facilities/ (5286)

14 group homes/ (948)

15 halfway houses/ (1051)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1131)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (6595)

Medline Strategy, searched 10th June 2019 **Database: Ovid MEDLINE(R) 1946 to June 10, 2019** **Search Strategy:**
18 or/13-17 (13612)
19 orphanages/ (435)
20 adoption/ (4727)
21 foster home care/ (3503)
22 (special adj1 guardian*).tw. (7)
23 ((placement* or foster*) adj2 (care* or family or families)).tw. (3144)
24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (279)
25 or/19-24 (9589)
26 exp Infant/ or Infant Health/ or Infant Welfare/ (1098738)
27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (811620)
28 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (1838706)
29 Minors/ (2505)
30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (2212038)

Medline Strategy, searched 10th June 2019 **Database: Ovid MEDLINE(R) 1946 to June 10, 2019** **Search Strategy:**
31 exp pediatrics/ (55350)
32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (768069)
33 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (1937435)
34 Puberty/ (12990)
35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (393509)
36 Schools/ (35128)
37 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (8591)
38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (440583)
39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (3651)
40 or/26-39 (4935665)
41 18 and 40 (4519)
42 12 or 25 or 41 (15912)
43 animals/ not humans/ (4554892)

Medline Strategy, searched 10th June 2019 **Database: Ovid MEDLINE(R) 1946 to June 10, 2019** **Search Strategy:**
44 42 not 43 (15801)
45 limit 44 to english language (14199)
46 limit 45 to ed=19900101-20190606 (11059)
No study design filters were used for the search strategy

Cost-effectiveness searches

Sources searched:

- Econlit (Ovid)
- Embase (Ovid)
- MEDLINE (Ovid)
- MEDLINE In-Process (Ovid)
- PsycINFO (Ovid)
- NHS EED (Wiley)

Search filters to retrieve cost utility, economic evaluations and quality of life papers were appended to the MEDLINE, Embase and PsycINFO searches reported above. The searches were conducted in July 2019. The searches were re-run in October 2020.

Databases	Date searched	Version/files	No. retrieved with CU filter	No retrieved with Econ Eval and QoL filters	No. retrieved with Econ Eval and QoL filters and NOT out CU results
EconLit (Ovid)	09/07/2019	1886 to June 27, 2019	176 (no filter)	Not run again	Not run again
NHS Economic Evaluation Database (NHS EED) (legacy database)	09/07/2019	09/07/2019	105 (no filter)	Not run again	Not run again
Embase (Ovid)	09/07/2019 15/07/2019	1946 to July 08, 2019 1988 to 2019 Week 28	307	2228	1908
MEDLINE (Ovid)	09/07/2019 15/07/2019	1946 to July 08, 2019 1946 to July 12, 2019	269	1136	1135
MEDLINE In-Process (Ovid)	09/07/2019 15/07/2019	1946 to July 08, 2019 1946 to July 12, 2019	6	122	93
MEDLINE Epub Ahead of Print	09/07/2019 15/07/2019	July 08, 2019 July 12, 2019	12	38	29
PsycINFO (Ovid)	09/07/2019 15/07/2019	1987 to July Week 1 2019 1987 to July Week 2 2019	265	Not searched for econ eval and QoL results	Not searched for econ eval and QoL results

Search strategies: Cost Utility filter
Database: PsycINFO <1987 to July Week 1 2019> Search Strategy:

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1 Foster children/ (1566)

2 Adopted children/ (1578)

3 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (433)

4 ("care leaver*" or "leaving care").tw. (282)

5 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (772)

6 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (309)

7 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (142)

8 "ward of court*".tw. (0)

9 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (1638)

10 or/1-9 (6348)

11 group homes/ (884)

12 halfway houses/ (114)

13 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1917)

14 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (8380)

15 or/11-14 (10954)

16 orphanages/ (301)

17 adoption/ (2693)

18 foster home care/ (0)

19 (special adj1 guardian*).tw. (5)

20 ((placement* or foster*) adj2 (care* or family or families)).tw. (7275)

21 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (790)

22 or/16-21 (10189)

23 exp Infant/ or Infant Health/ or Infant Welfare/ (0)

24 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (119577)

25 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (8166)

26 Minors/ (0)

27 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (762095)

28 exp pediatrics/ (26284)

29 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (71640)

30 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (1874)

31 Puberty/ (2287)

32 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (291098)

33 Schools/ (25726)

34 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (0)

35 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (578348)

36 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (811)

37 or/23-36 (1281612)

38 15 and 37 (5647)

39 10 or 22 or 38 (18267)

40 animals/ not humans/ (4267)

41 39 not 40 (18266)

42 limit 41 to english language (17063)

43 (1990* or 1991* or 1992* or 1993* or 1994* 1995* or 1996* or 1997* or 1998* or 1999* or 2000* or 2001* or 2002* or 2003* or 2004* or 2005* or 2006* or 2007* or 2008* or 2009* or 2010* or 2011* or 2012* or 2013* or 2014* or 2015* or 2016* or 2017* or 2018* or 2019*).up. (3398945)

44 42 and 43 (16072)

45 Markov chains/ (1336)

46 ((qualit* adj2 adjust* adj2 life*) or qaly*).tw. (1638)

47 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (1711)

48 "Costs and Cost Analysis"/ (14750)

49 cost.ti. (7067)

50 (cost* adj2 utilit*).tw. (745)

51 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (29345)

52 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (7025)

53 ((incremental* adj2 cost*) or ICER).tw. (1058)

54 utilities.tw. (1742)

55 markov*.tw. (3797)

56 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (8371)

57 ((utility or effective*) adj2 analys*).tw. (2844)

58 (willing* adj2 pay*).tw. (2253)

59 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 (60767)

60 44 and 59 (265)

Database: Ovid MEDLINE(R) <1946 to July 08, 2019>

(line 65)

Search Strategy:

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1 child, orphaned/ (661)

2 child, foster/ (74)

3 child, adopted/ (48)

4 adolescent, institutionalized/ (126)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (123)

6 ("care leaver*" or "leaving care").tw. (32)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (240)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (111)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (74)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (2986)

11 "ward of court*".tw. (12)

12 or/1-11 (4244)

13 residential facilities/ (5299)

14 group homes/ (950)

15 halfway houses/ (1052)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1136)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (6631)

18 or/13-17 (13661)

19 orphanages/ (436)

20 adoption/ (4728)

21 foster home care/ (3508)

22 (special adj1 guardian*).tw. (7)

23 ((placement* or foster*) adj2 (care* or family or families)).tw. (3156)

24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (282)

25 or/19-24 (9605)

26 exp Infant/ or Infant Health/ or Infant Welfare/ (1101046)

27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (813997)

28 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (1843400)

29 Minors/ (2509)

30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (2221342)

31 exp pediatrics/ (55492)

32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (771944)

33 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (1942946)

34 Puberty/ (13005)

35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (395382)

36 Schools/ (35299)

37 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (8611)

38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (442260)

39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (3665)

40 or/26-39 (4951548)

41 18 and 40 (4537)

42 12 or 25 or 41 (15959)

43 animals/ not humans/ (4563292)

44 42 not 43 (15848)

45 limit 44 to english language (14243)

46 limit 45 to ed=19900101-20190606 (11059)

47 limit 45 to dt=19900101-20190611 (10685)

48 Markov Chains/ (13500)

49 Quality-Adjusted Life Years/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (15718)

50 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (6545)

51 Cost-Benefit Analysis/ (77012)

52 exp Models, Economic/ (14227)

53 cost.ti. (60952)

54 (cost* adj2 utilit*).tw. (4392)

55 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (162969)

56 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (26515)

57 ((incremental* adj2 cost*) or ICER).tw. (10100)

58 utilities.tw. (5428)

59 markov*.tw. (16739)

60 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (36613)

61 ((utility or effective*) adj2 analys*).tw. (14480)

62 (willing* adj2 pay*).tw. (4632)

63 or/48-62 (287270)

64 45 and 63 (311)

65 46 and 63 (269)

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <1946 to July 08, 2019>

(Line 66)

Search Strategy:

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1 child, orphaned/ (0)

2 child, foster/ (0)

3 child, adopted/ (0)

4 adolescent, institutionalized/ (0)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (17)

6 ("care leaver*" or "leaving care").tw. (6)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (45)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (18)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (4)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (361)

11 "ward of court*".tw. (0)

12 or/1-11 (443)

13 residential facilities/ (0)

14 group homes/ (0)

15 halfway houses/ (0)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (122)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (785)

18 or/13-17 (897)

19 orphanages/ (0)

20 adoption/ (0)

21 foster home care/ (0)

22 (special adj1 guardian*).tw. (0)

23 ((placement* or foster*) adj2 (care* or family or families)).tw. (367)

24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (31)

25 or/20-24 (391)

26 exp Infant/ or Infant Health/ or Infant Welfare/ (0)

27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (71122)

28 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (0)

29 Minors/ (0)

30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (282655)

31 exp pediatrics/ (0)

32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (105594)

33 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (0)

34 Puberty/ (0)

35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (52576)

36 Schools/ (0)

37 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (0)

38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (61256)

39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (516)

40 or/26-39 (410151)

41 18 and 40 (260)

42 12 or 25 or 41 (962)

43 animals/ not humans/ (0)

44 42 not 43 (962)

45 limit 44 to english language (945)

46 limit 45 to ed=19900101-20190606 (256)

47 limit 45 to dt=19900101-20190611 (916)

48 Markov Chains/ (0)

49 Quality-Adjusted Life Years/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (1713)

50 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (1364)

51 Cost-Benefit Analysis/ (0)

52 exp Models, Economic/ (0)

53 cost.ti. (9867)

54 (cost* adj2 utilit*).tw. (767)

55 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (29070)

56 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (4431)

57 ((incremental* adj2 cost*) or ICER).tw. (1607)

58 utilities.tw. (947)

59 markov*.tw. (4984)

60 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (4280)

61 ((utility or effective*) adj2 analys*).tw. (2504)

62 (willing* adj2 pay*).tw. (911)

63 or/48-62 (45705)

64 45 and 63 (28)

65 46 and 63 (6)

66 47 and 63 (27)

Database: Ovid MEDLINE(R) Epub Ahead of Print <July 08, 2019>

(Line 64)

Search Strategy:

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1 child, orphaned/ (0)

2 child, foster/ (0)

3 child, adopted/ (0)

4 adolescent, institutionalized/ (0)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (8)

6 ("care leaver*" or "leaving care").tw. (5)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (13)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (8)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (3)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (170)

11 "ward of court*".tw. (0)

12 or/1-11 (198)

13 residential facilities/ (0)

14 group homes/ (0)

15 halfway houses/ (0)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (60)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (232)

18 or/13-17 (288)

19 orphanages/ (0)

20 adoption/ (0)

21 foster home care/ (0)

22 (special adj1 guardian*).tw. (0)

23 ((placement* or foster*) adj2 (care* or family or families)).tw. (185)

24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (11)

25 or/20-24 (191)

26 exp Infant/ or Infant Health/ or Infant Welfare/ (0)

27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (14304)

28 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (0)

29 Minors/ (0)

30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (49388)

31 exp pediatrics/ (0)

32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (19442)

33 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (0)

34 Puberty/ (0)

35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (12671)

36 Schools/ (0)

37 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (0)

38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (11661)

39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (95)

40 or/26-39 (72744)

41 18 and 40 (102)

42 12 or 25 or 41 (409)

43 animals/ not humans/ (0)

44 42 not 43 (409)

45 limit 44 to english language (407)

46 limit 45 to ed=19900101-20190606 (0)

47 limit 45 to dt=19900101-20190611 (382)

48 Markov Chains/ (0)

49 Quality-Adjusted Life Years/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (419)

50 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (316)

51 Cost-Benefit Analysis/ (0)

52 exp Models, Economic/ (0)

53 cost.ti. (1350)

54 (cost* adj2 utilit*).tw. (162)

55 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (4696)

56 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (838)

57 ((incremental* adj2 cost*) or ICER).tw. (342)

58 utilities.tw. (155)

59 markov*.tw. (807)

60 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (712)

61 ((utility or effective*) adj2 analys*).tw. (482)

62 (willing* adj2 pay*).tw. (178)

63 or/48-62 (7346)

64 45 and 63 (12)

Database: Embase <1988 to 2019 Week 27>

Search Strategy:

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1 orphaned child/ (606)

2 foster child/ (72)

3 adopted child/ (507)

4 institutionalized adolescent/ (16)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (239)

6 ("care leaver*" or "leaving care").tw. (60)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (328)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (137)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (66)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (3301)

11 "ward of court*".tw. (13)

12 or/1-11 (4918)

13 residential home/ (5797)

14 halfway house/ (616)

15 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1546)

16 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (8776)

17 or/13-16 (15272)

18 orphanage/ (851)

19 foster care/ (3851)

20 (special adj1 guardian*).tw. (7)

21 ((placement* or foster*) adj2 (care* or family or families)).tw. (4024)

22 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (359)

23 *adoption/ (2710)

24 or/18-23 (6865)

25 exp juvenile/ or Child Behavior/ or Child Welfare/ or Child Health/ or infant welfare/ or "minor (person)"/ or elementary student/ (2784798)

26 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,ad,jw. (990094)

27 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,ad,jw. (3070275)

28 exp pediatrics/ (89360)

29 (pediatric* or paediatric* or peadiatric*).ti,ab,in,ad,jw. (1438284)

30 exp adolescence/ or exp adolescent behavior/ or adolescent health/ or high school student/ or middle school student/ (88098)

31 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,ad,jw. (568613)

32 school/ or high school/ or kindergarten/ or middle school/ or primary school/ or nursery school/ or day care/ (91653)

33 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jw. (588621)

34 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (6349)

35 or/25-34 (5334085)

36 17 and 35 (5115)

37 24 and 35 (5358)

38 12 or 24 or 36 or 37 (14911)

39 nonhuman/ not human/ (3937063)

40 38 not 39 (14760)

41 (letter or editorial).pt. (1540594)

42 (conference abstract or conference paper or conference proceeding or "conference review").pt. (4222564)

43 41 or 42 (5763158)

44 40 not 43 (12196)

45 limit 44 to dc=19900101-20190606 (11884)

46 limit 45 to english language (11023)

47 Markov chain/ (4090)

48 quality adjusted life year/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (30409)

49 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (15875)

50 "cost benefit analysis"/ (76518)

51 exp economic model/ (1504)

52 cost.ti. (88995)

53 (cost* adj2 utilit*).tw. (8688)

54 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (264435)

55 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (44462)

56 ((incremental* adj2 cost*) or ICER).tw. (20797)

57 utilities.tw. (10291)

58 markov*.tw. (26990)

59 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (49359)

60 ((utility or effective*) adj2 analys*).tw. (25580)

61 (willing* adj2 pay*).tw. (8767)

62 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 (437018)

63 46 and 62 (307)

64 (conference abstract or conference paper or conference proceeding or "conference review" or letter or editorial).pt. (5763158)

65 63 not 64 (307)

Database: Econlit <1886 to June 27, 2019>

Search Strategy:

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1 [child, orphaned/] (0)

2 [child, foster/] (0)

3 [child, adopted/] (0)

4 [adolescent, institutionalized/] (0)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (3)

6 ("care leaver*" or "leaving care").tw. (2)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (15)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (34)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (6)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (111)

11 "ward of court*".tw. (0)

12 or/1-11 (163)

13 [residential facilities/] (0)

14 [group homes/] (0)

15 [halfway houses/] (0)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (42)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (208)

18 or/13-17 (250)

19 [orphanages/] (0)

20 [adoption/] (0)

21 [foster home care/] (0)

22 (special adj1 guardian*).tw. (0)

23 ((placement* or foster*) adj2 (care* or family or families)).tw. (154)

24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (23)

25 or/20-24 (172)

26 [exp Infant/ or Infant Health/ or Infant Welfare/] (0)

27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (5404)

28 [exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/] (0)

29 [Minors/] (0)

30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (45263)

31 [exp pediatrics/] (0)

32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (168)

33 [Adolescent/ or Adolescent Behavior/ or Adolescent Health/] (0)

34 [Puberty/] (0)

35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (8812)

36 [Schools/] (0)

37 [Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/] (0)

38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (47608)

39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (56)

40 or/26-39 (91121)

41 18 and 40 (71)

42 12 or 25 or 41 (359)

43 limit 42 to yr="2009 -Current" (176)

Database: NHSEED (CRD)

1 MeSH DESCRIPTOR Child, Orphaned EXPLODE ALL TREES IN NHSEED 0

2 MeSH DESCRIPTOR Adoption EXPLODE ALL TREES IN NHSEED 3

3 (("looked after" NEAR2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*))) IN NHSEED 0

4 ("care leaver*" or "leaving care") IN NHSEED 0

5 ("in care") IN NHSEED 40

6 ("care experience") IN NHSEED 1

7 (nonparent* or non-parent* or parentless* or parent-less) IN NHSEED 0

8 (relinquish* or estrange*) IN NHSEED 0

9 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*):TI IN NHSEED 22

10 ("ward of court*") IN NHSEED 0

11 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 64

12 (((residential or supported or remand* or secure or correctional) NEAR1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*))) IN NHSEED 88

13 MeSH DESCRIPTOR orphanages EXPLODE ALL TREES IN NHSEED 0

14 (guardian) IN NHSEED 13

15 (((placement* or foster*) NEAR2 (care* or family or families))) IN NHSEED 7

16 (((kinship or nonkinship or non kinship or connected or substitute*) NEAR1 care*)) IN NHSEED 1

17 #13 OR #14 OR #15 OR #16 21

18 (infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler* or child* or minor or minors or boy* or girl* or kid or kids or young* or adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*) IN NHSEED 5275

19 #12 AND #18 23

20 #11 OR #17 OR #19 105

Search strategies: Economic Evaluation and Quality of Life filters

Database: Ovid MEDLINE(R) <1946 to July 12, 2019>

Search Strategy:

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1 child, orphaned/ (664)

2 child, foster/ (74)

3 child, adopted/ (48)

4 adolescent, institutionalized/ (126)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (123)

6 ("care leaver*" or "leaving care").tw. (32)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (240)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (111)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (74)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (2989)

11 "ward of court*".tw. (12)

12 or/1-11 (4249)

13 residential facilities/ (5301)

14 group homes/ (951)

15 halfway houses/ (1052)

16 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1136)

17 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (6640)

18 or/13-17 (13672)

19 orphanages/ (438)

20 adoption/ (4729)

21 foster home care/ (3508)

22 (special adj1 guardian*).tw. (7)

23 ((placement* or foster*) adj2 (care* or family or families)).tw. (3156)

24 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (282)

25 or/19-24 (9924)

26 exp Infant/ or Infant Health/ or Infant Welfare/ (1101512)

27 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,jn. (814530)

28 exp Child/ or exp Child Behavior/ or Child Health/ or Child Welfare/ (1844269)

29 Minors/ (2509)

30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (2223285)

31 exp pediatrics/ (55515)

32 (pediatric* or paediatric* or peadiatric*).ti,ab,in,jn. (772838)

33 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ (1944098)

34 Puberty/ (13005)

35 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,jn. (395763)

36 Schools/ (35334)

37 Child Day Care Centers/ or exp Nurseries/ or Schools, Nursery/ (8611)

38 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jn. (442578)

39 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (3674)

40 or/26-39 (4954893)

41 18 and 40 (4538)

42 12 or 25 or 41 (16193)

43 animals/ not humans/ (4565244)

44 42 not 43 (16082)

45 limit 44 to english language (14416)

46 limit 45 to ed=19900101-20190714 (11278)

47 limit 45 to dt=19900101-20190715 (10852)

48 Markov Chains/ (13507)

49 Quality-Adjusted Life Years/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (15740)

50 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (6562)

51 Cost-Benefit Analysis/ (77068)

52 exp Models, Economic/ (14240)

53 cost.ti. (61003)

54	(cost* adj2 utilit*).tw. (4395)
55	(cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (163128)
56	(economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (26542)
57	((incremental* adj2 cost*) or ICER).tw. (10113)
58	utilities.tw. (5434)
59	markov*.tw. (16747)
60	(dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (36633)
61	((utility or effective*) adj2 analys*).tw. (14500)
62	(willing* adj2 pay*).tw. (4638)
63	or/48-62 (287514)
64	45 and 63 (314)
65	46 and 63 (272)
66	47 and 63 (267)
67	Economics/ (27059)
68	exp "Costs and Cost Analysis"/ (226218)
69	Economics, Dental/ (1906)
70	exp Economics, Hospital/ (23683)
71	exp Economics, Medical/ (14107)
72	Economics, Nursing/ (3986)
73	Economics, Pharmaceutical/ (2868)
74	Budgets/ (11138)

75	exp Models, Economic/ (14240)
76	Markov Chains/ (13507)
77	Monte Carlo Method/ (26889)
78	Decision Trees/ (10615)
79	econom$.tw. (220798)
80	cba.tw. (9569)
81	cea.tw. (19685)
82	cua.tw. (941)
83	markov$.tw. (16747)
84	(monte adj carlo).tw. (28270)
85	(decision adj3 (tree$ or analys$)).tw. (12136)
86	(cost or costs or costing$ or costly or costed).tw. (428019)
87	(price$ or pricing$).tw. (31251)
88	budget$.tw. (22462)
89	expenditure$.tw. (46305)
90	(value adj3 (money or monetary)).tw. (1946)
91	(pharmacoeconomic$ or (pharmaco adj economic$)).tw. (3350)
92	or/67-91 (869079)
93	"Quality of Life"/ (178315)
94	quality of life.tw. (210147)
95	"Value of Life"/ (5653)

96 Quality-Adjusted Life Years/ (11173)

97 quality adjusted life.tw. (9768)

98 (qaly$ or qald$ or qale$ or qtime$).tw. (8028)

99 disability adjusted life.tw. (2374)

100 daly$.tw. (2184)

101 Health Status Indicators/ (22927)

102 (sf36 or sf 36 or short form 36 or shortform 36 or sf thirtysix or sf thirty six or shortform thirtysix or shortform thirty six or short form thirtysix or short form thirty six).tw. (21132)

103 (sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).tw. (1258)

104 (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw. (4470)

105 (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw. (28)

106 (sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).tw. (370)

107 (euroqol or euro qol or eq5d or eq 5d).tw. (7790)

108 (qol or hql or hqol or hrqol).tw. (39934)

109 (hye or hyes).tw. (58)

110 health$ year$ equivalent$.tw. (38)

111 utilit$.tw. (158839)

112 (hui or hui1 or hui2 or hui3).tw. (1208)

113 disutili$.tw. (351)

114 rosser.tw. (82)

115 quality of wellbeing.tw. (11)

116 quality of well-being.tw. (367)

117 qwb.tw. (186)

118 willingness to pay.tw. (3952)

119 standard gamble$.tw. (763)

120 time trade off.tw. (981)

121 time tradeoff.tw. (223)

122 tto.tw. (848)

123 or/93-122 (455927)

124 92 or 123 (1261859)

125 45 and 124 (1599)

126 46 and 124 (1395)

127 47 and 124 (1345)

128 125 not 64 (1300)

129 126 not 65 (1136)

130 127 not 66 (1090)

Database: Embase <1988 to 2019 Week 28>

Search Strategy:

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1 orphaned child/ (608)

2 foster child/ (73)

3 adopted child/ (510)

4 institutionalized adolescent/ (16)

5 ("looked after" adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (239)

6 ("care leaver*" or "leaving care").tw. (60)

7 (("in care" or "care experience*") adj1 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (328)

8 ((nonparent* or non-parent* or parentless* or parent-less) adj3 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (137)

9 ((relinquish* or estrange*) adj2 (juvenile* or child* or adolescen* or toddler* or infant* or infancy* or teen* or tween* or young* or baby* or babies* or twin* or sibling* or youth*)).tw. (66)

10 ((child* or infancy or adolescen* or juvenile* or toddler* or infant* or teen* or tween* or young* or baby or babies or twin* or sibling* or youth*) adj2 (orphan* or foster* or adopt* or abandon* or unwanted or unaccompanied or homeless or asylum* or refugee*)).ti. (3308)

11 "ward of court*".tw. (13)

12 or/1-11 (4928)

13 residential home/ (5806)

14 halfway house/ (618)

15 (("out of home" or " out-of-home" or placement* or "semi independent" or "semi-independent") adj2 care*).tw. (1548)

16 ((residential or supported or remand* or secure or correctional) adj1 (accommodation* or institut* or care or lodging or home* or centre* or center* or facilit*)).tw. (8794)

17 or/13-16 (15298)

18 orphanage/ (851)

19 foster care/ (3854)

20 (special adj1 guardian*).tw. (7)

21 ((placement* or foster*) adj2 (care* or family or families)).tw. (4029)

22 ((kinship or nonkinship or non kinship or connected or substitute*) adj1 care*).tw. (360)

23 *adoption/ (2704)

24 or/18-23 (9315)

25 exp juvenile/ or Child Behavior/ or Child Welfare/ or Child Health/ or infant welfare/ or "minor (person)"/ or elementary student/ (2788952)

26 (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*).ti,ab,in,ad,jw. (991635)

27 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,ad,jw. (3075545)

28 exp pediatrics/ (89475)

29 (pediatric* or paediatric* or peadiatric*).ti,ab,in,ad,jw. (1440596)

30 exp adolescence/ or exp adolescent behavior/ or adolescent health/ or high school student/ or middle school student/ (88253)

31 (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*).ti,ab,in,ad,jw. (569652)

32 school/ or high school/ or kindergarten/ or middle school/ or primary school/ or nursery school/ or day care/ (91782)

33 (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*).ti,ab,jw. (589614)

34 ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*").ti,ab. (6369)

35 or/25-34 (5342804)

36 17 and 35 (5123)

37 24 and 35 (6834)

38 12 or 24 or 36 or 37 (16935)

39 nonhuman/ not human/ (3943285)

40 38 not 39 (16745)

41 (letter or editorial).pt. (1542836)

42 (conference abstract or conference paper or conference proceeding or "conference review").pt. (4231963)

43 41 or 42 (5774799)

44 40 not 43 (13711)

45 limit 44 to dc=19900101-20190606 (13274)

46 limit 45 to english language (12254)

47 Markov chain/ (4122)

48 quality adjusted life year/ or (qualit* adj2 adjust* adj2 life*).tw. or qaly*.tw. (30497)

49 (EQ5D* or EQ-5D* or ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)) or (european* adj2 quality adj3 ("5" or five))).tw. (15926)

50 "cost benefit analysis"/ (76622)

51 exp economic model/ (1511)

52 cost.ti. (89185)

53 (cost* adj2 utilit*).tw. (8710)

54 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (264961)

55 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (44536)

56 ((incremental* adj2 cost*) or ICER).tw. (20854)

57 utilities.tw. (10311)

58 markov*.tw. (27064)

59 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (49454)

60 ((utility or effective*) adj2 analys*).tw. (25652)

61 (willing* adj2 pay*).tw. (8797)

62 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 (437885)

63	46 and 62 (336)
64	exp Health Economics/ (754904)
65	exp "Health Care Cost"/ (271264)
66	exp Pharmacoeconomics/ (183070)
67	Monte Carlo Method/ (36411)
68	Decision Tree/ (11234)
69	econom$.tw. (313756)
70	cba.tw. (8890)
71	cea.tw. (29221)
72	cua.tw. (1304)
73	markov$.tw. (27064)
74	(monte adj carlo).tw. (42778)
75	(decision adj3 (tree$ or analys$)).tw. (20246)
76	(cost or costs or costing$ or costly or costed).tw. (667335)
77	(price$ or pricing$).tw. (48966)
78	budget$.tw. (32761)
79	expenditure$.tw. (65082)
80	(value adj3 (money or monetary)).tw. (3103)
81	(pharmacoeconomic$ or (pharmaco adj economic$)).tw. (8274)
82	or/64-81 (1524839)
83	"Quality of Life"/ (429148)

84 Quality Adjusted Life Year/ (24150)

85 Quality of Life Index/ (2640)

86 Short Form 36/ (26202)

87 Health Status/ (117486)

88 quality of life.tw. (394895)

89 quality adjusted life.tw. (17693)

90 (qaly$ or qald$ or qale$ or qtime$).tw. (18129)

91 disability adjusted life.tw. (3574)

92 daly$.tw. (3505)

93 (sf36 or sf 36 or short form 36 or shortform 36 or sf thirtysix or sf thirty six or shortform thirtysix or shortform thirty six or short form thirtysix or short form thirty six).tw. (38927)

94 (sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).tw. (1902)

95 (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw. (8636)

96 (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw. (51)

97 (sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).tw. (403)

98 (euroqol or euro qol or eq5d or eq 5d).tw. (18036)

99 (qol or hql or hqol or hrqol).tw. (87193)

100 (hye or hyes).tw. (123)

101 health$ year$ equivalent$.tw. (41)

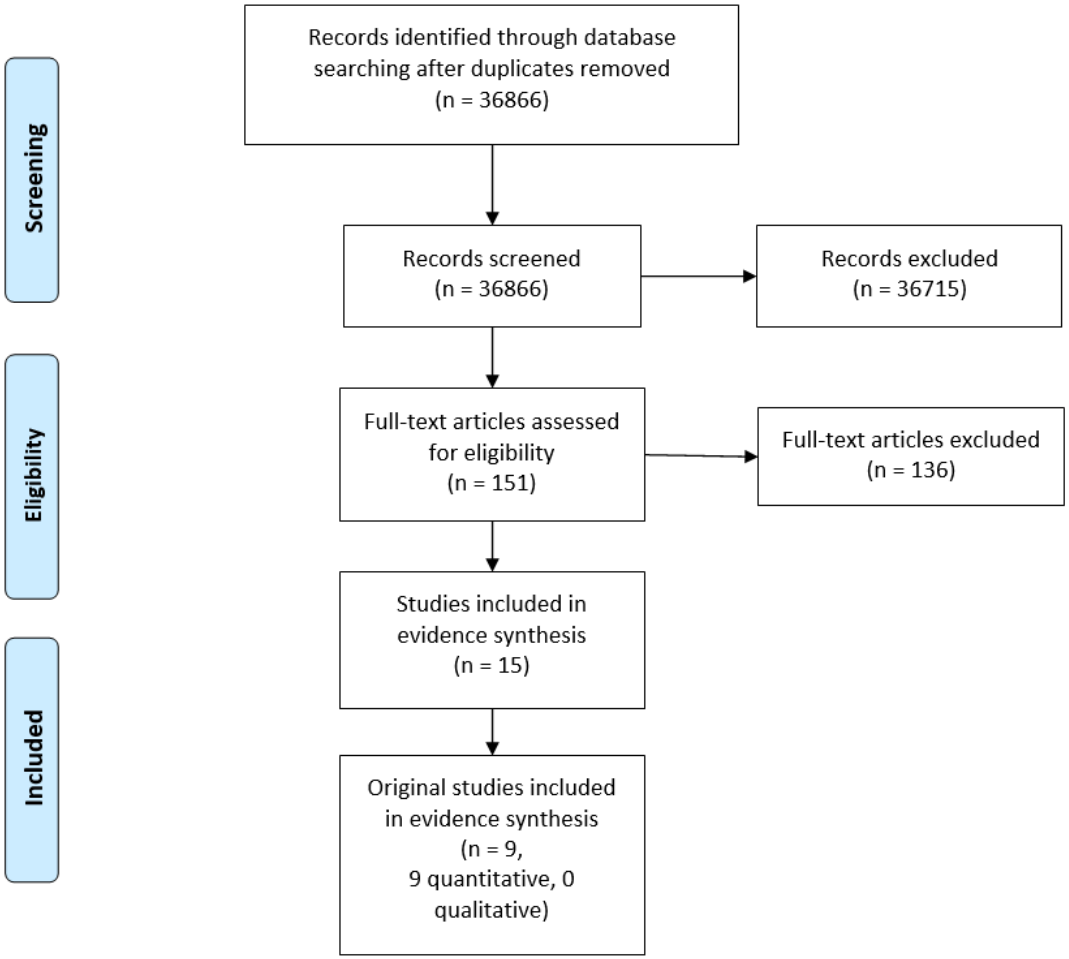
102 utilit$.tw. (256882)

103 (hui or hui1 or hui2 or hui3).tw. (2074)

104 disutili$.tw. (837)

105	rosser.tw. (116)
106	quality of wellbeing.tw. (38)
107	quality of well-being.tw. (464)
108	qwb.tw. (234)
109	willingness to pay.tw. (7664)
110	standard gamble$.tw. (1054)
111	time trade off.tw. (1611)
112	time tradeoff.tw. (279)
113	tto.tw. (1529)
114	or/83-113 (891635)
115	82 or 114 (2273922)
116	46 and 115 (2228)
117	116 not 63 (1908)

Appendix C – Effectiveness evidence study selection



Appendix D – Effectiveness evidence

Quantitative studies

Bernard 2017

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Preschool-age follow up of a randomised clinical trial of ABC, delivered in the homes of foster families. At the time of follow up many participants had been adopted (48%), still in foster care (36.5%), or returned to their birth parents (17.3%).
Study dates	Not reported
Duration of follow-up	Approximately two years (when participants were three years old). In the randomised controlled trial from which these results were taken. Children were assessed approximately 1 month after the intervention and annually thereafter. This study reports results from the 3-year old assessment visit.
Sources of funding	National Institute of Mental Health
Inclusion criteria	Age infant-aged Care setting Referred by foster care agencies
Sample size	52
Split between study groups	24 participants received the ABC intervention, 28 received the DEF intervention
Loss to follow-up	None reported

% Female	56%
Mean age (SD)	mean 39.52 ± 2.98 months
Condition specific characteristics	Type of care All participants were referred from foster agencies. At 2-year follow up 48.1% were adopted, 17.3% were living with birth parents, 19.2% were in nonrelative foster care, and 15.4% were with a relative foster carer.
Outcome measures	Preschool developmental progress 1 Receptive language: Assessed using the Peabody Picture Vocabulary Test (third edition) at 3 years of age. This is a standardized assessment used to assess children's receptive language abilities. Children were shown a set of four pictures and were asked to point to the picture of a stated word and earned a point for every correct response. Standard scores were used in analyses, as these adjust for differences in child age and can be readily interpreted in comparison to age-based benchmarks.
Study arms	Attachment and Behavioural Catch-up (ABC) (N = 24) The ABC intervention was designed to enhance children's attachment organization. Attachment and Biobehavioral Catch-up (ABC) intervention is a 10-session, manualized parenting program aimed at enhancing young children's self-regulatory capacities by helping caregivers provide nurturing and synchronous care. These two intervention components (i.e., nurturance in response to child distress, and synchronous parent-child interactions) are targeted in a number of ways. It was designed to help parents change to: provide nurturance when children are distressed both by re-interpreting children's alienating behaviors (Sessions 1–2) and by overriding their own issues that interfere with providing nurturing care (Sessions 7–8); provide a sensitive, responsive environment by following the child's lead with delight when children are not distressed (Sessions 3–4); and behave in ways that are not frightening to children (Sessions 5–6). Interventionists describe the importance of providing nurturing and synchronous care, based on developmental research. Additionally, interventionists videotape parent-child interactions during structured activities designed to help caregivers practice being synchronous by "following the child's lead." Interventionists provide feedback using video clips that highlight times when caregivers interacted with their children in nurturing and synchronous ways versus times when they struggled to do so (e.g., directing or teaching, intruding on the child's space, or being passive and disengaged). Finally, interventionists help caregivers consider how their own early experiences (e.g., not receiving nurturing care themselves) may make it more difficult to provide nurturing and synchronous care to their children.

Study type	Randomised controlled trial (RCT)
Study location	USA

Study setting	Preschool-age follow up of a randomised clinical trial of ABC, delivered in the homes of foster families. At the time of follow up many participants had been adopted (48%), still in foster care, or returned to their birth parents.
Study dates	Not reported
Duration of follow-up	Three years
Sources of funding	National Institute of Mental Health
% Female	62.5%
Mean age (SD)	3.34 ± 0.28 years
Condition specific characteristics	Non-white ethnicity 70.8%
Outcome measures	Preschool developmental progress 1 Receptive language, PPVT mean score: 98.08 ± 16.08 Association between being in the intervention group and receptive language score at 3 years of age: β 9.39 (0.82 to 17.96) (adjusted for gender, number of placements, low caregiver education, low caregiver income.)

Developmental Education for Families (DEF) (N = 28)

The DEF sessions were of the same duration (10-hr-long sessions) and frequency (weekly) as the ABC intervention. The educational intervention was borrowed partly from the home visitation component of the early intervention program developed by Ramey and colleagues (Ramey et al. 1982, 1984). This intervention was designed to enhance cognitive, and especially linguistic, development. The intervention has been successful in improving intellectual functioning when provided intensively and for a long duration in day care settings (Brooks-Gunn et al. 1993). Components that involve parental sensitivity to child cues were excluded in our version of the intervention so as to keep the interventions distinct. Although the intervention is manualized, specific activities take into account child's developmental level.

	Study type	Randomised controlled trial (RCT)
	Study location	USA
	Study setting	Preschool-age follow up of a randomised clinical trial of ABC, delivered in the homes of foster families. At the time of follow up many participants had been adopted (48%), still in foster care, or returned to their birth parents.
	Study dates	Not reported
	Duration of follow-up	Three years
	Sources of funding	National Institute of Mental Health
	% Female	50.0%
	Mean age (SD)	3.25 ± 0.21 years
	Condition specific characteristics	Non-white ethnicity 60.7%
	Outcome measures	Preschool developmental progress 1 Receptive language, PPVT mean score: 88.11 ± 14.52
Risk of Bias	Domain 1: Bias arising from the randomisation process Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) Low Domain 3. Bias due to missing outcome data	

	High (More information is needed about the numbers lost to follow up and the reasons why) Domain 4. Bias in measurement of the outcome Some concerns Domain 5. Bias in selection of the reported result Some concerns Overall bias High Partially indirect (USA-based)

Kim 2011, Smith 2011, Hu 2020

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Summer programme for girls in foster care
Study dates	Not reported (study published 2011)
Duration of follow-up	36 months
Sources of funding	National Institute of Mental Health US Public Health Service

	National Institute on Drug Abuse
Inclusion criteria	Age In final year of elementary school Gender Girls Care setting Relative or non-relative foster care Geography Living in one of two counties in the Pacific Northwest
Sample size	100
Split between study groups	48 randomised to intervention group; 52 randomised to control group
Loss to follow-up	3 lost to follow up in intervention group, 7 lost to follow up in control group
% Female	100%
Mean age (SD)	Not reported for total sample
Outcome measures	Number of placement changes Number of care placement changes from baseline to 12 months follow up. Behavioural outcomes Internalising and externalising symptoms defined by caregiver report using the Achenbach System of Empirically Based Assessment (ASEBA). Mean results across 12 and 24 month follow up were reported. Behavioural outcomes 2 At 6 months (Smith 2011) internalising problems. An internalizing problems composite was computed based on five Parent Daily Report items that reflected internalizing behavior (e.g., irritable and nervous/jittery).

	Behavioural outcomes 2 At 6 months (Smith 2011) externalising problems. An externalising problems composite was computed based on 18 PDR items that reflected externalizing behavior (e.g., argue and defiant). Social outcomes Prosocial behaviour defined by a subscale from the Parent Daily Report Checklist. A prosocial behavior composite was computed based on 11 PDR items that reflected prosocial behavior (e.g., clean up after herself and do a favor for someone). Delinquency Delinquent behaviour and was measured using the Self-Report Delinquency Scale (SRD). Girls association with delinquent peers was defined using a modified version of the general delinquency scale from the SRD. Delinquency was measured at 36 months. Substance use girls were asked how many times in the past year they had (a) smoked cigarettes or chewed tobacco, (b) drank alcohol (beer, wine, or hard liquor), and (c) used marijuana. The response scale ranged from 1 (never) through 9 (daily). Substance use was assessed at 36 months.
Study arms	Middle School Success intervention (N = 48) The MSS intervention was delivered during the summer prior to middle school entry with the goal of preventing delinquency, substance use, and related problems for girls in foster care. The intervention consisted of two primary components: (a) six sessions of group-based caregiver management training for the foster parents and (b) six sessions of group-based skill-building sessions for the girls. The groups met twice a week for 3 weeks, with approximately seven participants in each group. In addition to the summer group sessions, follow-up intervention services (i.e., ongoing training and support) were provided to the caregivers and girls in the intervention group once a week for two hr (foster parent meeting; one-on-one session for girls) during the first year of middle school. The interventionists were supervised weekly, where videotaped sessions were reviewed and feedback was provided to maintain the fidelity of the clinical model. The summer group sessions for the caregivers emphasized establishing and maintaining stability in the foster home, preparing girls for the start of middle school, and preventing early adjustment problems during the transition to middle school. The summer group sessions for the girls were designed to prepare the girls for the middle school transition by increasing their social skills for establishing and maintaining positive relationships with peers, increasing their self-confidence, and decreasing their receptivity to initiation from deviant peers. Specifically, the girls' curriculum targeted strengthening pro-social skills; practicing sharing/cooperating with peers; increasing the accuracy of perceptions about peer norms for abstinence from substance use, sexual activity, and violence; and practicing strategies for meeting new people, dealing with feelings of exclusion, and talking to friends and teachers about life in foster care.
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs History of special services: 46.2% % with behaviour that challenges Arrest record 2.1%; history of runaway 4.2%

Outcome measures	Number of placement changes Mean 0.33 changes ± 1.05 Behavioural outcomes Internalising and externalising behaviour score: mean 12.77 ± 8.53 Behavioural outcomes 2 Association between being in the intervention group and foster parent and girl reported internalising problems at 6 months: β -0.28 P<0.01 (adjusted for age, maltreatment history, pubertal development, internalising behaviours at baseline) Behavioural outcomes 3 Association between being in the intervention group and foster parent and girl reported externalising problems at 6 months: β -0.21 P<0.01 (adjusted for age, maltreatment history, pubertal development, externalising behaviours at baseline) Social outcomes Prosocial behaviour score: mean 0.80 ± 0.12. Association between being in the intervention group and foster parent and girl reported prosocial behaviour at 6 months: β 0.15 P>0.05 Delinquency Self-Report Delinquency Scale (SRD): mean 0.30 ± 0.92; Girls association with delinquent peers score: mean -0.17 ± 0.86; Composite delinquency score: mean -0.17 ± 0.57 Substance use Tobacco use score: mean 1.49 ± 1.63; Alcohol use score: mean 1.49 ± 0.90; Marijuana use score: mean 1.29 ± 0.82; composite substance use score: mean 1.42 ± 0.93

Control group (N = 52)

The girls and caregivers in the control condition received the usual services provided by the child welfare system, including services such as referrals to individual or family therapy, parenting classes for biological parents, and case monitoring.

Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs History of special services: 36.6% % with behaviour that challenges Arrest record: 3.8%; History of runaway: 7.7%
Interventions	Control 1 62% percent of girls in the control condition received individual counseling, 20% received family counseling, 22% received group counseling, 30% received mentoring, 37% received psychiatric support, and 40% received other counseling or therapy services (e.g., school counseling, academic support) during the 1st year of middle school

	Outcome measures	Number of placement changes mean 0.76 ± 1.19 Behavioural outcomes internalising/externalising behaviour score: mean 12.50 ± 8.29 Social outcomes Prosocial behaviour score: mean 0.74 ±0.14 Delinquency Delinquent behaviour score: mean 0.95 ± 2.69; association with delinquent peers score: mean 0.17 ± 1.02; composite delinquency score: mean 0.17 ± 1.06 Substance use Tobacco use score: mean 2.36 ± 2.49; Alcohol use score: mean 1.80 ± 1.46; Marijuana use score: mean 2.33 ± 2.43; Composite substance use score: mean 2.16 ± 1.93
Risk of Bias	Domain 1: Bias arising from the randomisation process Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) Low Domain 3. Bias due to missing outcome data Low Domain 4. Bias in measurement of the outcome Low Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High	

	(High for placement change, prosocial behaviour, and internalising and externalising symptoms outcomes. Some concerns for delinquency and substance use outcomes.) Partially Indirect (USA-based)

Lee 2016a, Lee 2016b

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Children in non-parental care. Head start is a preschool program that provides comprehensive services (educational and health-focussed) to both low-income children and their families. Head Start is Centre-based.
Study dates	Head Start Impact Study (HSIS): based on the random assignment of children and families entering Head Start at the start of the 2002 - 03 programme year.
Duration of follow-up	HSIS recruited three to four year olds. In the current study, reading and maths scores were measured at age five to six.
Sources of funding	Not reported
Inclusion criteria	Care setting Children living with non-biological parents, including foster parents, grandparents, or other relatives Other Included in the Head Start Impact Study. The Head Start Impact Study is based on a nationally representative sample of both Head Start programs and children. First time applicants to Head Start in fall 2002 were randomly selected from a nationally representative sample of Head Start programs.
Exclusion criteria	Care setting Children living with step-parents or who were adopted
Sample size	162

Split between study groups	65 were not enrolled in Head Start, 97 were enrolled in Head Start
Loss to follow-up	Unclear how many eligible children were lost to follow up over the course of the Head Start Impact Study.
% Female	48%
Mean age (SD)	3.4 ± 0.5 years
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 14% Non-white ethnicity 62% Type of care relative care 90%
Outcome measures	Educational outcomes 1 Maths Scores at 5-6 years of age: the Woodcock-Johnson III Tests of Achievement, Math Reasoning. Overall measurement of mathematical knowledge and reasoning which includes: mathematical problem solving, vocabulary and analysis. Educational outcomes 2 Reading scores at 5-6 years of age: the Woodcock-Johnson III Tests of Achievement, Oral Comprehension. Test measures child's ability to comprehend a short spoken passage and provide a missing word based on syntactic and semantic clues. Educational outcomes 3 Caregiver-rated positive approach to learning at 5-6 years of age. Parents were asked to rate their child's positive approaches to learning (Achenbach, Edelbrock, & Howell, 1987). Positive approaches to learning scale addressed curiosity, imagination, openness to new tasks and challenges, and having a positive attitude about gaining new knowledge and skills. Social outcomes 1 Child-teacher relationship at 5-6 years of age. Based on the Robert Pianta scales (Pianta, 1996), teachers were also asked to rate the child–teacher relationship. Behaviour outcomes 1 Teacher-rated aggressive score at 5 to 6 years of age. Teachers rated children's aggressiveness scores based on the Adjustment Scales for Preschool Intervention (ASPI) Behaviour outcomes 2 Teacher-rated hyperactive score at 5 to 6 years of age. Teachers rated children's hyperactive scores based on the Adjustment Scales for Preschool Intervention (ASPI)

Study arms	Head Start (N = 97) Head Start is a program of the United States Department of Health and Human Services that provides comprehensive early childhood services to low-income children and families. Head Start's goal is to boost the school readiness of low income children. Based on a "whole child" model, the program provides comprehensive services that include preschool education; medical, dental, and mental health care; nutrition services; and efforts to help parents foster their child's development. Head Start services are designed to be responsive to each child's and family's ethnic, cultural, and linguistic heritage.

Split between study groups	65 were not enrolled in Head Start, 97 were enrolled in Head Start
Loss to follow-up	Unclear how many eligible children were lost to follow up over the course of the Head Start Impact Study.
% Female	53%
Mean age (SD)	3.4 ± 0.5 years
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 12% Non-white ethnicity 55% Type of care relative care 91%
Outcome measures	Educational outcomes 1 Maths Score (for girls): mean 97.3 ± 2.33; Maths score (for boys): mean 87.5 ± 2.49 Educational outcomes 2 Reading scores (for girls): mean 101.7 ± 1.88; Reading scores (for boys): mean 97.7 ± 2.66 Educational outcomes 3 Association between being in the intervention group and caregiver-rated positive approach to learning at 5 to 6 years of age: β 0.11 (-0.01 to 0.23) (adjusted for age, gender, special educational needs, lower cognitive skills at baseline, ethnicity, education, family income, relative care, parental book reading).

		Social outcomes 1 Association between being in the intervention group and child-teacher relationship at 5 to 6 years of age: β -0.30 (-1.01 to 0.41) (adjusted for age, gender, special educational needs, lower cognitive skills at baseline, ethnicity, education, family income, relative care, parental book reading). Behavioural outcomes 1 Association between being in the intervention group and teacher-rated aggressive score at 5 to 6 years of age: β -1.57 (-1.41 to 4.55) (adjusted for age, gender, special educational needs, lower cognitive skills at baseline, ethnicity, education, family income, relative care, parental book reading). Behavioural outcomes Association between being in the intervention group and teacher-rated hyperactive score at 5 to 6 years of age: β -3.28 (-6.26 to -0.30) (adjusted for age, gender, special educational needs, lower cognitive skills at baseline, ethnicity, education, family income, relative care, parental book reading).
	Not enrolled in Head Start (N = 65) A comparison group of children living with non-biological parents who were included in the Head Start Impact Study and were not enrolled in Head Start. Children who were placed in the control or comparison group were allowed to enroll in other non-parental care or non-Head Start child care or programs selected by their parents. They could remain at home in parent care, or enroll in a child care or preschool program. Consequently, the impact of Head Start was determined by a comparison to a mixture of alternative care settings rather than against a situation in which children were artificially prevented from obtaining child care or early education programs outside of their home.	
	% Female	42%
	Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 15% Non-white ethnicity 74% Type of care relative care 89%
	Outcome measures	Educational outcomes 1 Maths Scores (for girls): mean 92.9 ± 3.29; Maths scores (for boys): mean 95.9 ± 2.73 Educational outcomes 2 Reading scores (for girls): mean 96.9 ± 2.01; Reading scores (for boys): mean 100.9 ± 2.21
Risk of Bias	Domain 1: Bias arising from the randomisation process	

	Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) High Domain 3. Bias due to missing outcome data High Domain 4. Bias in measurement of the outcome High Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High Partially Indirect USA-based

Lewis-Morrarty 2012

Study type	Randomised controlled trial (RCT) Associated study of another trial See Dozier (2009) and Bernard (2012) for RQ2Bernard (
Study location	USA

Study setting	Participants with histories of foster care who had received this intervention while in foster care before age 20 months (but were now mostly adopted or reunited with birth parents (94.6%)
Study dates	Not reported
Duration of follow-up	Foster children were assessed annually up until the age of 6 years
Sources of funding	National Institute of Mental Health
Inclusion criteria	Criteria 1 Before the age of 20 months foster children were randomly assigned to receive the ABC intervention or DEF intervention. The present study is a follow-up of a subset of children involved in this previous randomised controlled trial when children were infants and toddlers. Age Children between the age of 4 and 6 years Care setting history of foster care placement before the age of 3 years
Sample size	37
Split between study groups	17 were randomly assigned to receive the ABC intervention and 20 randomly assigned to receive the DEF intervention
Loss to follow-up	Not reported
% Female	49.2%
Mean age (SD)	60.3 ± 8.6 months
Condition specific characteristics	Non-white ethnicity 63.9% Type of care

	94.6% had been adopted or reunited with their foster parents: 56.8% were placed with foster parents who had adopted them; 29.7% were placed with biological relatives who had adopted them; 8.1% were reunited with biological parents; 5.4% were placed with foster parents who had not adopted them.
Outcome measures	Preschool developmental progress 1 Cognitive flexibility: defined by the Dimensional Change Card Sort (DCCS). This provides an index of preschool executive function. The DCCS is an experimenter administered task in which children are asked to sort a series of cards (e.g., red rabbits and blue boats) into separate piles first according to one dimension (color; "pre-switch") and then, after completing six trials, according to the other dimension (shape; "post-switch"). Preschool developmental progress 2 Theory of mind: The penny hiding game. To administer this task, the researcher placed both hands behind her back and hid a penny in one hand. Both closed hands were then shown to the child and the child was asked to guess in which hand the penny was hidden. Three demonstration trials were presented, and then the child was asked to hide the penny for three test trials. For each of the test trials, the child earned one point each for: hiding both hands behind his or her back, presenting both hands to the researcher for guessing, and keeping the penny concealed at all times.
Study arms	Attachment and Biobehavioral Catch-up Intervention (ABC) (N = 17) The ABC intervention was designed to enhance children's attachment organization. Attachment and Biobehavioral Catch-up (ABC) intervention is a 10-session, manualized parenting program aimed at enhancing young children's self-regulatory capacities by helping caregivers provide nurturing and synchronous care. These two intervention components (i.e., nurturance in response to child distress, and synchronous parent-child interactions) are targeted in a number of ways. It was designed to help parents change to: provide nurturance when children are distressed both by re-interpreting children's alienating behaviors (Sessions 1–2) and by overriding their own issues that interfere with providing nurturing care (Sessions 7–8); provide a sensitive, responsive environment by following the child's lead with delight when children are not distressed (Sessions 3–4); and behave in ways that are not frightening to children (Sessions 5–6). Interventionists describe the importance of providing nurturing and synchronous care, based on developmental research. Additionally, interventionists videotape parent-child interactions during structured activities designed to help caregivers practice being synchronous by "following the child's lead." Interventionists provide feedback using video clips that highlight times when caregivers interacted with their children in nurturing and synchronous ways versus times when they struggled to do so (e.g., directing or teaching, intruding on the child's space, or being passive and disengaged). Finally, interventionists help caregivers consider how their own early experiences (e.g., not receiving nurturing care themselves) may make it more difficult to provide nurturing and synchronous care to their children.

% Female	76.5%
Mean age (SD)	Not reported
Condition specific characteristics	Non-white ethnicity 58.8%

	Outcome measures	Preschool developmental progress 1 Cognitive flexibility: Dimensional Change Card Sort (DCCS) post-switch score: mean number correct 5 ± 2.03 Preschool developmental progress 2 Theory of mind score: mean 8.76 ± 0.44
	Developmental Education for Families (DEF) (N = 20) The DEF sessions were of the same duration (10-hr-long sessions) and frequency (weekly) as the ABC intervention. The educational intervention was borrowed partly from the home visitation component of the early intervention program developed by Ramey and colleagues (Ramey et al. 1982, 1984). This intervention was designed to enhance cognitive, and especially linguistic, development. The intervention has been successful in improving intellectual functioning when provided intensively and for a long duration in day care settings (Brooks-Gunn et al. 1993). Components that involve parental sensitivity to child cues were excluded in our version of the intervention so as to keep the interventions distinct. Although the intervention is manualized, specific activities take into account child's developmental level.	
	% Female	not reported
	Mean age (SD)	not reported
	Condition specific characteristics	Non-white ethnicity 70.0% african american
	Outcome measures	Preschool developmental progress 1 Cognitive flexibility: Dimensional Change Card Sort (DCCS) post-switch score: mean 2.40 ± 2.87 Preschool developmental progress 2 Theory of mind score: 6.80 ± 2.51
Risk of bias	Domain 1: Bias arising from the randomisation process High (Randomisation may have been broked since a subsample of previous randomised controlled trial used) Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	

	High (very poorly reported) Domain 3. Bias due to missing outcome data High (No information about missing data provided) Domain 4. Bias in measurement of the outcome Some concerns Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High Partially Indirect (USA-based)

Lind 2017

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Conducted in foster family homes

Study dates	Not reported
Duration of follow-up	Postintervention follow-up assessments included a home visit approximately 1 month after completion of the intervention and yearly postintervention research visits completed at the time of the child's birthday continuing until age 60 months (i.e., a 36-month visit, a 48-month visit, and a 60-month visit). Data for the present study were collected during the preintervention visit and the first available postintervention visit that included the relevant measures.
Sources of funding	National Institutes of Mental Health
Inclusion criteria	Care setting Foster families (no other inclusion criteria described)
Sample size	121
Split between study groups	63 foster families randomly assigned to receive ABC-T. 58 foster families randomly assigned to receive DEF.
Loss to follow-up	Not reported
% Female	Not reported for total study population
Mean age (SD)	Not reported for total study population
Outcome measures	Preschool developmental progress 1 Attention regulation problems: assessed using the Attention Problems Scale in the preschool version of the Child Behaviour Checklist (CBCL) Preschool developmental progress 2 Cognitive flexibility: as assessed by the Dimensional Change Card Sort (DCCS) task developed for preschoolers. The DCCS requires children to use rules flexibly to sort cards. Children must attend to a relevant dimension and sort cards based on that dimension (i.e., color). The rule is then switched, and children are required to inhibit their attention to the original dimension that is no longer relevant and attend to the dimension that was ignored in the previous phase (i.e., shape). Thus, task switching on the DCCS requires the formulation and use of a higher order rule for selecting which rules to use (i.e., color or shape) on any particular trial
Study arms	ABC-T (N = 63)

ABC-T was developed to enhance parenting behaviors relevant to the developmental changes occurring during toddlerhood. ABC-T seeks to enhance children's regulatory capabilities by (a) increasing parents' nurturing behaviors in response to children's distress, (b) increasing parents' responsiveness to children's nondistress signals (i.e., "following the lead"), and (c) encouraging parents to serve as coregulators for their children under challenging conditions. ABC-T focuses on teaching parents strategies for serving as coregulators to their children when children become dysregulated. the ABC-T intervention is conducted in families' homes, and consists of 10 manualized sessions. The goals of the intervention are communicated through discussion of child development research, showing videos clips, pointing out times when parents successfully engage in one of the targeted behaviors, and explaining the importance of following the lead, nurturing, and calming behaviors

Study location	USA
Study setting	Conducted in foster family homes
Study dates	Not reported
Duration of follow-up	Postintervention follow-up assessments included a home visit approximately 1 month after completion of the intervention and yearly postintervention research visits completed at the time of the child's birthday continuing until age 60 months (i.e., a 36-month visit, a 48-month visit, and a 60-month visit). Data for the present study were collected during the preintervention visit and the first available postintervention visit that included the relevant measures.
Sources of funding	National Institutes of Mental Health
Sample size	121
Split between study groups	63 foster families randomly assigned to receive ABC-T. 58 foster families randomly assigned to receive DEF.
Loss to follow-up	Not reported
% Female	42.9%

Mean age (SD)	age at intervention 29.9 ± 9.5 months. Age post-intervention 48.6 ± 9.0 months.
Condition specific characteristics	% who are babies or young children 100% % who are victims of exploitation or trafficking 15.9% removed from parents for reasons of physical or sexual abuse. 7.9% for domestic violence. Type of foster care Nonrelative 82.5%, relative 17.5% Non-white ethnicity 71.4%
Outcome measures	Preschool developmental progress 1 Attention Problems Scale: mean score 2.73 ± 2.11 Preschool developmental progress 2 Cognitive flexibility score: mean 23.67 ± 13.06

Developmental Education for Families (DEF) (N = 58)

Developmental Education for Families (DEF), focused on directly enhancing children's motor, cognitive, and language skills. The DEF intervention taught parents how to integrate activities designed to support their children's development in the targeted areas with play activities (e.g., exercises aimed at gross motor development that are presented to the child as playing with a ball). Both the DEF and the ABC interventions were manualized, 10 sessions, and conducted in families' homes. Thus, the DEF intervention controlled for nonspecific effects of therapy, receiving parent coaching in the home, and monetary compensation for participation.

Study location	USA
Study setting	Conducted in foster family homes
Study dates	Not reported
Duration of follow-up	Postintervention follow-up assessments included a home visit approximately 1 month after completion of the intervention and yearly postintervention research visits completed at the time of the child's birthday

		continuing until age 60 months (i.e., a 36-month visit, a 48-month visit, and a 60-month visit). Data for the present study were collected during the preintervention visit and the first available postintervention visit that included the relevant measures.
	Sources of funding	National Institutes of Mental Health
	Sample size	121
	Split between study groups	63 foster families randomly assigned to receive ABC-T. 58 foster families randomly assigned to receive DEF.
	Loss to follow-up	Not reported
	% Female	51.7%
	Mean age (SD)	age at intervention: 31.8 ± 8.7 months, age at post intervention 48.0 ± 8.8 months
	Condition specific characteristics	% who are victims of exploitation or trafficking 25.9% removed from home for reasons of physical or sexual abuse; 12.1% for reasons of domestic violence Non-white ethnicity 77.6% Type of care nonrelative: 79.3%; relative 20.7%
	Outcome measures	Preschool developmental progress 1 Attention Problems Scale: mean score 3.63 ± 2.13 Preschool developmental progress 2 Cognitive flexibility score: mean 18.54 ± 12.88
Risk of bias	Domain 1: Bias arising from the randomisation process	

	Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) High (poor reporting with regard to loss to follow up) Domain 3. Bias due to missing outcome data Some concerns Domain 4. Bias in measurement of the outcome Low Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High Directness Partially indirect (USA-based)

Lipscomb 2013

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Children in non-parental care. Head start is a preschool program that provides comprehensive services (educational and health-focussed) to both low-income children and their families.

Study dates	Head Start Impact Study (HSIS): based on the random assignment of children and families entering Head Start at the start of the 2002 - 03 programme year
Duration of follow-up	HSIS recruited three- to four- year olds. In the current study, pre-academic skills, teacher-child relationship, and behaviour problems were measured at one year follow up.
Sources of funding	None reported
Inclusion criteria	Care setting Children living with non-biological parents Other Included in the Head Start Impact Study. The Head Start Impact Study is based on a nationally representative sample of both Head Start programs and children. First time applicants to Head Start in fall 2002 were randomly selected from a nationally representative sample of Head Start programs.
Exclusion criteria	Care setting Children living with biological, adoptive, or step-parents
Sample size	253
Split between study groups	154 assigned to the Head Start group, 99 to the community control group (not enrolled in Head Start)
Loss to follow-up	Unclear how many eligible children were lost to follow up over the course of the Head Start Impact Study
% Female	47.4
Mean age (SD)	4.0 (0.6) years
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 20.93% Non-white ethnicity 53 - 57% Type of care 13% foster care, 11% informal kinship care, 76% kinship care Number of placements 30.9% experienced a change in placement over the study year
Outcome measures	Educational outcomes 1 Pre-academic skills. A composite cluster of three Woodcock-Johnson III subtests – Letter-Word Identification, Spelling, and Applied Problems – was used to assess a broad constellation of children's pre-academic skills, including pre-reading and letter and word identification skills, developing mathematics skills, and early writing and spelling skills Behavioural outcomes Externalising behavior problems. Behavior problems were assessed by teacher report using the Adjustment Scales for Preschool Intervention. The following dimensions of child behavior were reported: aggressive (22 items), oppositional (11 items), and inattentive/hyperactive (10 items). To complete the ASPI, teachers were asked to select individual behavior descriptions for each child in relation to 24 classroom situations that match descriptors of both typical and problem classroom behaviors. For example, one classroom situation was, “How is this child at free play/individual choice?” The teacher then matched each child to any of the behavior descriptions that apply, such as (a) engages in appropriate activities, (b) disturbs others’ fun, (c) wants to dominate and have his/her own way, and/or (d) starts fights and rough play. Raw scores for each dimension were based on the sum of the checked items that were associated with each subscale and were standardized according to the developer's original standardization sample.

	Social outcomes Teacher-child relationship. Children's relationships with their teachers were assessed with the total positive relationship scale of the Student–Teacher Relationship Scale. Teachers rated the children on 15 items, such as “If upset, this child will seek comfort from me” or “This child easily becomes angry at me.” The teachers rated the children on each item using a five-point response format ranging from 1 (definitely does not apply) to 5 (definitely applies). Total scores ranged from 15 to 75, with higher scores reflecting more positive relationships
Study arms	**Head Start (N = 154)** Head Start is a program of the United States Department of Health and Human Services that provides comprehensive early childhood services to low-income children and families. Head Start's goal is to boost the school readiness of low income children. Based on a "whole child" model, the program provides comprehensive services that include preschool education; medical, dental, and mental health care; nutrition services; and efforts to help parents foster their child's development. Head Start services are designed to be responsive to each child's and family's ethnic, cultural, and linguistic heritage.

Mean age (SD)	4.02 (0.56)
Condition specific characteristics	Non-white ethnicity 57%
Outcome measures	Educational outcomes 1 Association between Head Start enrolment and pre-academic skills at follow up: β 0.16 (0.02 to 0.30). Adjusted for Baseline preacademic skills, baseline behaviour problems, age, SEN, gender, family income to needs ratio, authoritarian caregiving, parent child reading, change in caregiver over prior year. Behavioural outcomes Association between Head Start enrolment and externalising behavior problems at 1 year follow up: β -0.18 (-0.36 to 0.00). Adjusted for baseline preacademic skills, baseline behaviour problems, age, SEN, gender, family income to needs ratio, authoritarian caregiving, parent child reading, change in caregiver over prior year Social outcomes Association between Head Start enrolment and Teacher-child relationship at 1 year follow up: β 0.30 (0.12 to 0.48). Adjusted for Baseline preacademic skills, baseline behaviour problems, age, SEN, gender, family income to needs ratio, authoritarian caregiving, parent child reading, change in caregiver over prior year

Not enrolled in Head Start (N = 99)

A comparison group of children living with non-biological parents who were included in the Head Start Impact Study and were not enrolled in Head Start. Children who were placed in the control or comparison group were allowed to enroll in other non-parental care or non-Head Start child care or programs selected by their parents. They could remain at home in parent care, or enroll in a child care or preschool program. Consequently, the impact of Head Start was determined by a comparison to a mixture of alternative care settings rather than against a situation in which children were artificially prevented from obtaining child care or early education programs outside of their home

Mean age (SD)	3.98 (0.61)
Condition specific characteristics	Non-white ethnicity 53%

	Domain 1: Bias arising from the randomisation process Some concerns (Study did not provide information about differences between comparison groups for baseline characteristics other than for age and ethnicity) Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) High (No information regarding whether any participants deviated from their planned intervention. No information about the approach to missing data or loss to follow up.) Domain 3. Bias due to missing outcome data High (unclear whether there was significant missing data and how this varied between comparison groups) Domain 4. Bias in measurement of the outcome High (Outcomes could have been influenced by knowledge of the intervention group. Unclear that blinding was performed.) Domain 5. Bias in selection of the reported result Some concerns (Insufficient information provided about methods and analysis plan. No explanation of why certain covariables were included in the final model) Overall bias and Directness Risk of bias judgement High Directness Partially indirect (USA-based)

Pears 2007

Study type	Randomised controlled trial (RCT)
Study location	USA

Study setting	Foster children entering second grade (7-8 years) through kindergarten (5-6 years). Children attended playgroups over this transitional summer.
Study dates	Autumn 2002
Duration of follow-up	2 week follow up
Sources of funding	National Institute on Drug Abuse National Institute of Mental Health Office of Research on Minority Health
Inclusion criteria	Age Entering second grade through kindergarten Geography Foster children in Lane County, Oregon
Sample size	24
Split between study groups	11 in intervention group; 13 in control group
Loss to follow-up	1 lost to follow up in intervention group, 3 lost to follow up in control group
% Female	54.2%
Mean age (SD)	Not reported for total group
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 20.8% had received special education services Type of foster care

	41.7% in non-relative foster care
Outcome measures	Behavioural and social functioning at school Child Behavior Checklist (parent reported, mean difference reported 2 weeks before and after intervention): foster parent-rated social competence, externalising behaviors, internalising behaviors; Teacher Report Form (elementary school teacher-reported, post-intervention score reported one month following the start of school only): teacher-rated social problems, externalising behaviors, internalising behaviors Emotional regulation Emotion Regulation Checklist (parent-, teacher-, and laboratory assessors-reported, 2-week pre and post-intervention mean difference reported for foster parents and laboratory assessors, mean score one month following the start of school for teacher-reported outcomes): Foster parent-rated lability and emotional regulation, assessor-rated lability, teacher-rated lability and emotional regulation
Study arms	Therapeutic playgroups (N = 10) Intervention group children attended 2-hr therapeutic playgroups twice weekly for 7 weeks during the summer. Two components of social emotional readiness were targeted by the intervention: social competence (including sharing, initiating and maintaining interactions, cooperating and problem solving with peers, and recognizing emotions) and emotional and behavioral self-regulation (including problem solving, managing negative emotions, and using work-related skills). The curriculum manual for the playgroup was developed by the authors (and others) and outlined the activities for each of the playgroup sessions. The basic routine included a welcoming activity, a craft project, a snack, two circle times, projects, and group games. Each session focused on a single social skill (e.g., sharing), and skills were taught using instructional techniques that included preteaching, modeling, opportunities to practice skills, and immediate positive reinforcement. Skills were introduced and modeled during circle time, and opportunities to practice skills were embedded within subsequent classroom activities. Specific social skills included in the curriculum were sharing, initiating and maintaining interactions, cooperating, problem solving, and recognizing emotions. A small student-to-staff ratio (3:1) made it possible for teachers to shape the children's skills and to reward the children when they were successful.

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Foster children entering second grade (7-8 years) through kindergarten (5-6 years). Children attended playgroups over this transitional summer.
Study dates	Autumn 2002
Duration of follow-up	2 week follow up for parent and assessor-related outcomes. Follow up one month after the start of school for teacher-related outcomes

Sources of funding	National Institute on Drug Abuse National Institute of Mental Health Office of Research on Minority Health
Sample size	24
Split between study groups	11 in intervention group; 13 in control group
Loss to follow-up	1 lost to follow up in intervention group, 3 lost to follow up in control group
% Female	45.5%
Mean age (SD)	6.49 ± 0.86 years
Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 18% had received special education services Type of foster care 46% in non-relative foster care
Outcome measures	Behavioural and social functioning at school foster parent-rated social competence: mean difference 1.09 ± 1.20; foster-parent rated externalising behaviors: mean difference -2.10 ± 3.87; foster parent-rated internalising behaviors: mean difference -1.40 ± 5.64. teacher-rated social problems, post-intervention score: mean 2.10 ± 1.73; teacher-rated externalising behaviors, post-intervention score: mean 10.60 ± 8.09; teacher-rated internalising behaviors, post-intervention score: mean 6.50 ± 7.75. Emotional regulation Foster parent-rated lability score: mean difference -0.20 ± 0.21; foster parent-rated emotional regulation score: mean difference -0.04 ± 0.22; Assessor-rated lability score: mean difference -0.01 ± 0.31; teacher-rated lability score: mean 1.85 ± 0.53; teacher-rated emotional regulation, post-intervention score: mean 3.11 ± 0.52

Control group (N = 10)

	Controls received foster care services as usual from the child welfare agency, which sometimes included early childhood special education services. They did not attend playgroups. playgroups.
Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Foster children entering second grade (7-8 years) through kindergarten (5-6 years). Children attended playgroups over this transitional summer.
Study dates	Autumn 2002
Duration of follow-up	2 week follow up
Sources of funding	National Institute on Drug Abuse National Institute of Mental Health Office of Research on Minority Health
Sample size	24
Split between study groups	11 in intervention group; 13 in control group
Loss to follow-up	1 lost to follow up in intervention group, 3 lost to follow up in control group
% Female	38.5%
Mean age (SD)	6.61 ± 1.16

	Condition specific characteristics	% with disabilities; speech, language and communication needs; or special education needs 23% had received special education services Type of foster care 39% in non-relative foster care
	Outcome measures	Behavioural and social functioning at school foster parent-rated social competence score: mean difference -0.44 ± 0.82; foster parent-rated externalising behaviors score: mean difference 0.10 ± 3.87; foster parent-rated internalising behaviors score: mean difference -2.70 ± 2.50; teacher-rated social problems post-intervention score: mean 2.10 ± 4.04; teacher-rated externalising behaviors post-intervention score: mean 9.70 ± 10.09; teacher-rated internalising behaviors post-intervention score: mean 6.40 ± 7.79. Emotional regulation Foster parent-rated lability score: mean difference -0.06 ± 0.24; foster parent-rated emotional regulation score: mean difference -0.01 ± 0.16; assessor-rated lability score: mean difference 0.40 ±0.51; teacher-rated lability, post-intervention score: mean 1.63 ± 0.56; teacher-rated emotional regulation, post-intervention score: 3.29 ± 0.63
Risk of bias	Domain 1: Bias arising from the randomisation process Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) High Domain 3. Bias due to missing outcome data Some concerns Domain 4. Bias in measurement of the outcome High Domain 5. Bias in selection of the reported result Some concerns Overall bias and Directness Risk of bias judgement	

	High Directness Partially indirect (USA-based)

Pears 2012, Pears 2013, Pears 2016, Lynch 2017

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Foster care. KITS intervention took place in centre- or school-based classrooms
Study dates	Not reported (study published 2012)
Duration of follow-up	Children and their caregivers participated in center-based assessments that employed standardized testing, questionnaires, and structured interviews at the beginning of the summer before kindergarten prior to the intervention, at the end of the summer just prior to kindergarten entry (5 years old), and at the ends of the kindergarten year (6 years old) and subsequent school years through third grade (9 years old).
Sources of funding	National Institute on Drug Abuse
Inclusion criteria	Care setting Nonkinship or kinship foster care at time of intervention Other English speaking; not involved with another treatment protocol closely related to the KITS intervention
Sample size	219

Split between study groups	113 were assigned to the KITS intervention, 106 were assigned to FCC
Loss to follow-up	11 in the KITS intervention, 16 in the FCC group
% Female	not reported for total study population
Mean age (SD)	Not reported for total study population
Outcome measures	Educational outcomes 1 Early Literacy Skills. Observer and caregiver report. Letter naming and letter–sound awareness were measured using the Letter Naming Fluency and Initial Sound Fluency subtests of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). For the former subtest, the child is asked to identify as many letters as possible from a randomly ordered array of uppercase and lowercase letters. The score is the number of correct letters identified in 1 min. For the latter subtest, the child is asked to orally produce the initial sound of a word that corresponds to a stimulus picture. The total score is the number of correct initial sounds produced in 1 min; Understanding of concepts about print was measured using the 24-item Concepts About Print test, which assesses such print conventions as reading left to right, matching spoken to written words, and distinguishing pictures from text. The children received 1 point for each correct answer, summed to produce a total score. For the final indicator of early literacy skills, a caregiver rating of prereading skills was used. The caregivers were asked whether the child could recognize the letters of the alphabet and write his or her first name. Caregiver responses were standardized and averaged to produce a composite caregiver rating of prereading skills with higher scores indicating greater reading skills. Physical health outcomes Positive attitudes towards alcohol use in the third grade. Child-reported. Questions were adapted from the Monitoring the Future National Survey Questionnaire. The positive alcohol belief construct included three items: how many adults they believed used alcohol (“none” to “all”), whether they believed that it would be okay for people to drink alcohol (“no”, “sometimes”, “yes”), and how likely it was that they would use alcohol when they were teens (“definitely not”, “probably not”, “probably”, “definitely”). For each item, children were provided with pictorial representations of the answer choices. In general, the “smallest” answer was depicted as a small block with other blocks increasing in size to the “largest” answer. Responses were standardized and averaged to form the positive attitudes towards alcohol use construct with higher scores indicating more positive attitudes. Behavioural outcomes Positive attitudes towards antisocial behavior in third grade. Child reported. two questions; “What are some of the things you think teenagers do for fun with their friends?” and “What are some of the things you think teenagers do when their moms or dads are not there?” Children could provide up to six answers for these open-ended questions, which were then classified into one of several categories of antisocial and prosocial activities. Antisocial activities included smoking, using marijuana or other drugs, sexual activities (but not dating), rule breaking (such as swearing, “getting in trouble”), and delinquent behaviors (such as hurting others, getting arrested). The alcohol use category was left out of this construct to avoid overlap with the positive attitudes towards alcohol use construct. For the question about what teenagers do when their parents are not there, “partying” was also considered an antisocial response. Examples of prosocial responses were playing games, sports, spending time with family, eating, and in-home recreation (like watching TV or movies). The child's total number of answers to each question was computed as well as the number of antisocial answers. The total antisocial answers for the two questions were significantly positively correlated and were thus summed as were the total answers for both questions. The total number of antisocial answers to both questions was then divided by the total number of answers to produce a rate of endorsement of antisocial behaviors. Social outcomes Involvement with deviant peers in third grade. Child and teacher-reported. children answered a series of questions about whether “none”, “some”, or “all” of their friends were involved in five rule-breaking or deviant behaviors (“cheat on tests”, “ruin or damage something that doesn't belong to them”, “talk back to adults”, “hit or threaten to hit someone”, “suggest that you do something that could get you into trouble”). All children were given a card with a pictorial representation of the answer choices. “None”was shown as the smallest block and “all” as the largest with “some” in the middle. Items were averaged to forma scale of involvement with deviant peers (standardized). Teachers completed a series of questions about the child's social skills, including questions about how well the child was liked and accepted, how often the child associated with peers who misbehave, how often the child

exerted a negative influence on peers, and how influenced by peers the child was compared to other peers of his or her age. These four items showed good internal reliability and so were averaged to produce a teacher rating of deviant peer association. This was significantly positively correlated with the child report of negative peer association and thus the two scores were standardized and averaged to produce an involvement with deviant peers construct. Higher scores indicate higher involvement.

Emotional regulation

inhibitory control, behavior regulation, and emotion regulation. Inhibitory control. Scores from four measures were combined to create the inhibitory control composite. First, the caregivers completed the Children's Behavior Questionnaire. Scores on the Inhibitory Control subscale and the Attentional Focusing subscale were averaged. Second, the caregivers completed the Inhibit subscale from the Brief Rating Inventory of Executive Function–Preschool Version. Third and fourth, the children completed two computer-administered tasks shown to activate specific regions of the prefrontal cortex and anterior cingulate gyrus.

Confidence and self-esteem outcomes

Self-competence in third grade. Child reported. Children answered six questions on their self-competence (e.g., whether they liked the person they were) on the Global Self-Worth Scale (standardized) of the Self-Perception Profile for Children.

Behavioural outcomes 2

Oppositional and aggressive classroom behaviors. Teacher reported. The child's oppositional and aggressive behaviors in school were measured via the teacher report using the raw scores from the aggressive and delinquent behavior subscales of the Teacher Report Form. Additionally, the oppositional subscale of the Conners' Teacher Ratings Scales-Revised: Short version (CTRS:S) was used.

Behavioural outcomes 3

Days free from internalising symptoms. Used symptom reports from caregivers on the Child Behavior Checklist (CBCL) to create days that had significant internalizing symptoms or externalizing behaviors. Specifically, the CBCL scores at each assessment point were used to categorize days with greater levels of internalizing or externalizing behavior. Scores were then interpolated using quadratic weighting between the symptom-free days and those with greater symptoms to assign a value to each day in the interval. Authors then calculated the number of IFDs and EFDs as the number of days in the study period minus the days with significant internalizing or externalizing behavior.

Behavioural outcomes 4

Days free from externalising symptoms. Used symptom reports from caregivers on the Child Behavior Checklist (CBCL) to create days that had significant internalizing symptoms or externalizing behaviors. Specifically, the CBCL scores at each assessment point were used to categorize days with greater levels of internalizing or externalizing behavior. Scores were then interpolated using quadratic weighting between the symptom-free days and those with greater symptoms to assign a value to each day in the interval. Authors then calculated the number of IFDs and EFDs as the number of days in the study period minus the days with significant internalizing or externalizing behavior.

Behavioural outcomes 5

Behaviour regulation. Three measures were used to form a composite score of behavior regulation. First, reversed scores on the Activity Level subscale and Impulsivity subscale of the CBQ were averaged. Second, the reversed score on the Externalizing subscale of the CBCL was used. Third, the reversed score on the Lability subscale of the Emotion Regulation Checklist (ERC) was used. The CBQ, CBCL, and ERC indicators were standardized and averaged to produce the behavior regulation composite score.

Social outcomes 2

Prosocial skills. Caregivers completed the Preschool Penn Interactive Peer Play Scale. Play interaction, Play distruption, and play disconnection subscales. The Play Interaction scale asks caregivers to report the frequency with which children engage in prosocial behaviors such as helping, sharing, encouraging others to join play, and settling conflicts. Because prosocial skills were foci of the intervention, the Play Interaction scale was used in the present analyses. The raw Social Competence score from the caregiver-completed Child Behavior Checklist (CBCL) was also used as an indicator of prosocial skills.

Emotional outcomes 2

Emotional understanding. emotion understanding was measured directly using eight short vignettes describing situations that would typically be expected to elicit happiness, sadness, anger, or fear. The children were asked to select the picture that best represented the emotional state of the protagonist in each vignette. The vignettes were scored as follows: 2¼correctly identified the targeted emotion depicted in the story, 1=selected an emotion of the same valence as the targeted emotion, and 0=did neither. Scores were summed across the eight vignettes.

	Emotional regulation 2 Emotion regulation. To measure emotion regulation, authors used the reversed scores on the Anger subscale and the Reactivity/Soothability subscale of the CBQ. These indicators were averaged and combined. he Emotion Regulation scale from the ERC was also utilized in this composite. Finally, the reversed score on the Emotion Control subscale of the BRIEF–P was included in the composite score. indicators were standardized and averaged to create an emotion regulation composite score.
Study arms	Kids In Transition to School (KITS) programme (N = 102) The KITS intervention occurs during the 2 months of summer prior to kindergarten entry and the first 2 months of kindergarten in the fall. It consists of two primary components: child school readiness groups and caregiver groups. The 24-session school readiness groups for the children (2 h, twice weekly in the summer, 16 sessions; 2 h, once weekly in the autumn, 8 sessions) focus on promoting early literacy, prosocial, and self-regulatory skills. The caregiver groups meet for 8 sessions total, every other week during the summer and autumn (2 h), and focus on effective parenting techniques as well as promoting caregiver involvement in early literacy and school. Caregiver group meetings coincide with the children's school readiness group meeting times. The KITS school readiness group sessions are held in center- or school-based classrooms and have a highly structured, consistent routine similar to that of a typical kindergarten classroom. The manualized curriculum covers three critical skill areas: (1) self-regulatory skills (e.g., handling frustration and disappointment, paying attention, following multistep directions, and making appropriate transitions); (2) prosocial skills (e.g., reciprocal social interaction, social problemsolving, and emotion recognition); and (3) early literacy skills (e.g., letter names, phonological awareness, conventions of print, and comprehension).
	% Female: 48%
	Mean age (SD): 5.26 ± 0.33
	Condition specific characteristics: % who are victims of exploitation or trafficking 16% with histories of sexual abuse, and 17% with history of physical abuse Type of foster care 62% nonkinship care; 38% kinship care Non-white ethnicity 45% Number of placements mean 3.10 ± 1.75
	Outcome measures: Educational outcomes 1 DIBELS, initial sound fluency score: mean 7.68 ± 7.41; DIBELS, letter naming fluency score: mean 8.75 ± 11.04. Concepts About Print score: 7.10 ± 3.28; Caregiver Rating of Pre-reading skills score: mean -0.06 ± 0.87. Association between being in the intervention group and early literacy skills

		(composite of standardised means from indicators of early literacy skills, above): β 0.10 P<0.05 (adjusted for general cognitive ability at baseline, early literacy skills at baseline) Physical health outcomes Positive attitudes towards alcohol score: mean -0.13 ± 0.58. Association between being in the intervention group and positive attitudes towards alcohol: β -0.34 P<0.05 (adjusted for gender, general cognitive ability at baseline, kinship foster care, child oppositional and aggressive behaviour at baseline, placement changes during study, other psychological/ educational services) Behavioural outcomes Positive attitudes towards antisocial behaviours score: mean 0.22 ± 0.26. Association between being in the intervention group and positive attitudes towards attitudes: β -0.11 P<0.05 (adjusted for gender, general cognitive ability at baseline, kinship foster care, child oppositional and aggressive behaviour at baseline, placement changes during study, other psychological/ educational services) Social outcomes Involvement with deviant peers score: mean -0.07 ± 0.88 Emotional regulation Inhibitory control score: mean -0.01 ± 0.69 Confidence and self-esteem outcomes Self-competence score: mean 20.55 ± 3.45. Association between being in the intervention group and greater self-competence: β 1.95 P<0.01 (adjusted for gender, general cognitive ability at baseline, kinship foster care, child oppositional and aggressive behaviour at baseline, placement changes during study, other psychological/ educational services) Behavioural outcomes 2 Teacher report aggressive behaviour subscale: mean score 9.53 ± 10.46; Teacher report form delinquent behaviour subscale: mean score 1.99 ± 2.01; Conner's Teacher's Rating Scale oppositional behaviours subscale: 1.92 ± 3.24 Behavioural outcomes 3 Days free from internalising symptoms: mean 310.5 ± 78.8 Behavioural outcomes 4 Days free from externalising behaviour: mean 218.6 ± 102.4. Association between being in the intervention group and child oppositional and aggressive behaviours: β -0.17 P<0.05 (adjusted for oppositional and aggressive behaviours at baseline, gender, overall level of disruptiveness in classroom) Behavioural outcomes 5 Behavioural Regulation score: mean 0.07 ± 0.84. Social outcomes 2 Preschool PIPPS Score: mean 2.73 ± 0.40; CBCL Social Competence score: mean 4.77 ± 1.99. Association between being in the intervention group and prosocial skills score: β 0.4 P>0.05 (adjusted for gender, kinship foster care, prosocial skills at baseline). Emotional outcomes 2 Emotional understanding score: mean 10.80 ± 2.86 Emotional regulation 2

	Emotional regulation score: mean -0.01 ± 0.79 Association between being in the intervention group and self-regulatory skills: β 0.11 P<0.05 (adjusted for gender, Latino ethnicity, self-regulatory skills at baseline, daycare attendance)

Foster care as usual (FCC) (N = 90)

Children in this group received services commonly offered by the child welfare system. These could include individual child psychotherapy, participation in Head Start or another early childhood education program, and services such as speech therapy. No attempt was made to influence the type or amount of services received by children or their families in either the comparison or the KITS groups.

Split between study groups	113 were assigned to the KITS intervention, 106 were assigned to FCC
Loss to follow-up	11 in the KITS intervention, 16 in the FCC group
% Female	54%
Mean age (SD)	5.25 ± 0.35
Condition specific characteristics	% who are victims of exploitation or trafficking 21% with history of physical abuse, 18% with history of sexual abuse Type of foster care Nonkinship care 61%, kinship care 39% Non-white ethnicity 49% Number of placements 3.22 ± 1.96
Outcome measures	Educational outcomes 1 DIBELS, Initial Sound Fluency score: mean 6.87 ± 6.93; DIBELS, Letter Naming Fluency score: mean 8.52 ± 10.43; Concepts About Print score: mean 6.45 ± 3.85; Caregiver Rating of Prereading Skills score: mean 0.07 ± 0.81 Physical health outcomes Positive attitudes towards alcohol score: mean 0.17 ± 0.82

		Behavioural outcomes Positive attitudes towards antisocial behaviours score: mean 0.31 ± 0.31 Social outcomes Involvement with deviant peers score: mean 0.12 ± 0.89 Emotional regulation Inhibitory control score: mean -0.04 ± 0.76 Confidence and self-esteem outcomes Self-competence score: mean 18.64 ± 4.18 Behavioural outcomes 2 Teacher Report Form aggressive behaviour subscale: mean 11.37 ± 10.48; Teacher report Form delinquent behaviour subscale: mean 2.57 ± 2.38; Conner's Teacher Rating Scale oppositional behaviours subscale: mean 2.73 ± 3.58 Behavioural outcomes 3 Overall level of disruptiveness in the classroom score: mean 0.04 ± 0.85 Behavioural outcomes 4 Days free from internalising symptoms: mean 284.5 ± 101.5 Behavioural outcomes 5 Days free from externalising behaviours: 192.0 ± 104.6 Social outcomes 2 Preschool PIPPS Score: mean 2.78 ± 0.42; CBCL Social Competence score: mean 4.87 ± 2.03 Emotional outcomes 2 Emotional understanding score: mean 11.01 ± 2.82 Emotional regulation 2 Emotional regulation score: mean -0.01 ± 0.77 Behavioural outcomes 6 Behavioural regulation score: mean -0.07 ± 0.89
Risk of bias	Domain 1: Bias arising from the randomisation process Some concerns Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	

	Some concerns Domain 3. Bias due to missing outcome data High Domain 4. Bias in measurement of the outcome Low Domain 5. Bias in selection of the reported result High Overall bias and Directness Risk of bias judgement High Directness Partially indirect (USA-based)

Raby 2019

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Interventions were conducted in the homes of foster families
Study dates	Not reported (published 2019)

Duration of follow-up	Post-intervention assessments were completed approximately 1 month after finishing the intervention as well as annually until the child reached 60 months of age (5 years).
Sources of funding	National Institutes of Mental Health
Inclusion criteria	Age Parents fostering a child between the ages of 24 and 36 months old Care setting Foster care Other completed an assessment of receptive vocabulary during post-intervention visits
Sample size	178 foster children were allocated to interventions
Split between study groups	93 participants were allocated to ABC-T, 85 participants were allocated to DEF
Loss to follow-up	50 participants were lost to follow up in ABC-T group. 29 participants were lost to follow up in the DEF group
% Female	Not reported for total sample
Mean age (SD)	age at the point of assessment: 28.5 ± 9.25 months
Condition specific characteristics	% who are babies or young children 100% Type of care Initially, all participants were in foster care
Outcome measures	Preschool developmental progress 1

	Receptive language: Assessed using the Peabody Picture Vocabulary Test (PPVT third edition). Administered when children were approximately 36, 48, and 60 months of age. Children were shown a set of four pictures and were asked to point to the picture of a stated word and earned a point for every correct response. Standard scores were used in analyses, as these adjust for differences in child age and can be readily interpreted in comparison to age-based benchmarks. Since not all children completed the research visits at each time point a composite measure of receptive vocabulary skills was created by averaging the standardised PPVT scores collected at three ages (36 months, 48 months, and 60 months).
Study arms	Attachment and Biobehavioral Catch-up for Toddlers (ABC-T) (N = 45) ABC-T was developed to enhance parenting behaviors relevant to the developmental changes occurring during toddlerhood. ABC-T seeks to enhance children's regulatory capabilities by (a) increasing parents' nurturing behaviors in response to children's distress, (b) increasing parents' responsiveness to children's nondistress signals (i.e., "following the lead"), and (c) encouraging parents to serve as coregulators for their children under challenging conditions. ABC-T focuses on teaching parents strategies for serving as coregulators to their children when children become dysregulated. the ABC-T intervention is conducted in families' homes, and consists of 10 manualized sessions. The goals of the intervention are communicated through discussion of child development research, showing videos clips, pointing out times when parents successfully engage in one of the targeted behaviors, and explaining the importance of following the lead, nurturing, and calming behaviors

% Female	46.7%
Mean age (SD)	Age when removed from birth parents: 13.8 ± 12.7 months Age at PPVT assessment: 52.1 ± 9.1 months
Condition specific characteristics	% who are babies or young children 100% % who are victims of exploitation or trafficking 66.7% were removed from birth parents as a result of physical or sexual abuse. 50% for reasons of domestic violence. (not mutually exclusive) Non-white ethnicity 68.1% Type of care 27.9% in relative foster care, 72.1% in nonrelative foster care Number of placements mean 2.2 ± 0.8
Outcome measures	Preschool developmental progress 1 Receptive vocabulary, PPVT mean score: 99.4 ± 15.9

	Developmental Education for Families (DEF) (N = 43) Developmental Education for Families (DEF), focused on directly enhancing children's motor, cognitive, and language skills. The DEF intervention taught parents how to integrate activities designed to support their children's development in the targeted areas with play activities (e.g., exercises aimed at gross motor development that are presented to the child as playing with a ball). Both the DEF and the ABC interventions were manualized, 10 sessions, and conducted in families' homes. Thus, the DEF intervention controlled for nonspecific effects of therapy, receiving parent coaching in the home, and monetary compensation for participation.	
	% Female	51.2%
	Mean age (SD)	Age when first removed from birth parents: 13.6 ± 13.5 months Age at PPVT assessment: 51.4 ± 8.7
	Condition specific characteristics	% who are babies or young children 100% % who are victims of exploitation or trafficking 33.3% were removed from home as a result of physical or sexual abuse. 50% for reasons of domestic violence (not mutually exclusive). Non-white ethnicity 74.4% Type of care 75.6% in nonrelative foster care. 24.4% in relative foster care. Number of placements mean 2.2 ± 0.8
	Outcome measures	Preschool developmental progress 1 Receptive vocabulary, PPVT mean score: 92.3 ± 16.5
Risk of bias	Domain 1: Bias arising from the randomisation process Low Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	

	High
	Domain 3. Bias due to missing outcome data
	Some concerns
	Domain 4. Bias in measurement of the outcome
	High
	Domain 5. Bias in selection of the reported result
	High
	Overall bias and Directness
	Risk of bias judgement
	High
	Directness
	Partially indirect (USA based)

Qualitative studies

No qualitative evidence was identified

Appendix E – Forest plots

No forest plots were produced for this review question as meta-analysis was not possible.

Appendix F – GRADE tables

Quantitative evidence

Preschool interventions

Attachment and biobehavioural catch-up for infants (ABC-I) vs Developmental Education for Families (DEF)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Receptive language score at 3 years of age: assessed using the Peabody Picture Vocabulary Test (third edition)								
1 (Bernard 2017)	Parallel RCT	52	MD 9.97 (1.58 to 18.36)	Very serious[1]	N/A	Serious[2]	Serious[3]	Very low
Association between being in the intervention group and receptive language score at 3 years of age: assessed using the Peabody Picture Vocabulary Test (third edition)								
1 (Bernard 2017)	Parallel RCT	52	β 9.39 (0.82 to 17.96)[4]	Very serious[1]	N/A	Serious[2]	NE[5]	Very low

1. Downgrade 2 levels for very serious risk of bias: unclear if allocation concealment; unclear how many lost to follow up and reasons why; loss to follow up could be related to outcome of interest; no blinding procedure described; no detailed protocol or original study cited
2. Downgrade 1 level for serious indirectness since study was based in USA
3. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=7.26)
4. Adjusted for gender, number of placements at baseline, low caregiver education, low caregiver income
5. Downgrade twice as imprecision was not estimable

Attachment and biobehavioural catch-up for toddlers (ABC-T) vs Developmental Education for Families (DEF)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Attention problems score at approx. 2 years follow up: assessed using the Attention Problems Scale in the preschool version of the Child Behaviour Checklist (CBCL)								
1 (Lind 2017)	Parallel RCT	111	MD -0.90 (-1.66 to -0.14)	Very serious[1]	N/A	Serious[2]	Serious[3]	Very low
Cognitive flexibility score at approx. 2 years follow up: assessed by the Dimensional Change Card Sort (DCCS) task developed for preschoolers								
1 (Lind 2017)	Parallel RCT	111	MD 5.13 (0.51 to 9.75)	Very serious[1]	N/A	Serious[2]	Serious[4]	Very low
Receptive vocabulary (assessed at approximately 36, 48, and 60 months of age to form a composite score at 2 years of follow up): assessed using the Peabody Picture Vocabulary Test (PPVT third edition).								
1 (Raby 2019)	Parallel RCT	88	MD 7.10 (0.32 to 13.88)	Very serious[5]	N/A	Serious[2]	Serious[6]	Very low

1. Downgrade 2 levels for very serious risk of bias: unclear how randomisation was performed; unclear if allocation concealment; no discussion of approach to loss to follow up; A significant amount of missing data (>10% per arm) was observed in the final analysis - unclear how much of this was due to loss to follow up and how much due to missing outcome data; unclear reasons for loss to follow up; loss to follow up could be related to outcome of interest; study does not cite original trial or protocol; Multiple assessments were performed yearly however only selected time points were reported.
2. Downgrade 1 level for serious indirectness since study was based in USA
3. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.06)
4. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=6.44)
5. Only per-protocol analysis performed. Participants that did not complete all 10 sessions were excluded from analysis. Very large loss to follow up in both arms (approximately 20 - 25%). Very large amount of missing data. Combining numbers missing due to loss to follow up and missing outcomes, over 54% participants were missing from the ABC-T arm and 50% from the DEF arm. It is plausible that missing

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality

outcome data was related to placement changes which may be related to a child's ability to communicate/special education needs. PPVT was measured at different age points and averaged across these ages. However, PPVT scores increase with age and some children were missing scores at different annual follow ups. It is unclear if children in one intervention were older (on average) at assessment than children in the other arm after taking into account missing data. Does not link to original study or protocol. Outcome was measured at different time points. However, only composite outcomes were reported.

6. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=8.25)

Attachment and biobehavioural catch-up for infants and toddlers (ABC-I/T) vs Developmental Education for Families (DEF)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Theory of mind score at 4-6 years of age: assessed by the penny hiding game task								
1 (Lewis-Morrarty 2012)	Parallel RCT	37	MD 1.96 (0.84 to 3.08)	Very serious[1]	N/A	Serious[2]	Serious[3]	Very low
Cognitive flexibility score at 4-6 years of age: assessed by the Dimensional Change Card Sort task								
1 (Lewis-Morrarty 2012)	Parallel RCT	37	MD 2.60 (1.01 to 4.19)	Very serious[1]	N/A	Serious[2]	Serious[4]	Very low

1. Downgrade 2 levels for very serious risk of bias: unclear if appropriate method used for randomisation; unclear if allocation concealment; significant differences between comparison groups across several domains: age; gender; ethnicity; and parental financial income; insufficient information about whether appropriate analysis used; unclear number of participants analysed; no information about missing data provided;

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality

unclear if blinding performed; original study or protocol not clearly cited; unclear how participants were sampled from original trial; participants were assessed annually until age 6 but it is unclear at what assessment results were reported.
2. Downgrade 1 level for serious indirectness since study was based in USA
3. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.26)
4. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.44)

Head start programme vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Association between being in the intervention group and assessor-rated pre-academic skills composite score at 1 year post intervention: assessed by Woodcock-Johnson III: letter-word identification, spelling, and applied problems subscales								
1 (Lipscomb 2013)	Parallel RCT	253	β 0.16 (0.02 to 0.30)[1]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and teacher-rated teacher-child relationship at 1 year: assessed by student-teacher relationship scale								
1 (Lipscomb 2013)	Parallel RCT	253	β 0.30 (0.12 to 0.48)[1]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and teacher/caregiver-reported behaviour problems at 1 year: assessed by Achenbach Child Behaviour Checklist/Adjustment scales for Preschool interventions								
1 (Lipscomb 2013)	Parallel RCT	253	β -0.18 (-0.36 to 0.00)[1]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Maths score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Math Reasoning (for girls)								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	MD 4.40 (3.48 to 5.32)	Very serious[5]	N/A	Serious[3]	Not Serious	Very low
Maths score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Math Reasoning (for boys)								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	MD -8.40 (-9.23 to -7.57)	Very serious[5]	N/A	Serious[3]	Not Serious	Very low
Reading score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Oral Comprehension (for girls)								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	MD 4.80 (4.18 to 5.42)	Very serious[5]	N/A	Serious[3]	Not Serious	Very low
Reading score at 5-6 years of age: assessed by the Woodcock-Johnson III Tests of Achievement, Oral Comprehension (for boys)								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	MD -3.20 (-3.95 to -2.45)	Very serious[5]	N/A	Serious[3]	Not Serious	Very low
Association between being in the intervention group and child-teacher relationship at 5 - 6 years of age: assessed by the modified Robert Pianta scale								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	β -0.30 (-1.01 to 0.41)[6]	Very serious[5]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and caregiver-rated positive approach to learning at 5 - 6 years of age: assessed by Achenbach /Edelbrock/Howell score								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	β 0.11 (-0.01 to 0.23)[6]	Very serious[5]	N/A	Serious[3]	NE[4]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Association between being in the intervention group and teacher-rated aggressive score at 5 - 6 years of age: assessed by Adjustment Scales for Preschool Intervention								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	β -1.57 (-1.41 to 4.55)[6]	Very serious[5]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and teacher-rated hyperactive score at 5 - 6 years of age: assessed by Adjustment Scales for Preschool Intervention								
1 (Lee 2016a, Lee 2016b)	Parallel RCT	162	β -3.28 (-6.26 to -0.30)[6]	Very serious[5]	N/A	Serious[3]	NE[4]	Very low

1. Adjusted for baseline preacademic skills, baseline behaviour problems, age, special education needs, gender, family income to needs ratio, authoritarian caregiving, parent child reading, change in caregiver over prior year.
2. Downgrade 2 levels for very serious risk of bias: Study did not provide information about differences between comparison groups for baseline characteristics other than for age and ethnicity; no information regarding whether any participants deviated from their planned intervention; no information about the approach to missing data or loss to follow up; unclear whether there was significant missing data and how this varied between comparison groups; outcomes could have been influenced by knowledge of the intervention group; unclear that blinding was performed; insufficient information provided about methods and analysis plan; no explanation of why certain covariables were included in the final model.
3. Downgrade 1 level for serious indirectness since study was based in USA
4. Downgraded twice as imprecision was not estimable
5. Downgrade 2 levels for very serious risk of bias: unclear how randomisation was performed; unclear if allocation concealment; no-shows accounted for 15 and 20 percent of the full randomly assigned Head Start sample; crossovers accounted for 17 and 14 percent of the randomly assigned control group; unclear how much missing data for participants included in this study; The "reading score" test was a test of oral comprehension (understanding of a spoken passage and ability to provide a missing word based on clues); Several other educational outcomes were available for analysis according to the full report, but were not reported in this study.
6. Adjusted for age, gender, special education needs, lower cognitive skills at baseline, ethnicity, education, family income, relative care, parental book reading.

Entering primary school-age education

Therapeutic playgroups vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Foster parent-rated social competence at 2 weeks follow up: assessed by Child Behavior Checklist								
1 (Pears 2007)	Parallel RCT	20	MD 1.53 (0.63 to 2.43)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Foster parent-rated externalising behaviours at 2 weeks follow up: assessed by Child Behavior Checklist								
1 (Pears 2007)	Parallel RCT	20	MD -2.20 (-5.59 to 1.19)	Very serious[1]	N/A	Serious[2]	Serious[3]	Very low
Foster parent-rated internalising behaviours at 2 weeks follow up: assessed by Child Behavior Checklist								
1 (Pears 2007)	Parallel RCT	20	MD 1.30 (-2.52 to 5.12)	Very serious[1]	N/A	Serious[2]	Very Serious[4]	Very low
Teacher-rated social problems at 1 month following the start of school: assessed by Teacher Report Form								
1 (Pears 2007)	Parallel RCT	20	MD 0.00 (-2.72 to 2.72)	Very serious[1]	N/A	Serious[2]	Very Serious[5]	Very low
Teacher-rated externalising behaviours at 1 month following the start of school: assessed by Teacher Report Form								
1 (Pears 2007)	Parallel RCT	20	MD 0.90 (-7.12 to 8.92)	Very serious[1]	N/A	Serious[2]	Very Serious[6]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Teacher-rated internalising behaviours at 1 month following the start of school: assessed by Teacher Report Form								
1 (Pears 2007)	Parallel RCT	20	MD 0.10 (-6.71 to 6.91)	Very serious[1]	N/A	Serious[2]	Very Serious[7]	Very low
Foster parent-rated emotional regulation at 2 weeks follow up: assessed by Emotion Regulation Checklist								
1 (Pears 2007)	Parallel RCT	20	MD -0.03 (-0.20 to 0.14)	Very serious[1]	N/A	Serious[2]	Very Serious[8]	Very low
Foster parent-rated emotional lability at 2 weeks follow up: assessed by Emotion Regulation Checklist								
1 (Pears 2007)	Parallel RCT	20	MD -0.14 (-0.34 to 0.06)	Very serious[1]	N/A	Serious[2]	Serious[9]	Very low
Assessor-rated emotional lability at 2 weeks follow up: assessed by Emotion Regulation Checklist								
1 (Pears 2007)	Parallel RCT	20	MD -0.41 (-0.65 to -0.17)	Very serious[1]	N/A	Serious[2]	Serious[10]	Very low
Teacher-rated emotional regulation at 1 month following the start of school: assessed by Emotion Regulation Checklist								
1 (Pears 2007)	Parallel RCT	20	MD -0.18 (-0.69 to 0.33)	Very serious[1]	N/A	Serious[2]	Serious[11]	Very low
Teacher-rated emotional lability at 1 month following the start of school: assessed by Emotion Regulation Checklist								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Pears 2007)	Parallel RCT	20	MD 0.22 (-0.26 to 0.70)	Very serious[1]	N/A	Serious[2]	Very Serious[12]	Very low

1. Downgrade 2 levels for very serious risk of bias: randomisation process not described; unclear if allocation concealment; reasons for participant attrition and missing data not provided; >10% lost to follow up or missing data; teachers and assessors were blinded to the intervention but foster parents were not; unclear that trial was analysed with a pre-specified plan (lots of missing information).
2. Downgrade 1 level for serious indirectness since study was based in USA
3. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.94)
4. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=1.25)
5. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=2.02)
6. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=5.05)
7. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=3.90)
8. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=0.08)
9. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.12)
10. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.26)
11. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.32)
12. Downgrade 2 levels for very serious imprecision since confidence intervals crossed two lines of minimum important effect (half the standard deviation of the control arm=0.28)

Kids in Transition to School (KITS) programme vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Initial sound fluency score following intervention: assessed by subtest of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.81 (-1.22 to 2.84)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Letter naming fluency following intervention: assessed by subtest of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.23 (-2.81 to 3.27)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Concepts about print score following intervention: assessed by the Concepts About Print test								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.65 (-0.37 to 1.67)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Caregiver rating of pre-reading skills following intervention: caregivers asked and scored on whether their child could recognise the letters of the alphabet and write his/her first name								
1 (Pears 2012, Pears	Parallel RCT	192	MD -0.13 (-0.37 to 0.11)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
(2013), Pears (2016), Lynch (2017))								
Association between being in the intervention group and early literacy skills following intervention before starting school: assessed by a composite of standardised means from indicators of early literacy skills above (initial sound fluency, letter naming fluency, concepts about print, and pre-reading skills).								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β 0.10 P<0.05[3]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low
Prosocial skills score following intervention: assessed by Preschool Penn Interactive Peer Play Scale (PIPPS) score								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.05 (-0.17 to 0.07)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Social competence score following intervention: assessed by the Child Behaviour Checklist								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.10 (-0.67 to 0.47)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Emotional understanding score following intervention: assessed by matching vignettes to correct emotional state								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.21 (-1.01 to 0.59)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Association between being in the intervention group and prosocial skills following intervention before starting school: assessed by composite of indicators of prosocial skills, above (prosocial skills score, social competence score, and emotional understanding score)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β 0.4 P>0.05[5]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low
Inhibitory control score following intervention: assessed by a composite score from the Inhibitory Control subscale and the Attentional Focusing subscale (of the Children's Behavior Questionnaire), the Inhibit subscale from the Brief Rating Inventory of Executive Function–Preschool Version, and two computer-administered tasks shown to activate specific regions of the prefrontal cortex and anterior cingulate gyrus								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.03 (-0.18 to 0.24)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Behavioural regulation score following intervention: assessed by a composite score of the Activity Level subscale and Impulsivity subscale (of the Childrens Behaviour Questionnaire), the Externalizing subscale (of the Child Behaviour Checklist), and the Lability subscale of the Emotion Regulation Checklist (ERC)								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.14 (-0.11 to 0.39)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Emotional regulation score following intervention: assessed by a composite score from the anger subscale and the reactivity/soothability subscale (of the Children's Behaviour Questionnaire), the Emotion Regulation scale (of the Emotion Regulation Checklist), and the Emotion Control subscale (of the BRIEF–P)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 0.00 (-0.22 to 0.22)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Association between being in the intervention group and self-regulatory skills following intervention before starting school: assessed by composite of indicators of self-regulation, above (inhibitory control, behavioural regulation, emotional regulation)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β 0.11 P<0.05[6]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low
Teacher-reported aggressive behaviour at the end of kindergarten year: assessed by the aggressive behavior subscales of the Teacher Report Form								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -1.84 (-4.81 to 1.13)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Teacher-reported delinquent behaviour at the end of kindergarten year: assessed by the delinquent behavior subscales of the Teacher Report Form								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.58 (-1.21 to 0.05)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Teacher-reported oppositional behaviour at the end of kindergarten year: assessed by the oppositional subscale of the Conners' Teacher Ratings Scales-Revised: Short version (CTRS:S)								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.81 (-1.78 to 0.16)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Association between being in the intervention group and child oppositional and aggressive behaviours at the end of kindergarten year: assessed by composite of indicators of oppositional and aggressive behaviours, above (aggressive behaviour, delinquent behaviour, and oppositional behaviour).								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β -0.17 P<0.05[7]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low
Days free from internalising symptoms over 12 months of kindergarten: assessed by symptom reports from caregivers on the Child Behavior Checklist (CBCL) to create days that had significant internalizing symptoms								
1 (Pears 2012, Pears	Parallel RCT	192	MD 26.00 (0.05 to 51.95)	Very serious[1]	N/A	Serious[2]	Serious[8]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
(2013), Pears (2016), Lynch (2017))								
Days free from externalising problems over 12 months of kindergarten: assessed by symptom reports from caregivers on the Child Behavior Checklist (CBCL) to create days that had significant externalizing behaviors								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 26.60 (-2.76 to 55.96)	Very serious[1]	N/A	Serious[2]	Serious[9]	Very low
Positive attitudes towards alcohol at 9 years of age: assessed by questions adapted from the Monitoring the Future National Survey Questionnaire								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.30 (-0.50 to -0.10)	Very serious[1]	N/A	Serious[2]	Serious[10]	Very low
Positive attitudes towards antisocial behaviours at 9 years of age: assessed based on responses to two questions - "What are some of the things you think teenagers do for fun with their friends?" and "What are some of the things you think teenagers do when their moms or dads are not there?"								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.09 (-0.27 to 0.09)	Very serious[1]	N/A	Serious[2]	Serious[11]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Involvement with deviant peers at 9 years of age: assessed by responses to questions about whether "none", "some", or "all" of their friends were involved in five rule-breaking or deviant behaviors								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD -0.19 (-0.44 to 0.06)	Very serious[1]	N/A	Serious[2]	Not Serious	Very low
Self-competence at 9 years of age: assessed by six questions on the Global Self-Worth Scale of the Self-Perception Profile for Children.								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	MD 1.91 (0.82 to 3.00)	Very serious[1]	N/A	Serious[2]	Serious[12]	Very low
Association between being in the intervention group and positive attitudes towards alcohol at 9 years of age: assessed by questions adapted from the Monitoring the Future National Survey Questionnaire								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β -0.34 P<0.05[13]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low
Association between being in the intervention group and positive attitudes towards antisocial behaviour at 9 years of age: assessed based on two questions - "What are some of the things you think teenagers do for fun with their friends?" and "What are some of the things you think teenagers do when their moms or dads are not there?"								
1 (Pears 2012, Pears	Parallel RCT	192	β -0.11 P<0.05[13]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
(2013), Pears (2016), Lynch (2017))								
Association between being in the intervention group and self-competence at 9 years of age: assessed based on the Global Self-Worth Scale of the Self-Perception Profile for Children								
1 (Pears 2012, Pears (2013), Pears (2016), Lynch (2017))	Parallel RCT	192	β 1.95 P<0.01[13]	Very serious[1]	N/A	Serious[2]	NE[4]	Very low

1. Downgrade 2 levels for very serious risk of bias: randomisation process not described; unclear if allocation concealment; there was significant missing data "ranging from 0 - 40%" across measures; unclear how different outcomes were affected by missing data; reasons for missing data not outlined; unclear how quantity of missing data differed between intervention groups; insufficient information to confirm pre-specified protocol/no cited protocol; Composite outcomes were frequently created from the results of multiple (separate) scales, these subscales were not reported separately. There was also no cited protocol to show that methods of analysing data had been pre-agreed.
2. Downgrade 1 level for serious indirectness since study was based in USA
3. Adjusted for general cognitive ability at baseline and early literacy skills at baseline
4. Downgraded twice as imprecision was not estimable
5. Adjusted for gender, kinship foster care, prosocial skills at baseline
6. Adjusted for gender, Latino ethnicity, self-regulatory skills at baseline, day-care attendance
7. Adjusted for oppositional and aggressive behaviours at baseline, gender, overall level of disruptiveness in classroom
8. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=50.75)
9. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=52.30)
10. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.41)
11. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.16)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality

12. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=2.09)
13. Adjusted for gender, general cognitive ability at baseline, kinship foster care, child oppositional and aggressive behaviour at baseline, placement changes during study, other psychological/educational services

Entering secondary school-age education

Middle school success intervention vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Association between being in the intervention group and foster parent and girl reported internalising problems at 6 months: assessed by Parent Daily Report Checklist								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	β -0.28 P<0.01[1]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and foster parent and girl reported externalising problems at 6 months: assessed by Parent Daily Report Checklist								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	β -0.21 P<0.01[5]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Association between being in the intervention group and foster parent and girl reported prosocial behaviour at 6 months: assessed by Parent Daily Report Checklist								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	β 0.15 P>0.05[6]	Very serious[2]	N/A	Serious[3]	NE[4]	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Prosocial behaviour score at 6/12 months follow up: assessed by a subscale from the Parent Daily Report Checklist								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD 0.06 (0.01 to 0.11)	Very serious[2]	N/A	Serious[3]	Serious[7]	Very low
Caregiver-reported Internalising/externalising symptoms score at 12/24 months follow up: assessed by the Achenbach System of Empirically Based Assessment								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD 0.27 (-3.03 to 3.57)	Very serious[2]	N/A	Serious[3]	Not Serious	Very low
Self-reported association with delinquent peers score at 12 months follow up: assessed by a modified version of the general delinquency scale from the Self-Report Delinquency Scale								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	**Beta -0.21 SE 0.09 P<0.05**	Very serious[2]	N/A	Serious[3]	NE[4]	Very low
Delinquent behaviour score at 3 years follow up: assessed using the Self-Report Delinquency Scale								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -0.65 (-1.43 to 0.13)	Very serious[2]	N/A	Serious[3]	Serious[8]	Very low
Association with delinquent peers score at 3 years follow up: assessed by a modified version of the general delinquency scale from the Self-Report Delinquency Scale								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -0.34 (-0.71 to 0.03)	Very serious[2]	N/A	Serious[3]	Serious[9]	Very low
Substance use score at 3 years follow up (composite): girls were asked how many times in the past year they had (a) smoked cigarettes or chewed tobacco, (b) drank alcohol (beer, wine, or hard liquor), and (c) used marijuana. The response scale ranged from 1 (never) through 9 (daily).								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -0.74 (-1.33 to -0.15)	Very serious[2]	N/A	Serious[3]	Serious[10]	Very low
Tobacco use score at 3 years follow up (composite): girls were asked how many times in the past year they had smoked cigarettes or chewed tobacco. The response scale ranged from 1 (never) through 9 (daily).								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -0.87 (-1.69 to -0.05)	Very serious[2]	N/A	Serious[3]	Serious[11]	Very low
Alcohol use score at 3 years follow up (composite): girls were asked how many times in the past year they had drank alcohol (beer, wine, or hard liquor). The response scale ranged from 1 (never) through 9 (daily).								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -0.31 (-0.78 to 0.16)	Very serious[2]	N/A	Serious[3]	Serious[12]	Very low
Marijuana use score at 3 years follow up (composite): girls were asked how many times in the past year they had used marijuana. The response scale ranged from 1 (never) through 9 (daily).								
1 (Kim 2011, Smith 2011)	Parallel RCT	100	MD -1.04 (-1.74 to -0.34)	Very serious[2]	N/A	Serious[3]	Serious[13]	Very low

1. Adjusted for age, maltreatment history, pubertal development, internalising behaviours at baseline
2. Downgrade 2 levels for very serious risk of bias: unclear if allocation concealment; approximately 10% loss to follow up by 2 years; analysis of outcomes at various time points appeared to be decided post-hoc; results (apart from results for substance use and delinquency) appear to have been selected on the basis of results across multiple time points.
3. Downgrade 1 level for serious indirectness since study was based in USA
4. Downgraded 2 levels as imprecision was not estimable
5. Adjusted for age, maltreatment history, pubertal development, externalising behaviours at baseline
6. Adjusted for age, maltreatment history, pubertal development, prosocial behaviours at baseline
7. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.07)
8. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.35)

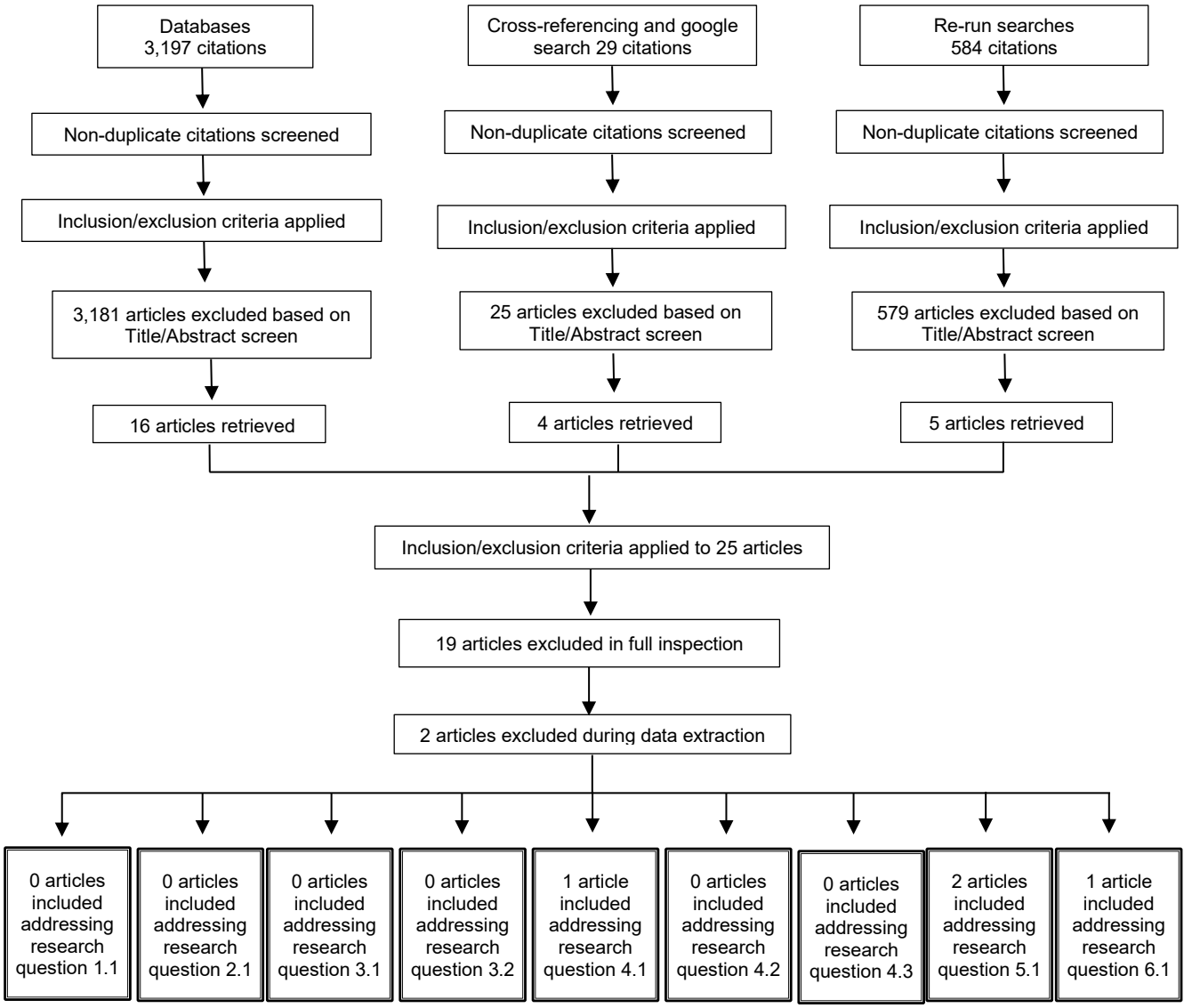
No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality

9. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.51)
10. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.97)
11. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.25)
12. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=0.73)
13. Downgrade 1 level for serious imprecision since confidence intervals crossed one line of minimum important effect (half the standard deviation of the control arm=1.22)

Qualitative evidence

No qualitative evidence regarding interventions of interest were identified

Appendix G – Economic evidence study selection



Appendix H – Economic evidence tables

Study	Lynch FL, Dickerson JF, Pears KC et al. (2017) Cost effectiveness of a school readiness intervention for foster children. Children and Youth Services Review 81: 63-71			
Study details	**Population & interventions**	**Costs**	**Outcomes**	**Cost effectiveness**
Economic analysis: cost-effectiveness analysis **Study design:** economic analysis alongside RCT **Approach to analysis:** Incremental costs were estimated from RCT utilisation. The difference in symptom free days was used to summarise the effect of the intervention. Probabilistic sensitivity analysis used repeated sampling with bootstrapping. **Perspective:** US public services perspective **Time horizon:** 1 year **Intervention effect duration:** 1 year **Discounting:** not applicable	**Population:** 192 children in pre-schooler age (kinship and non-kinship) **Cohort settings** **Intervention 1:** Kids in transition to school intervention (KITS) [a] **Intervention 2:** standard foster care	**Total costs (mean per individual):** Int1: $6,422 (£4,523) Int 2: $4,746 (£3,343) **Currency & cost year:** US dollars (2017) [b] **Cost components incorporated:** additional standard services, intervention costs (payroll, facilities and overhead, goods and services, staff and training)	Mean, standard deviation (SD) **Internalising free days (IFD)** **Int1:** 310.5 (SD 78.8) **Int2:** 284.5 (SD 101.5), p=0.016 **Externalising free days (EFD)** **Int1:** 218.6 (SD 102.4) **Int2:** 192.0 (SD 104.6), p=0.049	**Full incremental analysis:** KITS intervention was both more effective and more costly: $64/IFD (£45/IFD) $63/EFD (£44/EFD) **Analysis of uncertainty:** At a willingness to pay of $100 (£70) KITS was cost-effective in 78.7% of times (IFD) and 75.3% for EFD.
Data sources				
Outcomes: Number of IFD and EFD for the intervention and control groups were obtained from the RCT informing the analysis (Pears 2010, Pears 2012 and Pears 2013) using symptom reports from carers on the Child Behavior Checklist (Achenbach 1991)				

Costs: Usual care services use was self-reported by carers using a purpose made questionnaire. Service costs use published reference costs. The resources required for KITS were estimated from the clinical trial assessing the efficacy of the intervention.
Comments
Source of funding: Division of Epidemiology, Services and Prevention Research, Prevention Research Branch, National Institute on Drug Abuse, U.S. Public Health Service. The co-authors KCP and PAF are co-developers of the KITS intervention.
Overall applicability: Partially applicable
Study conducted from a public services perspective in the US. Results presented as costs per IFD or EFD which may be of limited use when comparing alternative interventions for implementation in the UK. The analysis does not explore the medium to long term costs and consequences of the intervention.
Overall quality: Very serious limitations
The analysis was informed by a single RCT with very low quality. The authors used IFD and EFD as a measure of days free from self-regulatory problems and lack of social skills, respectively. These were derived from the Child Behaviour Checklist scores, which did not reach a statistically significant difference in the trial (Pears 2013). Missing data in 24% of participants.

(a) Intervention lasting 16 weeks: 24-session school readiness group (2 hours twice weekly in summer, 2 hours once weekly in fall), 8-session caregiver group (2 hours every 2 weeks). KITS manualised curriculum covers early literacy skills, essential social skills and self-regulatory skills.

(b) Converted to 2018 British pounds using the EPPI Centre cost converter, conversion ratio 1.42.

Study quality checklists

Lynch 2017

Study identification **Lynch FL, Dickerson JF, Pears KC et al. (2017) Cost effectiveness of a school readiness intervention for foster children. Children and Youth Services Review 81: 63-71**		
Guidance topic: LACYP guideline update		**Question no:** 4.1
Checklist completed by: Rui Martins		
Section 1: Applicability (relevance to specific review questions and the NICE reference case as described in section 7.5) This checklist should be used first to filter out irrelevant studies.	**Yes/partly/no/unclear/NA**	**Comments**
1.1 Is the study population appropriate for the review question?	Partly	Conducted from US perspective
1.2 Are the interventions appropriate for the review question?	Yes	

1.3 Is the system in which the study was conducted sufficiently similar to the current UK context?	Partly	US and UK's education and social care systems are likely to have significant differences
1.4 Are the perspectives for costs clearly stated and are they appropriate for the review question?	Yes	
1.5 Are all direct effects on individuals included, and are all other effects included where they are material?	Partly	The economic analysis used only EFD and IFD as measures of effectiveness of the intervention whilst the original RCT (Pears 2012) reports several child outcomes of the intervention. Outcome choice may have been selected based on significance.
1.6 Are all future costs and outcomes discounted appropriately?	NA	1-year time horizon
1.7 Are QALYs, derived using NICE's preferred methods, or an appropriate social care-related equivalent used as an outcome? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above).	NA	Cost-effectiveness analysis
1.8 If applicable, are costs and outcomes from other sectors fully and appropriately measured and valued?	Yes	
1.9 Overall judgement: Partially applicable		
Other comments:		
Section 2: Study limitations (the level of methodological quality) This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the guideline	**Yes/partly/no/unclear/NA**	**Comments**
2.1 Does the model structure adequately reflect the nature of the topic under evaluation?	NA	No formal modelling was conducted. ICER calculated based on comparators difference in costs informed by 1 RCT data and one measure of effectiveness.

2.2 Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	Analysis considers the 1-year duration of the trial only. No exploration of the long-term effects of the intervention.
2.3 Are all important and relevant outcomes included?	No	Only one effectiveness outcome (symptom-free days) was considered
2.4 Are the estimates of baseline outcomes from the best available source?	Partly	Relevant population, randomised study design but one single RCT
2.5 Are the estimates of relative intervention effects from the best available source?	Partly	Relevant population, randomised study design but one single RCT. Only 76% of the participants had complete data, imputation used to complete individual records.
2.6 Are all important and relevant costs included?	Yes	
2.7 Are the estimates of resource use from the best available source?	Yes	
2.8 Are the unit costs of resources from the best available source?	Yes	
2.9 Is an appropriate incremental analysis presented or can it be calculated from the data?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?	Partly	PSA uses bootstrapping.
2.11 Is there no potential conflict of interest?	Partly	Creator of the KITS programme is co-author in the economic analysis. Funding from public sources.
2.12 Overall assessment: Very serious limitations		
Other comments: None		

Appendix I – Health economic model

No economic modelling was undertaken for this review question.

Appendix J – Excluded studies

Effectiveness studies

Study	Reason for exclusion
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: XI. Intervention effects on caregiver-child interactions (infant affect manual, attachment variables).. Monographs of the Society for Research in Child Development 73(3): 187-223	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: X. Effects of the interventions on caregiver-child Interactions during free play (PCERA).. Monographs of the Society for Research in Child Development 73(3): 167-186	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: IX. The effects of the intervention on children's general behavioral development (Battelle Developmental Inventory).. Monographs of the Society for Research in Child Development 73(3): 142-166	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: VIII. Intervention effects on physical growth.. Monographs of the Society for Research in Child Development 73(3): 124-141	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: VII. Orphanage staff attitudes, perceptions, and feelings.. Monographs of the Society for Research in Child Development 73(3): 108-123	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children: VI. Caregiver behavior on the wards (home inventory).. Monographs of the Society for Research in Child Development 73(3): 95-107	- Non-OECD country
(2008) The effects of early social-emotional and relationship experience on the development of young orphanage children. V. Evidence that the interventions were implemented as planned.. Monographs of the Society for Research in Child Development 73(3): 84-94	- Non-OECD country
Bailey C., Klas A., Cox R. et al. (2019) Systematic review of organisation-wide, trauma-informed care models in out-of-home care (OoHC) settings. Health & social care in the community 27(3): e10-e22	- Systematic review, considered for relevant references

Study	Reason for exclusion
Bakermans-Kranenburg, Marian J, van IJzendoorn, Marinus H, Juffer, Femmie et al. (2008) Earlier is better: A meta-analysis of 70 years of intervention improving cognitive development in institutionalized children.. Monographs of the Society for Research in Child Development 73(3): 279-293	- Meta analysis based on studies from earlier than 1990, or from non-OECD countries
Bernard K.; Hostinar C.E.; Dozier M. (2015) Intervention effects on diurnal cortisol rhythms of Child Protective Services-referred infants in early childhood preschool follow-up results of a randomized clinical trial. JAMA Pediatrics 169(2): 112-119	- Unclear that LACYP were included (an intervention to help divert children away from entering foster care)
Berument S.K. (2013) Environmental enrichment and caregiver training to support the development of birth to 6-year-olds in Turkish orphanages. Infant Mental Health Journal 34(3): 189-201	- Quasi-experimental study, excluded as sufficient RCT evidence was identified
Bick J. and Dozier M. (2013) The effectiveness of an attachment-based intervention in promoting foster mothers' sensitivity toward foster infants. Infant Mental Health Journal 34(2): 95-103	- To be considered under a different review question (RQ2.1)
Brannstrom, Lars; Vinnerljung, Bo; Hjern, Anders (2013) Long-term outcomes of Sweden's Contact Family Program for children.. Child abuse & neglect 37(6): 404-14	- Does not include LACYP population
Bronz, Kimberly Dawn (2004) Effects of a therapeutic playgroup intervention on the social competence and executive functioning of young children in foster care.. Dissertation Abstracts International Section A: Humanities and Social Sciences 65(6a): 2082	- Dissertation abstract
Bruce, Jacqueline, McDermott, Jennifer Martin, Fisher, Philip A et al. (2009) Using behavioral and electrophysiological measures to assess the effects of a preventive intervention: a preliminary study with preschool-aged foster children.. Prevention science : the official journal of the Society for Prevention Research 10(2): 129-40	- No outcomes of interest
Bruce, J., Pears, K.C., McDermott, J.M. et al. (2020) Effects of a school readiness intervention on electrophysiological indices of external response monitoring in children in foster care. Development and psychopathology: 1-11	- no outcomes of interest
Bruhn, Christina M, Duval, Denise, Louderman, Richard et al. (2008) Centralized assessment of early developmental delays in children in foster care: A program that works.. Children and Youth Services Review 30(5): 536-545	- To be considered under a different review question (RQ3.1)
Burry, Caroline L and Noble, Lynne S (2001) The STAFF Project: Support and Training for Adoptive and Foster Families of infants	- No outcome of interest reported

Study	Reason for exclusion
with prenatal substance exposure.. Journal of Social Work Practice in the Addictions 1(4): 71-82	
Byrne, Nicole (2017) Systematic review of speech and language therapy outcomes for children who are in Out of Home Care (OOHC).. Speech, Language and Hearing 20(1): 57-61	- Systematic review considered for relevant references
Bywater, Tracey Jane, Hutchings, Judith Mary, Gridley, Nicole et al. (2011) Incredible years parent training support for nursery staff working within a disadvantaged flying start area in Wales: A feasibility study.. Child Care in Practice 17(3): 285-302	- Does not include LACYP population
Catay Z. and Kologlugil D. (2017) IMPACT OF A SUPPORT GROUP FOR THE CAREGIVERS AT AN ORPHANAGE IN TURKEY. Infant Mental Health Journal 38(2): 289-305	- Quasi-experimental study, excluded as sufficient RCT evidence was identified
Chamberlain, Patricia (2003) An application of multidimensional treatment foster care for early intervention.. Treating chronic juvenile offenders: Advances made through the Oregon multidimensional treatment foster care model.: 129-140	- Review article
Chernego, Daria I, McCall, Robert B, Wanless, Shannon B et al. (2018) The effect of a social-emotional intervention on the development of preterm infants in institutions.. Infants & Young Children 31(1): 37-52	- Non-OECD country
Chinitz, Susan, Guzman, Hazel, Amstutz, Ellen et al. (2017) Improving outcomes for babies and toddlers in child welfare: A model for infant mental health intervention and collaboration.. Child abuse & neglect 70: 190-198	- To be considered under a different review question (RQ2.1, RQ1.1, RQ3.2)
COHON Donald J. and et al (2001) Specialized foster care for medically complex drug-exposed HIV positive infants: the Baby Moms Program. Children and Youth Services Review 23(11): 831-863	- Intervention description/practice report and data not reported in an extractable format
Cole S.A. (2005) Infants in foster care: Relational and environmental factors affecting attachment. Journal of Reproductive and Infant Psychology 23(1): 43-61	- Study does not consider a relevant intervention
Craven, Patricia Ann and Lee, Robert E (2006) Therapeutic Interventions for Foster Children: A Systematic Research Synthesis.. Research on Social Work Practice 16(3): 287-304	- Systematic review considered for relevant references
Crockenberg, Susan C (2008) How valid are the results of the St. Petersburg-USA Orphanage Intervention Study and what do they mean for the world's children?. Monographs of the Society for Research in Child Development 73(3): 263-270	- Non-OECD country - Book

Study	Reason for exclusion
Debnath, Ranjan, Tang, Alva, Zeanah, Charles H et al. (2019) The Long-term effects of institutional rearing, foster care intervention and disruptions in care on brain electrical activity in adolescence.. Developmental science: e12872	- Non-OECD country
Dozier M., Higley E., Albus K.E. et al. (2002) Intervening with foster infants' caregivers: Targeting three critical needs. Infant Mental Health Journal 23(5): 541-554	- Intervention description/practice report
Dozier M. and Sepulveda S. (2004) Foster mother state of mind and treatment use: Different challenges for different people. Infant Mental Health Journal 25(4): 368-378	- Case study - Intervention description/practice report
Dozier, Mary; Bick, Johanna; Bernard, Kristin (2011) Intervening With Foster Parents to Enhance Biobehavioral Outcomes Among Infants and Toddlers.. Zero to three 31(3): 17-22	- Case study - Review article - Intervention description/practice report
Dozier, Mary, Lindhiem, Oliver, Ackerman, John P et al. (2005) Attachment and Biobehavioral Catch-Up: An Intervention Targeting Empirically Identified Needs of Foster Infants.. Enhancing early attachments: Theory, research, intervention, and policy.: 178-194	- Not a relevant study design
Dozier, Mary, Peloso, Elizabeth, Lewis, Erin et al. (2008) Effects of an attachment-based intervention on the cortisol production of infants and toddlers in foster care.. Development and psychopathology 20(3): 845-59	- To be considered under a different review question (RQ2.1, RQ3.2)
Dozier, Mary, Peloso, Elizabeth, Lindhiem, Oliver et al. (2006) Developing Evidence-Based Interventions for Foster Children: An Example of a Randomized Clinical Trial with Infants and Toddlers.. Journal of Social Issues 62(4): 767-785	- To be considered under a different review question (RQ2.1, RQ3.2)
Evans, Rhiannon, Brown, Rachel, Rees, Gwyther et al. (2017) Systematic review of educational interventions for looked-after children and young people: Recommendations for intervention development and evaluation.. British Educational Research Journal 43(1): 68-94	- Systematic review considered for relevant references
Fisher, P A, Gunnar, M R, Chamberlain, P et al. (2000) Preventive intervention for maltreated preschool children: impact on children's behavior, neuroendocrine activity, and foster parent functioning.. Journal of the American Academy of Child and Adolescent Psychiatry 39(11): 1356-64	- To be considered under a different review question (RQ2.1, RQ3.2)

Study	Reason for exclusion
Fisher, Philip A; Burraston, Bert; Pears, Katherine (2005) The early intervention foster care program: permanent placement outcomes from a randomized trial.. Child maltreatment 10(1): 61-71	- To be considered under a different review question (RQ1.1)
Fisher, Philip A and Chamberlain, Patricia (2000) Multidimensional treatment foster care: A program for intensive parenting, family support, and skill building.. Journal of Emotional and Behavioral Disorders 8(3): 155-164	- Review article
Fisher, Philip A and Chamberlain, Patricia (2001) Multidimensional treatment foster care: A program for intensive parenting, family support, and skill building.. Making schools safer and violence free: Critical issues, solutions, and recommended practices.: 140-149	- Duplicate reference
Fisher, Philip A, Gunnar, Megan R, Dozier, Mary et al. (2006) Effects of therapeutic interventions for foster children on behavioral problems, caregiver attachment, and stress regulatory neural systems.. Annals of the New York Academy of Sciences 1094: 215-25	- Review article
Fisher, Philip A and Kim, Hyoun K (2007) Intervention effects on foster preschoolers' attachment-related behaviors from a randomized trial.. Prevention science : the official journal of the Society for Prevention Research 8(2): 161-70	- To be considered under a different review question (RQ2.1)
Fisher, Philip A, Kim, Hyoun K, Pears, Katherine C et al. (2009) Effects of multidimensional treatment foster care for preschoolers (MTFC-P) on reducing permanent placement failures among children with placement instability.. Children and Youth Services Review 31(5): 541-546	- To be considered under a different review question (RQ1.1)
Fisher, Philip A and Stoolmiller, Mike (2008) Intervention effects on foster parent stress: associations with child cortisol levels.. Development and psychopathology 20(3): 1003-21	- No outcomes of interest
Fisher, Philip A, Stoolmiller, Mike, Gunnar, Megan R et al. (2007) Effects of a therapeutic intervention for foster preschoolers on diurnal cortisol activity.. Psychoneuroendocrinology 32(810): 892-905	- To be considered under a different review question (RQ3.2)
Fisher, Philip A, Stoolmiller, Mike, Mannering, Anne M et al. (2011) Foster placement disruptions associated with problem behavior: mitigating a threshold effect.. Journal of consulting and clinical psychology 79(4): 481-7	- To be considered under a different review question (RQ1.1, RQ 2.1)
Frame, L; Berrick, J D; Brodowski, M L (2000) Understanding reentry to out-of-home care for reunified infants.. Child welfare 79(4): 339-69	- Not an intervention of interest - Not a relevant study design

Study	Reason for exclusion
Gamache, Susan, Mirabell, Dianne, Avery, Lisa et al. (2006) Early childhood developmental and nutritional training for foster parents.. Child & Adolescent Social Work Journal 23(56): 501-511	- No outcome of interest reported
Graham, Alice M, Pears, Katherine C, Kim, Hyoun K et al. (2018) Effects of a school readiness intervention on hypothalamus-pituitary-adrenal axis functioning and school adjustment for children in foster care.. Development and psychopathology 30(2): 651-664	- To be considered under a different review question (RQ3.2)
Graham, Alice M, Yockelson, Melissa, Kim, Hyoun K et al. (2012) Effects of maltreatment and early intervention on diurnal cortisol slope across the start of school: A pilot study.. Child Abuse & Neglect 36(9): 666-670	- To be considered under a different review question (RQ3.2)
Harvey, Aminifu R; Loughney, Georgette K; Moore, Janae (2002) A model program for African American children in the foster care system.. Journal of health & social policy 16(12): 195-206	- No outcome of interest reported - Intervention description/practice report
Hawk B.N., Mccall R.B., Groark C.J. et al. (2018) CAREGIVER SENSITIVITY AND CONSISTENCY AND CHILDREN'S PRIOR FAMILY EXPERIENCE AS CONTEXTS FOR EARLY DEVELOPMENT WITHIN INSTITUTIONS. Infant Mental Health Journal 39(4): 432-448	- Non-OECD country
Heller S.S.; Smyke A.T.; Boris N.W. (2002) Very young foster children and foster families: Clinical challenges and interventions. Infant Mental Health Journal 23(5): 555-575	- Intervention description/practice report
Hermenau, Katharin, Goessmann, Katharina, Rygaard, Niels Peter et al. (2017) Fostering Child Development by Improving Care Quality: A Systematic Review of the Effectiveness of Structural Interventions and Caregiver Trainings in Institutional Care.. Trauma, violence & abuse 18(5): 544-561	- Systematic review considered for relevant references
Hillen T., Gafson L., Drage L. et al. (2012) Assessing the prevalence of mental health disorders and mental health needs among preschool children in care in England. Infant Mental Health Journal 33(4): 411-420	- Study does not contain a relevant intervention
Hindman, Annemarie H and Morrison, Frederick J (2011) Family involvement and educator outreach in Head Start.. The Elementary School Journal 111(3): 359-386	- Comparator in study does not match that specified in protocol

Study	Reason for exclusion
Hobbie, C; Braddock, M; Henry, J (2000) Medical assessment of children going into emergency out-of-home placement.. Journal of pediatric health care : official publication of National Association of Pediatric Nurse Associates & Practitioners 14(4): 172-9	- Intervention description/practice report
Horwitz, S M; Owens, P; Simms, M D (2000) Specialized assessments for children in foster care.. Pediatrics 106(1pt1): 59-66	- To be considered under a different review question (RQ3.2)
Howell K.H., Miller L.E., Lilly M.M. et al. (2013) Fostering social competence in preschool children exposed to intimate partner violence: Evaluating the preschool kids' club intervention. Journal of Aggression, Maltreatment and Trauma 22(4): 425-445	- Does not include LACYP population
Humphreys K.L., Miron D., McLaughlin K.A. et al. (2018) Foster care promotes adaptive functioning in early adolescence among children who experienced severe, early deprivation. Journal of child psychology and psychiatry, and allied disciplines 59(7): 811-821	- Non-OECD country
Humphreys, Cathy and Kiraly, Meredith (2011) High-frequency family contact: A road to nowhere for infants.. Child & Family Social Work 16(1): 1-11	- To be considered under a different review question (RQ5.1, RQ5.2)
IRCT2016040621090N2 (2016) The effect of developmental stimulation program on developmental criterion in children 1-3 years old of foster care. Http://www.who.int/trialsearch/trial2.aspx?Trialid=irct2016040621090n2	- Non-OECD country
Jankowski, Kathryn F, Bruce, Jacqueline, Beauchamp, Kathryn G et al. (2017) Preliminary evidence of the impact of early childhood maltreatment and a preventive intervention on neural patterns of response inhibition in early adolescence.. Developmental science 20(4)	- To be considered under a different review question (RQ2.1)
Jonkman C.S., Bolle E.A., Lindeboom R. et al. (2012) Multidimensional treatment foster care for preschoolers: Early findings of an implementation in the Netherlands. Child and Adolescent Psychiatry and Mental Health 6: 38	- To be considered under a different review question (RQ2.1)
Jonkman, Caroline S, Schuengel, Carlo, Lindeboom, Robert et al. (2013) The effectiveness of Multidimensional Treatment Foster Care for Preschoolers (MTFC-P) for young children with severe behavioral disturbances: study protocol for a randomized controlled trial.. Trials 14: 197	- RCT protocol

Study	Reason for exclusion
Jonkman, Caroline S, Schuengel, Carlo, Oosterman, Mirjam et al. (2017) Effects of Multidimensional Treatment Foster Care for Preschoolers (MTFC-P) for young foster children with severe behavioral disturbances.. Journal of Child and Family Studies 26(5): 1491-1503	- To be considered under a different review question (RQ2.1, RQ3.2)
Kang, Hyunah, Chung, Ick-Joong, Chun, JongSerl et al. (2014) The outcomes of foster care in South Korea ten years after its foundation: A comparison with institutional care.. Children and Youth Services Review 39: 135-143	- Not an intervention of interest
Kemmis-Riggs, Jacqueline; Dickes, Adam; McAloon, John (2018) Program Components of Psychosocial Interventions in Foster and Kinship Care: A Systematic Review.. Clinical child and family psychology review 21(1): 13-40	- Systematic review considered for relevant references
KENRICK Jenny (2010) Concurrent planning (2) 'the rollercoaster of uncertainty'. Adoption and Fostering 34(2): 38-48	- To be considered under a different review question (RQ5.2)
KENRICK Jenny (2009) Concurrent planning: a retrospective study of the continuities and discontinuities of care, and their impact on the development of infants and young children placed for adoption by the Coram Concurrent Planning Project. Adoption and Fostering 33(4): 5-18	- To be considered under a different review question (RQ5.2)
Kim, Tae Im; Shin, Yeong Hee; White-Traut, Rosemary C; Multisensory intervention improves physical growth and illness rates in Korean orphaned newborn infants.; Research in nursing & health; 2003; vol. 26 (no. 6); 424-33	- To be considered under a different review question (RQ3.2)
Kim, Hyoun K, Pears, Katherine C, Leve, Leslie D et al. (2013) Intervention effects on health-risking sexual behavior among girls in foster care: The role of placement disruption and tobacco and marijuana use.. Journal of Child & Adolescent Substance Abuse 22(5): 370-387	- To be considered under a different review question (RQ1.1, RQ3.2)
Klag, Stefanie, Fox, Tara, Martin, Graham et al. (2016) Evolve Therapeutic Services: A 5-year outcome study of children and young people in out-of-home care with complex and extreme behavioural and mental health problems.. Children and Youth Services Review 69: 268-274	- To be considered under a different review question (RQ2.1, RQ3.2, RQ4.2)
KLEIN Sacha M.; FALCONER Mary Kay; BENSON Stephanie M. (2016) Early care and education for children in the child welfare system: evaluations of two training programs. Journal of Public Child Welfare 10(2): 152-175	- No outcome of interest reported

Study	Reason for exclusion
Klein, Sacha, Fries, Lauren, Emmons, Mary M et al. (2017) Early care and education arrangements and young children's risk of foster placement: Findings from a National Child Welfare Sample.. Children and Youth Services Review 83: 168-178	- To be considered under a different review question (RQ5.1)
Lakes, Kimberley D, Vargas, Danyel, Riggs, Matt et al. (2011) Parenting intervention to reduce attention and behavior difficulties in preschoolers: A CUIDAR evaluation study.. Journal of Child and Family Studies 20(5): 648-659	- Does not include LACYP population
Laurent, Heidemarie K, Gilliam, Kathryn S, Bruce, Jacqueline et al. (2014) HPA stability for children in foster care: mental health implications and moderation by early intervention.. Developmental psychobiology 56(6): 1406-15	- To be considered under a different review question (RQ3.2)
Lecannelier, Felipe, Silva, Jaime R, Hoffmann, Marianela et al. (2014) Effects of an intervention to promote socioemotional development in terms of attachment security: a study in early institutionalization in Chile.. Infant mental health journal 35(2): 151-9	- Quasi-experimental study, excluded as sufficient RCT evidence was identified
Lederman C. and Osofsky J.D. (2008) A judicial-mental health partnership to heal young children in juvenile court. Infant Mental Health Journal 29(1): 36-47	- Intervention description/practice report - Case study
Lee R.E. and Stacks A.M. (2004) In whose arms? Using relational therapy in supervised family visitation with very young children in foster care. Journal of Family Psychotherapy 15(4): 1-14	- Case study - Intervention description/practice report
Lee, K. (2020) Long-term Head Start Impact on developmental outcomes for children in foster care. Child Abuse and Neglect 101: 104329	Committee had previously stated they were not interested in this intervention since it offered services on offer in the UK already
Levy, Terry M and Orlans, Michael (2003) Creating and Repairing Attachments in Biological, Foster, and Adoptive Families.. Attachment processes in couple and family therapy.: 165-190	- Book - Review article
Lynch, Frances L, Dickerson, John F, Saldana, Lisa et al. (2014) Incremental net benefit of early intervention for preschool-aged children with emotional and behavioral problems in foster care.. Children and Youth Services Review 36: 213-219	- To be considered under a different review question (RQ1.1)
Manheimer, Lauren (2000) Child Life in a nonhospital setting: A play group for substance abusers and their drug-exposed infants	- Intervention description/practice report

Study	Reason for exclusion
and toddlers.. Protecting the emotional development of the ill child: The essence of the child life profession.: 173-189	
MANNISTO Inka I. and PIRTTIMAA Raija A. (2018) A review of interventions to support the educational attainments of children and adolescents in foster care. Adoption and Fostering 42(3): 266-281	- Systematic review considered for relevant references
Marcellus, Lenora (2004) Developmental evaluation of the Safe Babies project: application of the COECA model.. Issues in comprehensive pediatric nursing 27(2): 107-19	- Intervention description/practice report
McBeath, Bowen, Kothari, Brianne H, Blakeslee, Jennifer et al. (2014) Intervening to improve outcomes for siblings in foster care: Conceptual, substantive, and methodological dimensions of a prevention science framework.. Children and Youth Services Review 39: 1-10	- To be considered under a different review question (RQ2.1)
McCrae, Julie S, Brown, Samantha M, Yang, Jessica et al. (2016) Enhancing early childhood outcomes: Connecting child welfare and Head Start.. Early Child Development and Care 186(7): 1110-1125	- To be considered under a different review question (RQ4.4)
McWey, Lenore M and Mullis, Ann K (2004) Improving the lives of children in foster care: The impact of supervised visitation.. Family Relations: An Interdisciplinary Journal of Applied Family Studies 53(3): 293-300	- To be considered under a different review question (RQ2.1, RQ5.1)
Merritt D.H. and Klein S. (2015) Do early care and education services improve language development for maltreated children? Evidence from a national child welfare sample. Child Abuse and Neglect 39: 185-196	- Unclear if includes LACYP population
Milburn, Nicole L; Lynch, Marell; Jackson, Jennifer (2008) Early identification of mental health needs for children in care: a therapeutic assessment programme for statutory clients of child protection.. Clinical child psychology and psychiatry 13(1): 31-47	- To be considered under a different review question (RQ3.1)
Mitchell, Elissa Thomann (2011) The child resiliency program at Hope Meadows.. Journal of Intergenerational Relationships 9(4): 452-457	- Intervention description/practice report
Moffat, Shaye and Vincent, Cynthia (2009) Emergent literacy and childhood literacy-promoting activities for children in the Ontario Child Welfare System.. Vulnerable Children and Youth Studies 4(2): 135-141	- No outcome of interest reported

Study	Reason for exclusion
Munthe-Kaas, Heather Menzies, Hammerstrom, Karianne Thune, Kurtze, Nanna et al. (2013) No title provided.	- Data not reported in an extractable format - Full text paper not available - Study not reported in English
NCT00056303 (2003) Mental Health Services for Foster and Adopted Children. Https://clinicaltrials.gov/show/nct00056303	- RCT protocol
NCT00339365 (2006) Promoting Infant Mental Health in Foster Care. Https://clinicaltrials.gov/show/nct00339365	- RCT protocol
NCT00688129 (2008) KITS: school Readiness in Foster Care Efficacy Trial. Https://clinicaltrials.gov/show/nct00688129	- RCT protocol
NCT00701194 (2008) Early Intervention Foster Care: a Prevention Trial. Https://clinicaltrials.gov/show/nct00701194	- RCT protocol
NCT01261806 (2010) Mental Health Services for Toddlers in Foster Care. Https://clinicaltrials.gov/show/nct01261806	- RCT protocol
NCT01726361 (2012) Multidimensional Treatment Foster Care for Adolescents. Https://clinicaltrials.gov/show/nct01726361	- RCT protocol
NEWMAN Tony and MCDANIEL Benny (2005) Getting research into practice: healing damaged attachment processes in infancy. Child Care in Practice 11(1): 81-90	- Intervention description/practice report - Review article
NTR3899 (2013) Positive parenting in foster care. Http://www.who.int/trialsearch/trial2.aspx? Trialid=ntr3899	- RCT protocol
Osofsky, Joy D; Stepka, Phillip T; King, Lucy S (2017) Attachment and biobehavioral catch-up intervention.. Treating infants and young children impacted by trauma: Interventions that promote healthy development.: 61-74	- Book
Oxford, Monica L, Marcenko, Maureen, Fleming, Charles B et al. (2016) Promoting birth parents' relationships with their toddlers upon reunification: Results from Promoting First Relationships home visiting program.. Children and Youth Services Review 61: 109-116	- To be considered under a different review question (RQ2.1, RQ5.1)
PANTIN Sarah and FLYNN Robert (2007) Training and experience: keys to enhancing the utility for foster parents of the	- No outcome of interest reported

Study	Reason for exclusion
Assessment and Action Record from Looking After Children. Adoption and Fostering 31(4): 62-69	
Pasalich, Dave S, Fleming, Charles B, Oxford, Monica L et al. (2016) Can Parenting Intervention Prevent Cascading Effects From Placement Instability to Insecure Attachment to Externalizing Problems in Maltreated Toddlers?.. Child maltreatment 21(3): 175-85	- To be considered under a different review question (RQ1.1, RQ2.1)
Perry, Deborah F, Dunne, M. Clare, McFadden, LaTanya et al. (2008) Reducing the risk for preschool expulsion: Mental health consultation for young children with challenging behaviors.. Journal of Child and Family Studies 17(1): 44-54	- Does not study LACYP population
Pine, Barbara A and Spath, Robin (2009) Permanent families for adolescents: Applying lessons learned from a family reunification demonstration program.. Achieving permanence for older children and youth in foster care.: 223-243	- To be considered under a different review question (RQ1.1, RQ5.1)
Pratt, Megan E, Lipscomb, Shannon T, Schmitt, Sara A et al. (2015) The effect of head start on parenting outcomes for children living in non-parental care.. Journal of Child and Family Studies 24(10): 2944-2956	- No outcomes of interest reported (receipt of services and parenting outcomes)
Pritchett, Rachel, Fitzpatrick, Bridie, Watson, Nicholas et al. (2013) A feasibility randomised controlled trial of the New Orleans intervention for infant mental health: a study protocol.. TheScientificWorldJournal 2013: 838042	- RCT protocol
Purewal Boparai S.K., Au V., Koita K. et al. (2018) Ameliorating the biological impacts of childhood adversity: A review of intervention programs. Child Abuse and Neglect 81: 82-105	- Systematic review considered for relevant references
Raman, S, Ruston, S, Irwin, S et al. (2017) Taking culture seriously: Can we improve the developmental health and well-being of Australian Aboriginal children in out-of-home care?.. Child: care, health and development 43(6): 899-905	- To be considered under a different review question (RQ3.3, RQ4.4)
Rodrigo, Maria Jose, Correa, Ana Delia, Maiquez, Maria Luisa et al. (2006) Family preservation services on the Canary Islands: Predictors of the efficacy of a parenting program for families at risk of social exclusion.. European Psychologist 11(1): 57-70	- No outcome of interest reported
RUFF Saralyn C.; AGUILAR Rosana M.; CLAUSEN June Madsen (2016) An exploratory study of mental health interventions with infants and young children in foster care. Journal of Family Social Work 19(3): 184-198	- Quasi-experimental study, excluded as sufficient RCT evidence was identified

Study	Reason for exclusion
Ryan, Joseph P, Choi, Sam, Hong, Jun Sung et al. (2008) Recovery coaches and substance exposed births: an experiment in child welfare.. Child abuse & neglect 32(11): 1072-9	- No outcome of interest reported - Does not study LACYP population
Rygaard N.P. (2010) Designing the fair start project - a free e-learning and organizational development program for orphanages and foster families in quality care giving. Clinical Neuropsychiatry 7(6): 181-187	- No outcome of interest reported - Intervention description/practice report
Sanders, Michael and Et, al (2020) What works in education for children who have had social workers? Summary report.: 56	exclude due to mixed population – “children who have had a social worker”
Schlosser, Ralf W, Walker, Elizabeth, Sigafoos, Jeff et al. (2006) Increasing Opportunities for Requesting in Children with Developmental Disabilities Residing in Group Homes through Pyramidal Training.. Education and Training in Developmental Disabilities 41(3): 244-252	- No outcome of interest reported - Data not reported in an extractable format
Sharieff, G Q; Hostetter, S; Silva, P D (2001) Foster parents of medically fragile children can improve their BLS scores: results of a demonstration project.. Pediatric emergency care 17(2): 93-5	- No outcome of interest reported
Slopen N., Tang A., Nelson C.A. et al. (2019) The consequences of foster care versus institutional care in early childhood on adolescent cardiometabolic and immune markers: Results from a randomized controlled trial. Psychosomatic medicine	- Non-OECD country
Smith, Shelia M, Simon, Joan, Bramlett, Ronald K et al. (2009) Effects of positive peer reporting (PPR) on social acceptance and negative behaviors among peer-rejected preschool children.. Journal of Applied School Psychology 25(4): 323-341	- Unclear that LACYP are included
SPIEKER Susan J. and et al (2012) Promoting first relationships: randomized trial of a relationship-based intervention for toddlers in child welfare. Child Maltreatment 17(4): 271-286	- To be considered under a different review question (RQ2.1)
Spieker, Susan J, Oxford, Monica L, Fleming, Charles B et al. (2014) Permanency outcomes for toddlers in child welfare two years after a randomized trial of a parenting intervention.. Children and Youth Services Review 44: 201-206	- To be considered under a different review question (RQ1.1, RQ5.1)
Stacks, Ann M, Beeghly, Marjorie, Partridge, Ty et al. (2011) Effects of placement type on the language developmental trajectories of maltreated children from infancy to early childhood.. Child maltreatment 16(4): 287-99	- Not an intervention of interest

Study	Reason for exclusion
Sturgess, Wendy and Selwyn, Julie (2007) Supporting the placements of children adopted out of care.. Clinical child psychology and psychiatry 12(1): 13-28	- Qualitative study, published prior to 2010
Taneja V., Aggarwal R., Beri R.S. et al. (2005) Not by bread alone project: A 2-year follow-up report. Child: Care, Health and Development 31(6): 703-706	- Non-OECD country
Underdown A., Barlow J., Chung V. et al. (2006) Massage intervention for promoting mental and physical health in infants aged under six months. Cochrane Database of Systematic Reviews: cd005038	- Systematic review considered for relevant references
Van Andel, Hans, Post, Wendy, Jansen, Lucres et al. (2016) Optimizing foster family placement for infants and toddlers: A randomized controlled trial on the effect of the foster family intervention.. The American journal of orthopsychiatry 86(3): 332-44	- To be considered under a different review question (RQ2.1, RQ3.2)
Van Dam L., Smit D., Wildschut B. et al. (2018) Does Natural Mentoring Matter? A Multilevel Meta-analysis on the Association Between Natural Mentoring and Youth Outcomes. American journal of community psychology 62(12): 203-220	- Not an intervention of interest
Van Horn, Patricia, Gray, Lili, Pettinelli, Beth et al. (2011) Child-parent psychotherapy with traumatized young children in kinship care: Adaptation of an evidence-based intervention.. Clinical work with traumatized young children.: 55-74	- Book
Whitemore, Erin, Ford, Monica, Sack, William H et al. (2003) Effectiveness of Day Treatment with Proctor Care for Young Children: A Four-Year Follow-Up.. Journal of Community Psychology 31(5): 459-468	- Studied population and results not separated for LACYP
WISE Sarah (2002) An evaluation of a trial of looking after children in the state of Victoria, Australia. Children and Society 17(1): 3-17	- Quasi-experimental study, excluded as sufficient RCT evidence was identified -Not an intervention of interest
Worsham, Nancy L, Kretchmar-Hendricks, Molly D, Swenson, Natalia et al. (2009) At-risk mothers' parenting capacity: an epistemological analysis of change through intensive intervention.. Clinical child psychology and psychiatry 14(1): 25-41	- To be considered under a different review question (RQ5.2)
Wright, Barry, Hackney, Lisa, Hughes, Ellen et al. (2017) Decreasing rates of disorganised attachment in infants and young children, who are at risk of developing, or who already have	- Systematic review considered for relevant references

Study	Reason for exclusion
disorganised attachment. A systematic review and meta-analysis of early parenting interventions.. PloS one 12(7): e0180858	
Zeanah, C H, Larrieu, J A, Heller, S S et al. (2001) Evaluation of a preventive intervention for maltreated infants and toddlers in foster care.. Journal of the American Academy of Child and Adolescent Psychiatry 40(2): 214-21	- To be considered under a different review question (RQ5.1, RQ3.2, RQ1.1)
Zeanah, Charles H and Smyke, Anna T (2005) Building Attachment Relationships Following Maltreatment and Severe Deprivation.. Enhancing early attachments: Theory, research, intervention, and policy.: 195-216	- Book

Cost-effectiveness studies

Study	Reason for exclusion
Bennett, C.E.; Wood, J.N.; Scribano, P.V. (2020) Health Care Utilization for Children in Foster Care. Academic Pediatrics 20(3): 341-347	- Exclude - compared LAC with non-LAC - Exclude - non-relevant outcomes
DIXON, Jo (2011) How the care system could be improved. Community Care 17211: 16-17	- Exclude - not an economic evaluation
Huefner, Jonathan C, Ringle, Jay L, Thompson, Ronald W et al. (2018) Economic evaluation of residential length of stay and long-term outcomes. Residential Treatment for Children & Youth 35(3): 192-208	- Exclude - costs not applicable to the UK perspective
LOFHOLM Cecilia, Andree; OLSSON Tina, M.; SUNDELL, Knut (2020) Effectiveness and costs of a therapeutic residential care program for adolescents with a serious behavior problem (MultifunC). Short-term results of a non-randomized controlled trial. Residential Treatment for Children and Youth 37(3): 226-243	- Exclude - population not specific to LACYP
Lovett, Nicholas and Xue, Yuhan (2020) Family First or the Kindness of Strangers? Foster Care Placements and Adult Outcomes. Labour Economics 65(0)	- Exclude - not an economic evaluation

Appendix K – Research recommendations – full details

Research recommendation

No research recommendations were drafted for this review

Appendix L – References

Other references

Achenbach TM (1991) Manual for the Child Behavior Checklist/4-18 and 1991 Profile. Burlington, University of Vermont

Pears KC, Fisher PA, Bruce J et al. (2010) Early elementary school adjustment of maltreated children in foster care: The roles of inhibitory control and caregiver involvement. Child Development 81(5):1550–1564

Pears KC, Fisher PA, Kim HK (2013) Immediate effects of a school readiness intervention for children in foster care. Early Education and Development 24(6):771–791

Pears KC, Kim HK, Fisher PA (2012) Effects of a school readiness intervention for children in foster care on oppositional and aggressive behavior in kindergarten. Children and Youth Services Review 34(12):2361–2366

Appendix M – Other appendix

No additional information for this review question.