

Looked-After Children and Young People (update)

[I] Evidence review for interventions to support learning needs for school-aged looked-after children and young people

NICE guideline NGXXX

Evidence reviews underpinning recommendations 1.6.15 to 1.6.16

April 2021

Draft for consultation

*These evidence reviews were developed
by NICE Guideline Updates Team*

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Contents

Interventions to support learning needs for school-aged looked-after children and young people	5
Review question	5
Introduction	5
Summary of protocol	5
Methods and process	7
Effectiveness evidence	7
Summary of studies included in the effectiveness evidence	9
Summary of the effectiveness evidence	14
Economic evidence	33
Economic model	33
The committee’s discussion of the evidence	33
Recommendations	39
References – included studies	40
Appendices	43
Appendix A – Review protocols	43
Review protocol for interventions to support learning needs for looked-after children and young people (review question 4.2)	43
Appendix B – Literature search strategies	57
Appendix C – Effectiveness evidence study selection	98
Appendix D – Effectiveness evidence	99
Appendix E – Forest plots	176
Appendix F – GRADE tables	177
Appendix G – Economic evidence study selection	207
Appendix H – Economic evidence tables	208
Appendix I – Health economic model	210
Appendix J – Excluded studies	211
Effectiveness studies	211
Cost-effectiveness studies	225
Appendix K – Research recommendations – full details	227
Research recommendation	227
Appendix L – References	229
Other references	229
Appendix M – Other appendix	229

1 Interventions to support learning needs for 2 school-aged looked-after children and 3 young people

4 Review question

- 5 a) What is the effectiveness of interventions to support learning needs by either a learning
6 provider or carer of school-aged looked-after children and young people?
- 7 b) Are interventions to support learning needs acceptable and accessible to looked-after
8 children and young people and their care providers? What are the barriers to, and facilitators
9 for the effectiveness of these interventions to support learning needs in school-aged looked-
10 after children and young people?

11 Introduction

12 Looked-after children are at a greater risk of poor educational outcomes. In 2017, 56.3% of
13 looked-after children had a special educational need, compared with 45.9% of children in
14 need and 14.4% of all children. At key stage 2, 32% of looked-after children and young
15 people reached the expected standard in reading, writing and maths (compared with 61% of
16 those who were not looked after). In 2016, 0.10% of looked-after children were permanently
17 excluded from school, compared to 0.08% of all children. Interventions that support learning
18 needs for looked-after child during preschool, primary, or secondary education could help to
19 improve educational outcomes while the child is at school.

20 Looked after children and young people are currently entitled to a pupil premium to support
21 their education, however there is uncertainty about which specific educational interventions
22 work. The (2010) NICE guideline for looked-after children and young people did not include
23 recommendations on specific educational interventions. A NICE surveillance review found
24 new evidence that indicated recommendations on interventions to support school learning in
25 looked-after children might be needed.

26 Summary of protocol

27 PICO table

28 **Table 1: PICO for review on interventions to support learning needs in looked-after**
29 **children and young people**

Population	<p>School-aged looked after children and young people (wherever they are looked after) from birth until age 18.</p> <p>Including:</p> <ul style="list-style-type: none"> • 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
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	<p>looked-after children and young people processes and statutory duties.</p> <ul style="list-style-type: none"> • 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	<p>Interventions and approaches to support learning needs by either a learning provider or carer of looked-after children and young people</p> <p>Example interventions and approaches of interest include:</p> <ul style="list-style-type: none"> • Interventions to support learning needs for pre-school (early years) education • Interventions to support learning needs for primary school education • Interventions to support learning needs for secondary school education • Interventions to promote positive relationships (as relates to their impact on educational outcomes) • Teacher-delivered and carer-delivered interventions • School-based and home-based interventions • Tutoring programmes • Reading, and paired-reading programmes • Coaching and mentoring • Other pedagogical interventions • Training for teachers and carers to support the education of looked-after children and young people
Comparator	<p>Comparator could include standard care, waiting list, or another active intervention to support learning needs by either a learning provider or carer of school-aged looked-after children and young people.</p>
Outcomes	<ul style="list-style-type: none"> • Educational outcomes (academic skills; academic achievement; grade completion; 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 (including confidence and interest in academia and education)

1 SPIDER table

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

Sample	School-aged looked after children and young people (wherever they are looked after) from birth until age 18. Including: <ul style="list-style-type: none"> • 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.
Phenomenon of Interest	Interventions and approaches to support learning needs by either a learning provider or carer of looked-after children and young people
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 learning needs will be examined. Evidence should relate to the views of looked after children, their carers, and providers, who would deliver eligible interventions, on: <ul style="list-style-type: none"> • 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 school learning.
Research type	Qualitative and mixed methods
Search date	1990
Exclusion criteria	<ul style="list-style-type: none"> • 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)

4 Methods and process

5 This evidence review was developed using the methods and process described in
6 [Developing NICE guidelines: the manual](#). For further details of the methods used see
7 Appendix N. Methods specific to this review question are described in this section and in the
8 review protocol in Appendix A.

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

3 Declarations of interest were recorded according to [NICE's 2018 conflicts of interest policy](#).

4 **Effectiveness evidence**

5 **Included studies**

6 After removing duplicates, a total of 36,866 studies were identified from the search. After
7 screening these references based on their titles and abstracts, 110 studies were obtained
8 and reviewed against the inclusion criteria as described in the review protocol for
9 interventions to support learning in school (Appendix A). Overall, 17 studies, reporting on 16
10 original studies, were included.

11 The evidence consisted of 9 randomised controlled trials, 3 non-randomised controlled
12 studies, 2 uncontrolled before-and-after studies, and 2 qualitative studies. See the table
13 below for a summary of included studies. For the full evidence tables please see Appendix D.
14 The full references of included studies are given in the reference section of this chapter.
15 These articles considered 12 different interventions to support learning needs in school-aged
16 looked-after children.

17 **Excluded studies**

18 In total, 93 references were excluded because they did not meet the eligibility criteria. See
19 Appendix J for a list of references for excluded studies, with reasons for exclusion.

1 Summary of studies included in the effectiveness evidence

2 Quantitative evidence

3 Table 3: Summary of included quantitative studies

Study (country – study design)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
Majority primary school participants					
Flynn 2012 (Canada - RCT)	Foster or kinship care (aged 6-13 years)	Foster parent-delivered Teach Your Children Well tutoring (TYCW)	Wait List (WL)	TYCW: 30 WL: 34	Word reading mean score (post-intervention) Spelling mean score (post-intervention) Maths mean score (post-intervention) Sentence comprehension mean score (post-intervention) Reading composite mean score (post-intervention)
Harper 2012 (Canada - RCT)	Foster or kinship care (aged 7-14)	Volunteer tutor-delivered Teach Your Children Well (TYCW)	WL	TYCW: 30 WL: 35	Word reading mean score (post-intervention) Spelling mean score (post-intervention) Maths mean score (post-intervention) Sentence comprehension mean score (post-intervention)
Harper 2016 (Canada - RCT)	Foster or Kinship care (aged 6-14)	Volunteer tutor-delivered Teach Your Children Well (TYCW)	WL	TYCW: 45 WL: 51	Word reading mean score (post-intervention) Spelling mean score (post-intervention) Maths mean score (post-intervention) Sentence comprehension mean score (post-intervention)
Hickey 2020	Children in care (age 6 – 18)	15-week TYCW	25-week TYCW	15-week TYCW = 36	Reading and maths skills score post intervention Oral language score post intervention

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Study (country – study design)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
(Canada – RCT)				25-week TYCW = 36	Parental Support for Learning Scale post intervention Comprehensive Executive Function Inventory postintervention
Mooney 2016 (UK - RCT)	Foster care (aged 7-11)	Letterbox Club	WL	Letterbox: 56 WL: 51	Reading accuracy mean score (4-weeks post-intervention) Reading comprehension mean score (4-weeks post-intervention) Reading rate mean score (4-weeks post-intervention) Recreational reading mean score (4-weeks post-intervention) Academic reading mean score (4-weeks post-intervention) Odds of liking school “a lot” (4-weeks post-intervention) Odds of liking reading “a lot” (4-weeks post-intervention)
Osbourne 2010 (UK - UBA)	Looked-after children (primary school age)	Paired Reading (PR)	Pre-intervention	PR: 35	Reading age (pre- vs post-intervention)
Majority secondary school participants					
Geenan 2012 (USA - RCT)	Foster care with SEN (age 14-17)	Take Charge coaching and mentoring (TC)	Usual Care (UC)	TC: 60 UC: 60	Mean number of hours spent doing homework (post-intervention/9-months) Student-, parent-, and teacher-rated mean youth knowledge and engagement in educational planning score (post-intervention/9-month)

Study (country – study design)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
					Student self-attribution of accomplishments score (post-intervention/9-months)
Green 2014 (UK - RCT)	Looked-after children in unstable placement (age 10-17)	Multidimensional Treatment Foster Care for adolescents (MTFC)	UC	MTFC: 20 UC: 14	Odds of higher scholastic/language skills at 12 months follow up Odds of higher school attendance score at 12 months follow up
Leve 2007 (USA - RCT)	Out of home care referred by juvenile court judges (age 13-17)	Multidimensional Treatment Foster Care	Group Care	MTFC: 37 GC: 44	Mean homework completion score (3-6 months /12 months) Mean school attendance score at 12 months post baseline
Zinn 2014/Courtney 2008 (USA – RCT)	Foster Care 1-3 grades behind (age 14 or older)	ESTEP tutoring programme	No ESTEP tutoring	ESTEP: 212 No ESTEP: 190	Mean letter-word identification score (approximately 26 months follow up) Mean calculation score (approximately 26 months follow up) Mean passage comprehension score (approximately 26 months follow up) Mean highest grade level completion (approximately 26 months follow up) Mean grade point average at follow up (approximately 26 months follow up) Achieving high school diploma or general equivalency diploma (approximately 26 months follow up) School behaviour score (approximately 26 months follow up)
Balluerka 2015 (Spain - NRCT)	In residential care with MHP and EBD (age 12-17)	Animal-assisted psychotherapy (AAP)	Residential Care as usual (RCAU)	AAP: 43 RCAU: 24	Mean change in self-rated school maladjustment (post-intervention) Mean change in teacher-rated school maladjustment (post-intervention)

Study (country – study design)	LACYP population	Intervention	Comparator	Number of patients who completed study	Outcomes reported (follow up f/u)
					Mean change in teacher-rated behavioural symptoms (post-intervention) Mean change in teacher-rated adaptive skills (post-intervention)
Muela 2017 (Spain - NRCT)	In residential care with MHP and EBD (age 12-17)	Animal-assisted psychotherapy (AAP)	Residential Care as Usual	AAP: 52 RCAU: 25	Mean change in negative attitude towards school score (post-intervention) Mean change in negative attitude towards teachers score (post-intervention)
All ages					
Klag 2010 (Australia - UBA)	In out of home care with severe and/or complex psychological and/or behavioural problems	Evolve Interagency Services (EIS)	Pre- vs Post-intervention	EIS: 255	Problems with scholastic or language skill score (pre- vs postintervention) Poor school attendance score (pre- vs postintervention)
Waxman 2009 (USA - NRCT)	Children in custody of the Texas Department of Protective and Regulatory Services	Child Advocate Volunteers (CAV)	UC	CAV: 327 UC: 254	Pass all courses (by year 1/year 2) Poor conduct (by year 1/by year 2) Expelled (by year 1/by year2)

1 Qualitative evidence

2 **Table 4: Summary of included qualitative studies**

Study (country)	Intervention	LACYP population (age)	Setting and context	Type of analysis	Perspectives (n)
Forsman 2017 (Sweden)	Paired reading	Children in foster care (age not reported)	Paired reading project carried out in seven local authorities in Sweden	Semi-structured interviews covering positive/negative parts of the method, and contextual aspects they considered to be supports or barriers. Additionally, the carers' expectations of the project and perceptions of how their participation had affected relations within the family, their everyday life and the child's reading ability. Thematic analysis was used.	Foster carers (13)
Griffiths 2012 (UK)	Letterbox	Children in foster care (aged 7 to 11)	Three different UK local authorities	Semi-structured interviews covering participants' views about each aspect of the Letterbox Club in greater detail, including whether the children continued to use any of the items they had received. Unclear how thematic analysis was performed.	Foster carers (9)

3 See Appendix D for full evidence tables

1 Summary of the effectiveness evidence

2 Quantitative evidence

3 Primary school-age (primarily)

4 **Table 5: Summary GRADE table (Foster-parent delivered tutoring (Teach Your Children**
5 **Well) (FP-TYCW) vs Wait List (WL))**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect
Word reading mean score post-intervention (assessed using the Wide Range Achievement Test Fourth Edition (WRAT-4))	77	MD 2.54 (-1.22 to 6.30)	Very Low	Could not differentiate
Spelling mean score post-intervention (assessed using the WRAT-4)	77	MD -1.2 (-8.26 to 5.86)	Very Low	Could not differentiate
Maths mean score post-intervention (assessed using the WRAT-4)	77	MD 5.8 (1.58 to 10.02)	Very Low	Effect favours intervention group but may be less than the MID
Sentence comprehension mean score post-intervention (assessed using the WRAT-4)	77	MD 4.53 (0.41 to 8.65)	Very Low	Effect favours intervention group but may be less than the MID
Reading composite mean score post-intervention (assessed using the WRAT-4)	77	MD 3.79 (-0.60 to 8.18)	Very Low	Could not differentiate

6 **Table 6: Summary GRADE table (Volunteer-delivered tutoring (Teach Your Children**
7 **Well) (V-TYCW) vs Wait List (WL))**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Word reading mean score post-intervention (assessed using the WRAT-4)	68	MD 4.45 (1.75 to 7.15)	Very Low	Effect favours intervention group but may be less than the MID
Spelling mean score post-intervention (assessed using the WRAT-4)	68	MD 7.89 (2.71 to 13.07)	Very Low	Effect favours intervention group but may be less than the MID
Maths mean score post-intervention (assessed using the WRAT-4)	68	MD 3.2 (p value=ns)	Very Low	Could not differentiate
Sentence comprehension mean score post-intervention (assessed using the WRAT-4)	68	MD 0.86 (p value= ns)	Very Low	Could not differentiate
Word reading mean score post-intervention (assessed using the WRAT-4)	101	4.64 (2.01 to 7.27)	Very Low	Effect favours intervention group but may be less than the MID
Spelling mean score post-intervention (assessed using the WRAT-4)	101	3.19 (0.55 to 5.83)	Very Low	Effect favours intervention group

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
				but may be less than the MID
Maths mean score post-intervention (assessed using the WRAT-4)	101	3.84 (0.15 to 7.53)	Very Low	Effect favours intervention group but may be less than the MID
Sentence comprehension mean score post-intervention (assessed using the WRAT-4)	101	1.70 (p value=ns)	Very Low	Could not differentiate

1 **Table 7: Summary GRADE table (25-week Volunteer-delivered tutoring (Teach Your**
 2 **Children Well) (V-TYCW) vs 15-week Volunteer-delivered tutoring (Teach Your**
 3 **Children Well) (V-TYCW)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect
Math Fluency score at postintervention: assessed using the Woodcock-Johnson-Third Edition (WJ-III)	83	Beta coefficient – 3.94 (p=0.07)	Very Low	Could not differentiate effect
Applied problems score at postintervention: assessed using the Woodcock-Johnson-Third Edition (WJ-III)	83	Beta coefficient – 3.07 (p=0.07)	Very Low	Could not differentiate effect

4 **Table 8: Summary GRADE table (Letterbox club vs Wait List)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Reading accuracy mean score 4-weeks post-intervention (assessed using the Neale Analysis of Reading Ability)	116	MD 1.00 (-4.57 to 6.57)	High	No meaningful difference
Reading comprehension mean score 4-weeks post-intervention (assessed using the Neale Analysis of Reading Ability)	116	MD -0.49 (-6.44 to 5.46)	High	No meaningful difference
Reading rate mean score 4-weeks post-intervention (assessed using the Neale Analysis of Reading Ability)	116	MD -3.15 (-8.74 to 2.44)	Moderate	Could not differentiate
Recreational reading mean score 4-weeks post-intervention (assessed using the Elementary Reading Enjoyment Scale (known as the 'Garfield Test'))	116	MD -0.81 (-3.47 to 1.87)	Moderate	Could not differentiate
Academic reading mean score 4-weeks post-intervention (assessed using the Elementary Reading Enjoyment Scale (known as the 'Garfield Test'))	116	MD -0.67 (-3.32 to 1.98)	High	No meaningful difference
Odds of liking school "a lot" 4-weeks post-intervention (children were asked "Do you like school?" with the option of reply "not really", "a little" or "a lot")	116	OR 0.68 (0.31 to 1.47)	Low	Could not differentiate
Like reading "a lot" 4-weeks post-intervention (children were asked "Do	116	OR 0.93 (0.43 to 2.01)	Low	Could not differentiate

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
you like reading?" with the option of reply "not really", "a little" or "a lot")				

1 **Table 9: Summary GRADE table (Paired-reading intervention pre- vs post-intervention)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Reading age pre- vs post-intervention (assessed using the Salford test)	35	MD 1.00 (0.24 to 1.76) years	Very Low	Effect favours intervention group but may be less than the MID

2 **Secondary school-age (primarily)**

3 **Table 10: Summary GRADE table (Take Charge intervention (coaching and mentoring) vs Usual Care)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean number of hours spent doing homework post-intervention: assessed by self-report	87	MD 0.51 (0.08 to 0.94) hours	Very Low	Effect favours intervention group but may be less than the MID
Mean number of hours spent doing homework at 9-month follow up: assessed by self-report	87	MD 0.14 (-0.24 to 0.52) hours	Very Low	Could not differentiate
Mean youth knowledge and engagement in educational planning score post-intervention: assessed using the student version of the Educational Planning Assessment	87	MD 2.45 (0.98 to 3.92)	Very Low	Effect favours intervention group
Mean youth knowledge and engagement in educational planning score post-intervention: assessed using the parent version of the Educational Planning Assessment	87	MD 2.81 (-0.94 to 6.56)	Very Low	Could not differentiate
Mean youth knowledge and engagement in educational planning score post-intervention: assessed using the teacher version of the Educational Planning Assessment	87	MD 2.51 (-0.35 to 5.37)	Very Low	Could not differentiate
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the student version of the Educational Planning Assessment	87	MD 2.68 (-0.23 to 5.59)	Very Low	Could not differentiate
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the parent versions of the Educational Planning Assessment	87	MD 3.22 (0.32 to 6.12)	Very Low	Effect favours intervention group but may be less than the MID

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the teacher versions of the Educational Planning Assessment	87	MD 2.77 (-0.23 to 5.77)	Very Low	Could not differentiate
Student self-attribution of accomplishments score post-intervention: youth were asked to list all their educational accomplishments for the past 6 months and a total count was gathered at each time point.	87	MD 0.80 (0.33 to 1.27)	Very Low	Effect favours intervention group but may be less than the MID
Student self-attribution of accomplishments score at 9-months follow up: youth were asked to list all their educational accomplishments for the past 6 months and a total count was gathered at each time point.	87	MD 0.24 (-0.22 to 0.70)	Very Low	Could not differentiate

1 **Table 11: Summary GRADE table (Multidimensional treatment foster care for adolescents**
 2 **(MTFC-A) vs Usual Care)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Odds of higher scholastic/language skills at 12 months follow up: assessed by a domain of the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)	34	OR 0.6 (0.15 to 2.4)	Low	Could not differentiate
Odds of higher school attendance score at 12 months follow up: assessed by a domain of the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)	34	OR 2.5 (0.48 to 13.1)	Low	Could not differentiate

3 **Table 12: Summary GRADE table (Multidimensional treatment foster care for adolescents**
 4 **(MTFC-A) vs Group Care Care)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean homework completion score at 3-6 months post-intervention: composite score using the number of days in the last week that the girls spent at least 30 min/day on homework; and whether or not the girls did homework that day.	81	MD 0.64 (0.16 to 1.12)	Very Low	Effect favours intervention group but may be less than the MID
Mean homework completion score at 12 months post-intervention: composite score using caregiver and girl report of the number of days in the last week that the girls spent at least 30 min/day on homework; and whether or not the girls did homework that day.	81	MD 1.44 (0.59 to 2.29)	Very Low	Effect favours intervention group but may be less than the MID

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean school attendance score at 12 months post baseline: composite score using caregivers and girls reports of how often the girls attended school.	81	MD 0.61 (0.15 to 1.07)	Very Low	Effect favours intervention group but may be less than the MID

1 **Table 13: Summary GRADE table (ESTEP tutoring programme vs No ESTEP tutoring)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean letter-word identification score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III.	529	MD 2.10 (-2.25 to 6.45)	Very low	No meaningful effect
Mean calculation score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III	529	MD -0.30 (-4.22 to 3.62)	Very low	No meaningful effect
Mean passage comprehension score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III	529	MD -0.20 (-4.33 to 3.93)	Very low	No meaningful effect
Mean highest grade level completion at approximately 26 months follow up: self-report	529	MD 0.00 (-0.19 to 0.19)	Very low	No meaningful effect
Mean grade point average at follow up at approximately 26 months follow up: Participants reported their school grades they had received across four core subjects during their previous full semester of school. Responses were scored based on a standard 4-point scale, and an overall GPA was computed by taking the average of these.	529	MD 0.00 (-0.18 to 0.18)	Very low	No meaningful effect
School behaviour score: youths were asked to indicate how often they had had “trouble” completing five tasks during their last full semester of school attendance. School behaviour was then operationalised or defined as the mean of these five items.	529	MD -0.02 (-0.25 to 0.21)	Very low	No meaningful effect
Achieving high school diploma or general equivalency diploma at approximately 26 months follow up: self-report	529	OR 0.79 (0.41 to 1.52)	Very low	Could not differentiate

2 **Table 14: Summary GRADE table (Animal-assisted psychotherapy vs residential care as usual)**
3

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean change in self-rated school maladjustment (pre- vs post-	67	MD -0.63 (-5.48 to 4.22)	Very low	Could not differentiate

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.				
Mean change in teacher-rated school maladjustment (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.1	67	MD -3.19 (-6.93 to 0.55)	Very low	Could not differentiate
Mean change in teacher-rated behavioural symptoms (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.1	67	MD -1.39 (-5.92 to 3.14)	Very low	Could not differentiate
Mean change in teacher-rated adaptive skills (pre- vs post-intervention): measured as part of the adaptive skills composite of the Teacher Rating Scale.1	67	MD 5.88 (1.61 to 10.15)	Very low	Effect favours intervention group but may be less than the MID

1 **Table 15: Summary GRADE table (Animal-assisted psychotherapy vs residential care as usual)**

2

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Mean change in self-rated school maladjustment (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.	87	MD -0.03 (-4.28 to 4.22)	Very low	No meaningful effect
Mean change in teacher-rated school maladjustment (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.1	87	MD -2.69 (-4.73 to -0.65)	Very low	Effect favours intervention group but may be less than the MID

3 All school-ages

4 **Table 16: Summary GRADE table (Evolve Interagency Services, pre- vs post-intervention)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Problems with scholastic or language skills score: assessed using subscale of the Health of the Nations Outcome Scale for Children and Adolescents)	255	MD -0.64 (-0.87 to -0.41)	Very low	Effect favours intervention group but may be less than the MID
Poor school attendance score: assessed using subscale of the Health of the Nations Outcome Scale for Children and Adolescents	249	MD -0.54 (-0.29 to -0.79)	Very low	Effect favours intervention group but may be less than the MID

1 **Table 17: Summary GRADE table (Child advocate volunteers vs care as usual)**

Outcome	Sample size	Effect size (95% CI)	Quality	Interpretation of effect ^a
Pass all courses by year 1	581	OR 3.05 (2.09 to 4.45)	Very low	Effect favours intervention group
Poor conduct by year 1	581	OR 0.35 (0.25 to 0.49)	Very low	Effect favours intervention group
Expelled by year 1	581	OR 0.51 (0.25 to 1.06)	Very low	Could not differentiate
Pass all courses by year 2	581	OR 1.55 (0.97 to 2.48)	Very low	Could not differentiate
Poor conduct by year 2	581	OR 0.84 (0.60 to 1.18)	Very low	Could not differentiate
Expelled by year 2	581	OR 0.92 (0.55 to 1.53)	Very low	Could not differentiate

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

5 See appendix F for full GRADE tables.

1

2 **Qualitative evidence**3 **Table 18: Summary CERQual table (Experience of foster carers regarding paired reading)**

Themes	illustrative quotes	Studies	CERQual concerns	CERQual explanation
<p>Getting carers involved in the intervention, a question of attitude?</p> <p>One rationale for using paired reading with children in out-of-home care is that the method actively involves foster parents in the reading process. As indicated by the case descriptions, carers embraced this task differently. Some carers talked about reading in general as something important. Children in their care were encouraged to read and they had a positive attitude towards the project. Carers, like Linda, were already actively involved in the education of the children in their care. They expressed an awareness of foster children's academic vulnerability and tried to prevent school failure. Such attitudes were linked to carers committing to the programme and following through – despite experiencing problems. Previous studies indicate that low expectations and lack of support from key adults are two main reasons for foster children's educational underperformance.</p>	<p><i>"These children should have the same opportunities to succeed in school as other children have. We should have the same expectations on them. They are able and we should not pity them or think any less of them, but this might not come natural for everyone. I think that a project like this could be helpful in that respect."</i> Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Being a part of the project meant that carers could become aware of the importance of foster children's school performance</p> <p>Knowing that good literacy skills are crucial for managing school became a motivational factor to get engaged. Carers, who had not previously been involved in their child's education and reading, were provided with a tool to become</p>	<p><i>"I guess you could say that we were aware of him having problems in school, and we were happy that we had been chosen to be a part of the project. Without it we would probably not have sat down to read with him."</i> Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall:</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>

<p>active supporters. When practicing paired reading, carers would learn more about their children’s needs. Receiving feedback on the literacy tests the children did as a part of the pre/post-evaluation had a similar effect. As in the case of foster mother Julia, further insights about the children’s abilities and needs could enhance the engagement. Some had continued to use paired reading or wanted to try it with other children.</p>			<p>Very Low</p>	
<p>Intervention provided an opportunity to spend more time with the child Another reason for carers to get involved was linked to seeing an opportunity to spend more time with the child, as in the case of foster mother Anita. For these carers the intervention meant that they could spend ‘quality time’ together. This relational aspect seemed to be a motivational factor for carers in all participant groups. According to some carers, the intervention had improved their relations with the child.</p>	<p>No supportive quotes reported</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Barriers to engagement with the intervention There were examples of carers who had a more or less explicitly negative attitude towards the intervention. As with the case of foster father Martin (Insufficient reading), this could be due to not experiencing that the child was in need of any reading training. Additionally, some carers felt as if the intervention went beyond their area of responsibility. Although participation was said to be voluntarily, one carer even felt as if she was forced. She talked about the intervention in negative terms, and felt a big relief when it ended. It is possible that a negative attitude could come from carers’ own school experiences and reading habits. Not all carers seemed to regard reading as something important. This could potentially make it more difficult to get involved.</p>	<p><i>"I feel like we already have a pretty, ehm, foster children have a lot to deal with and then this becomes another liability for us . . . Perhaps it could be something that they can do in school or something that the libraries could take responsibility for."</i> Foster Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>

<p>Either way, a negative attitude was clearly associated with reduced programme compliance, compared with those who saw relational benefits or talked about the importance of reading or succeeding in school.</p>				
<p>Integrating the reading training in the everyday life – the need for motivation and prioritization The carers who participated in the project took on the task of reading with their foster children on a regular weekly basis. Although the majority complied with the programme, the interviews showed that it could be difficult to integrate the reading training in the everyday life. The key to success seemed to be working with the child’s motivation and prioritizing the reading sessions. Some carers meant that having many children to care for made it difficult to find the time. Others had the same situation but managed anyway, as in the case of foster mother Julia (Sufficient reading). Carers who were used to reading with or helping children with homework were more successful in finding the time. For them, engaging in this intervention was not radically different from what they already did in their daily life with the children. Moreover, their positive attitude towards the project made them prioritize the reading.</p>	<p>"We already have a tight schedule and since we’re so many, there are so many things that need to work out. Our everyday life is planned in detail with meals, dropping off and picking the children up, school work and so on." Carer</p> <p>"Other activities were more appealing. You have to motivate them, but it’s not always that easy. They did not want to read, and you can’t force them into doing this." Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Overcoming reluctance and persistence Some children were reluctant to read, and the carer above makes a point about motivating the children. A period of 16 weeks was described as long, and it turned out to be difficult to keep up the motivation throughout the whole project. Some carers thought that it could have been easier motivating the children had the intervention lasted a shorter time. Others meant that children do not have to enjoy it at all times. When it comes to homework or attending school, children will sometimes resist, and the same goes for paired</p>	<p>"It’s on us as adults to make sure that this goes well . . . I think that it’s beneficial if the adult is positive, because your attitude will be reflected on the children. Perseverance does it! I think that it’s on us to communicate this to the children." Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>

reading. The responsibility to making it work lies on the carers.				
<p>Use of rewards to motivate, but better motivation was using books that children were excited to read</p> <p>At times, giving stickers or using bribes could be facilitating. As in the case of foster mother Linda and her boy Yusef, children could be motivated to read more when they themselves noticed progress. However, the actual key in motivating the child and making the intervention work seemed to be making the reading session into an enjoyable activity. If the children got to read books or other reading material that excited them, it could be something to long for: Carers like Julia would try to make the reading sessions cosy. Having the one to one time could be important for both children and carers.</p>	<p>"It was not like they thought it was bothersome to read – quite the opposite! They longed for it. They chose their own books, books they found exciting, so they wanted to know how the plot would unfold." Carers</p> <p>"He thought that this way of reading was so nice and wanted me to read with him at all times. I think that it was special for him to get close to me, to spend time with me and to get my full attention." Carers</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Challenge of choosing appropriate reading material</p> <p>Choosing appropriate reading material could be rather challenging. As in the case of foster father Martin, choosing wrong books made it difficult to motivate the child. Another carer who had experienced difficulties motivating her children explained that the releasing point for them was when they dropped the books and instead read the IKEA catalogue.</p>	<p>No supportive quotes reported</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Flexible approach needed</p> <p>Making the reading training enjoyable also involved being sensitive to the child and adapt a flexible approach when delivering the intervention. If a child at one time did not want to read the full 20 min, carers could make them read less and try to catch up at another time. Having a rigid approach made it even more difficult to motivate children who were not used</p>	<p>"She was the one doing all the reading. We just followed along and only intervened if it was 'going to pot'. You have to adapt to her conditions and the situation we had with her otherwise she gets annoyed and the reading will fail." Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall:</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>

<p>to read in their everyday life. At times of carer/child conflicts, a flexible approach could also involve having someone else reading with the child. Having more than one person reading with the child could make both siblings and the extended family involved in a positive way.</p>			<p>Very Low</p>	
<p>Practicing the paired reading method - a great or disturbing way of reading? According to interviewees' responses, this was a new and unfamiliar way of reading. Some were enthusiastic about the method, thinking it was great, and noticing its positive effect on their child's reading. In contrast, others found it disturbing. In the weekly monitoring sheets, reading aloud together and/or correcting the child were described as frustrating factors that affected the reading in a negative sense. During the interviews, this sentiment was echoed repeatedly.</p>	<p>"I think that reading aloud together, it was not okay. It ruins the concentration, so I can understand that she didn't like it either . . . She got really irritated when I corrected her. The first couple of times it was okay, but when I continued she said 'Stop it! You're spoiling my reading'." Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: Minor A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods. Some contradiction as to whether the paired reading method was helpful or detrimental in every case.</p>
<p>Temporary difficulties For some the difficulties were temporary. Once they got a hold of it, carers could see benefits with this particular way of reading. As mentioned before, sitting next to each other and having the full focus on the child's reading could lead to new insights about their abilities and needs. Carers also experienced how paired reading, in particular reading aloud together, enabled them to model competent reading.</p>	<p>"It was a bit tricky at first because you're not used to reading like this. But it was fun once you got a hold of it and it brought a sense of togetherness. I could actually notice a difference in his reading. He adapted to my reading speed, learned that you should make a pause at punctuation, and heard how words that he didn't know were pronounced." Carer</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>
<p>Dealing with persistent problems. Carers had different approaches in trying to handle this. Some were inflexible in their approach and practiced the method in a manual-based way, which made the reading</p>	<p>No supporting quotes were reported</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was</p>

<p>problematic. Insisting on reading in a way that did not suit the child would make the reading training less enjoyable and often lead to conflicts. As in the case of foster mother Anita (Dropout), this could ultimately lead to a dropout. With help from the special education pedagogue, foster mother Linda (Sufficient, but problematic reading), on the other hand, adapted the method to the child's preferences, and thus made the reading training more enjoyable. Having a flexible approach and adapting the day-to-day delivery of the intervention was in some cases essential in order for the reading training to work at all.</p>			<p>R: No concerns</p> <p>Overall: Very Low</p>	<p>moderate risk of bias. No apparent validation of methods.</p>
<p>Encouraging Independent reading, following not leading According to the carers, some children wanted to read alone all the time. For others it could take weeks before the child became confident enough to take on the independent reading. This could be frustrating. One carer told how she was advised not to push the child despite this. She let the child be in charge of the reading and afterwards she thought that this was a key factor for the improved self-confidence that she later on noticed in the boy's reading. One can assume that some children might need encouragement to read by themselves. Either way, judging from the carers' experiences, it looks as if it is better to adopt a strategy of following and not leading the child.</p>	<p>No supporting quotes were reported</p>	<p>1 Forsman 2017</p>	<p>ML: Minor C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was not UK-based. Study was moderate risk of bias. No apparent validation of methods.</p>

1 **Table 19: Summary CERQual table (Experience of looked after children and foster carers regarding the Letterbox intervention)**

Themes	illustrative quotes	Studies*	CERQual concerns	CERQual explanation
<p>Encouragement to learn: Many carers and children did feel that receiving the materials had provided important additional support and encouragement to learn.</p>	<p><i>“Mr Quinn [my teacher] done a test on us today and I got twenty out of twenty on it. Because I answered all twenty</i></p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious</p>	<p>Only one study contributed to this theme. Study was UK-</p>

	<p><i>of them right, because I've been playing the maths games and it's helped me with my adding up".</i> Looked after person</p> <p><i>"The parcels have played a big part in Hamza becoming more enthusiastic about reading. Even made him keen to bring home school books".</i> Carer</p>		<p>R: No concerns</p> <p>Overall: Very Low</p>	<p>based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>Receiving personalised packages created the sense of being important and that someone was interested in them Children clearly felt they could make decisions themselves about what to do with the materials, and were usually keen to share them: The bright envelope was important to many: "Brandon watches the post and can immediately identify 'his' package." Many children told authors they kept each envelope, "because it has my name on".</p>	<p><i>"It may not seem a lot, but when you've not had much attention in your life, it is."</i> Carer</p> <p><i>"Jake felt rather special as he loved the postman delivering the parcel for himself each month. He enjoyed getting everyone together and playing with his games and reading his books"</i> Carers</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>Enthusiasm maintained for the parcels Children who had been in Letterbox Club before were still very enthusiastic when they were members again. One carer said that her foster daughter had had the Red parcels eighteen months before, and when her first Green parcel came she "just ripped it straight open. Excited and straight into it!".</p>	<p><i>"It's a great thing and it makes you feel a bit happier ... To get the parcels, it'll take a lot of money to put together for people, but it makes people happy"</i> Looked after person</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall:</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was</p>

			Very Low	unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.
<p>Source of continuity: The fact that the parcels followed placements was important</p> <p>The fact that the parcel is delivered to the child's home address was particularly important to children who had moved recently or frequently. One boy (aged 9) in the earlier pilot had expressed this very poignantly: "So somebody knows where I live?"</p>	<p><i>"The Letterbox Club was the continuity, something that stayed the same when she moved from A to B. She'd had so many ups and downs and I think something like that, that stays the same, is quite important to children and it was very important to Kelly."</i> Foster mother</p> <p><i>"They love just getting the parcels and that was important to them, especially when they hadn't been here very long, it was like 'somebody from the outside knows I'm here'."</i> Foster Carer</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>Useful for under resourced foster homes</p> <p>Some foster homes had comparatively few books suitable for the children they cared for, so the Letterbox Club parcels were a valuable resource.</p>	<p>No supportive quotes were reported.</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or</p>

				how thematic analysis was performed. No apparent validation of findings.
<p>Something to call their own: Even where foster families were already well-provided, many carers commented that a critical element in gaining children's interest was that the Letterbox books were their own.</p>	<p><i>"We've got a cupboard absolutely full of books, but he never paid them any attention at all, so it was nice that these came just for him."</i> Carer</p> <p><i>"The books she has received we've often got already, being a 'bookish' house, but none the less she enjoys the parcels and it gets her to read old favourites again"</i> Carer</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>The element of surprise Children liked the element of surprise, not knowing what books they might get, and carers, too, commented that this broadened the range of books their children used. Many foster carers said that they looked forward to the parcels arriving as much as the children.</p>	<p>"Everything in the parcels was excellent, but the Diary of a Killer Cat was superb and the CD is used in the car all the time – I love it, too!! Hope we can have more parcels one day." Foster Carer</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>

<p>Relationship building aspect of Letterbox: Children enjoyed Where's Wally? (published as Where's Waldo? in North America) for its social qualities – one carer of a girl aged 8 wrote, "We all had a go at Where's Wally? – even the teenagers wanted to have a go." There were many reports of children reading to each other, and asking others (both adults and children) to read to them. For example, Kyle, aged 12, told us he read excerpts from the Guinness Book of World Records to his younger brother: "I'd show him stuff that was a bit weird and stuff. Like the dog with the longest tongue". The majority of carers (over 80%) indicated that the parcels had helped them do more with the child. Many foster carers commented on the value of the materials in helping them make better attachments with their children. The carer of Marley, aged 10, wrote, "Found it a great way to bond with my daughter", and the carer of Danny, aged 9, said, "He has had fun, and we have spent a lot of time together because of Letterbox Club."</p>	<p><i>"He is still a reluctant reader, but the books give us an opportunity to spend time together"</i> Foster carer</p> <p><i>"It's nice to have something to do with Jamie, where he doesn't feel I'm forcing my attentions on him. He finds it very hard to be close to anyone, but he's been keen to be read to and to play the games he's made. It's made me feel more comfortable with him"</i> Foster Carer</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>New ways of reading (audio): At least one parcel in each age range included a story on CD with its accompanying book. Many carers commented that they had not previously thought of using audio stories with their foster child, but said they were often used at bedtime or on car journeys.</p>	<p><i>"He's of an age where he wouldn't appreciate a bedtime story from me, but he listened to the CD at bedtime"</i> Foster Carer</p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns</p> <p>Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>

<p>Variety in the packages was helpful Foster carers commented favourably on every genre of books in the parcels. Non-fiction was similarly praised by foster carers: "I've learnt such a lot". Classic books, where many foster carers would already know the story, were welcomed: for example, when Danny, aged 10, received The Silver Sword, he said, "my [foster] dad knows this story, he read it when he was at school".</p>	<p><i>"Poetry, I'd never have thought of that, but it's great!" Foster carer</i></p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>
<p>Encouraging education in a non-threatening way Providing educational support in a nonthreatening and enjoyable way could contribute to improving the stability of foster care placements. Certainly, the parcels raised the profile of educational activity amongst children and adults in many of the participating families, and for some children it seemed to have begun a 'virtuous circle' of improved engagement at school and improved feelings of well-being in the child, with consequent feelings of relief and positive engagement for the foster carer.</p>	<p><i>"When you come home [from school], you're not expected to read or write, are you! Cause it's sort of your spare time. But because I got the Letterbox Club, I did sometimes read or write at home, and it helped me at school because I was prepared to do it at school."</i> <i>Looked after person</i></p>	<p>1 Griffiths 2012</p>	<p>ML: Moderate C: No concerns A: Serious R: No concerns Overall: Very Low</p>	<p>Only one study contributed to this theme. Study was UK-based however, it was likely that qualitative data was collected prior to 2010. Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>

1 Economic evidence

2 Included studies

3 A systematic review was conducted to cover all questions within this guideline update. The
4 study selection diagram is available in Appendix G. The search returned 3,197 publications
5 since 2000. Additionally, 29 publications were identified through reference tracking. All
6 records were excluded on basis of title and abstract for this review question. An updated
7 search was conducted in November 2020 to identify any newly published papers. The search
8 returned 584 publications. After screening titles and abstracts five publications were
9 considered for full text inspection but did not meet the inclusion criteria and were excluded
10 from the evidence report. Reasons for exclusion are summarised in Appendix J.

11 Economic model

12 No economic modelling was undertaken for this review question.

13 The committee's discussion of the evidence

14 Interpreting the evidence

15 *The outcomes that matter most*

16 Initially, the committee considered evidence from the four interventions that were applied to
17 support the learning needs of majority primary school aged children (up to 11 years). Of the
18 outcomes reported, the committee considered objective literacy and numeracy education
19 outcomes, such as word reading, reading age, sentence comprehension, spelling and maths
20 scores to be the most important and useful outcomes for making recommendations. These
21 outcomes were reported across all four interventions: foster-parent and volunteer-delivered
22 tutoring programmes, letterbox, and paired reading. Positive results were reported for
23 tutoring and paired reading.

24 Furthermore, the committee considered the evidence from five interventions to support
25 learning needs in majority secondary school aged children: Take Charge (individualised
26 coaching and group mentoring), Multidimensional Treatment Foster Care, ESTEP tutoring
27 programme, and animal-assisted psychotherapy. Outcomes that the committee considered
28 to be particularly useful among this evidence included scholastic/language skills score,
29 school attendance, academic grade levels, and reading and maths scores. Engagement in
30 educational planning score was also considered to be relevant to the UK population's
31 engagement in the personal education plan (PEP) and was reported as positive in a study of
32 Take Charge coaching and mentoring.

33 Two studies considered interventions that were relevant for looked after children at all ages:
34 Child Advocacy and Evolve Interagency Services. The committee considered some
35 outcomes reported by these studies to be important – for example: passing all courses, and
36 school expulsion by year 1, scholastic or language skills score and poor school attendance.
37 Positive results were found for passing all courses by year 1 in child advocacy, and
38 scholastic and language skills/school attendance for Evolve Interagency Services. The
39 committee noted that in many cases, while the phenomenon that the outcomes were
40 attempting to measure were important, the measures themselves may be subject to bias
41 through self-reporting. In some cases, such as for the outcomes reported in the Child
42 Advocacy study, it was not clear how the outcomes were being defined.

1 **The quality of the evidence**

2 The quality of the evidence was found to be low or very low by the criteria outlined by
3 GRADE. One exception was outcomes reported by the UK-based study of the Letterbox club
4 intervention, a well-designed and well-reported RCT which was judged overall to be of low
5 risk of bias. Otherwise, there was a lack of UK evidence with only 3 of the 14 identified
6 studies conducted in the UK, therefore the committee were careful to take into account the
7 indirectness of these studies to current UK practice.

8 The committee considered other common reasons why the presented evidence was marked
9 down for quality. For example, studies frequently failed to report how randomisation was
10 performed or if allocation of participants was concealed; it was often unclear how many were
11 lost to follow up or if there was missing data (and for what reason, and whether this varied
12 between comparison groups); studies commonly failed to adequately adjust for differences
13 between comparison groups at baseline for important variables such as behavioural
14 problems, number of placement changes, and special educational needs; studies were
15 frequently unblinded and did not outline a detailed protocol or analysis plan. In addition, for
16 certain studies, outcomes may have been selectively reported (either through selective use
17 of subscales or follow up times).

18 While most reported evidence used a contemporary control group, two included studies were
19 uncontrolled before and after studies. One considered a paired reading intervention (this
20 study was included since it was UK-based and there was a paucity of UK-based evidence),
21 the other considered the use of an interagency “wrap-around” model of care (this study was
22 included since there was a paucity of evidence considering interventions for looked-after
23 children with psychological or behavioural disorders specifically). The committee considered
24 the problems inherent in this study design. For example, the outcomes of participants in
25 these studies may improve with time regardless of the intervention, or perhaps as a result of
26 other interventions received during the follow up period.

27 The interpretation of one study was particularly problematic. The committee considered
28 outcomes reported by one randomised trial of the ESTEP tutoring programme for which
29 38.2% of those assigned to the E-STEP group did not receive E-STEP services and 12.3%
30 of those in the control group did receive ESTEP services. In addition, the study authors noted
31 that approximately equal proportions of ESTEP and control groups received some form of
32 tutoring (58.4% vs 60.8%).

33 Small sample size was also a problem for many outcomes with included studies frequently
34 unable to differentiate between an observed effect that was non-significant and one which
35 was greater than the pre-defined minimum important difference.

36 A gap in the evidence base was noted on the use of therapeutic interventions of popular
37 interventions used in current practice such as art therapy, play therapy, occupational therapy,
38 music therapy and psychotherapy. The committee highlighted these interventions as being
39 known to have a positive impact on educational, social and emotional outcomes in broader
40 populations of children. A research recommendation was therefore drafted for interventions
41 to assess the effectiveness of these interventions on improved learning outcomes, school
42 attendance and exclusion to help address this evidence gap. NB: while evidence from two
43 non-randomised controlled trials was presented looking at outcomes for animal-assisted
44 psychotherapy, the outcomes presented from this study focussed on behavioural rather than
45 academic outcomes while at school. The committee considered that evidence for this therapy
46 should be considered again under review questions looking at health and wellbeing for
47 looked after children and young people.

48 The committee was disappointed by the lack of high-quality evidence, in particular, in
49 secondary school-aged children which meant they were unable to make more positive
50 recommendations for this population group. Instead a recommendation was made advising
51 “When providing interventions to improve education in secondary school-aged looked after

1 children, ensure ongoing evaluation of appropriateness and impact.” The committee noted
2 that the pupil premium is often spent on interventions to improve educational outcomes (for
3 example, tutoring) without enough evidence to say that these interventions are working in
4 looked after children and young people. A practice of regular evaluation of these
5 interventions could help schools select interventions that have been tried and tested over
6 those for which the impact is unclear. This practice would have an additional benefit in
7 increasing the amount of available data which could be used for research.

8 **Benefits and harms**

9 Primary school aged interventions

10 The committee considered the four interventions tested in majority primary school aged
11 children: foster parent-delivered Teach Your Children Well (tutoring), volunteer-delivered
12 Teach your Children Well (tutoring), the Letterbox club, and a paired reading intervention. It
13 was observed in one randomised controlled trial that foster parent-delivered tutoring was
14 associated with higher maths and sentence comprehension scores postintervention
15 compared to a waitlist intervention. Across two randomised controlled trials volunteer-
16 delivered tutoring was associated with improved word reading, spelling, and maths scores
17 postintervention compared to a wait list intervention. Though very low-quality evidence
18 overall, these were outcomes that the committee considered to be important (see above). In
19 addition, a UK-based before-and-after study showed that a paired reading intervention was
20 associated with a large improvement in reading age (MD 1.00 95%CI 0.24 to 1.76 years)
21 comparing baseline to postintervention results.

22 The committee noted that the two RCTs considering the volunteer-delivered Teach Your
23 Children Well tutoring programme reported consistently positive results. In one of these
24 studies, there was significant improvements in three out of the four WRAT-4 academic
25 outcome domains. While significant findings were also observed in the foster parent-
26 delivered tutoring, the committee suggested that volunteers may be a more appropriate
27 vehicle for delivering tutoring support to LACYP: it was suggested that volunteers providing
28 tutoring programmes, especially if they are recent graduates, may be more familiar with
29 recent teaching methods for maths and phonics than foster parents; the committee also
30 discussed that looked after children can often benefit from building relationships with
31 volunteers who are investing their own personal time into improving LACYP academic
32 outcomes; finally, foster carers often report that they struggle with providing extra educational
33 support to looked after children as they feel this creates a ‘blurring of boundaries’ between
34 their caring and education role.

35 The committee also discussed the behaviour management component of the Teach Your
36 Children Well intervention. In terms of future implementation, they highlighted that the points
37 system for rewarding positive behaviour in the foster carer delivered “Teach Your Children
38 Well” tutoring programme may not work for many looked after children and would require
39 tailoring to the individual. The committee discussed points-based systems and the variety of
40 behavioural management reward systems currently in use. It was suggested that many
41 LACYP often need immediate rewarding (or feedback such as praise) for good behaviour
42 rather than a points system. In some cases, children may also benefit from a points system
43 as long as rewards are tangible and material, such as time out to engage in something they
44 enjoy.

45 Based on the above discussions, the committee decided to recommend tutoring for
46 improving educational outcomes in primary school-aged looked after children. Tutoring could
47 be delivered by foster carers, volunteers, or professional tutors, but the committee

1 considered it was important that tutors were trained (as in the evidence base). In addition,
2 tutoring could take place individually or in small groups.

3 The committee also considered one UK-based before and after study looking at a paired
4 reading intervention. While very low-quality evidence, the committee were impressed by the
5 large effect size observed in this study (i.e. that participants improved their reading age by a
6 year over 16 weeks). Given the liaison between the school and the carer described in the
7 study, the committee considered that this intervention also had potential for increasing links
8 and engagement between foster carers and schools.

9 Despite the quality of the evidence for paired reading being very low by the criteria outlined
10 by GRADE, the committee decided that a strong 'offer' recommendation was still warranted.
11 This was based on expert consensus. The committee considered paired reading to be a
12 simple, cheap, and already widely used intervention in primary schools (with parents often
13 encouraged to engage in paired reading) in addition this intervention was known to have a
14 good evidence base, and historical use, outside of looked after children. Paired reading was
15 also considered to have a relational aspect, improving quality time spent between carer and
16 child. It was also suggested that older students in primary school (e.g. Year 6) can engage in
17 paired reading with younger students which may also provide an important mentoring role.

18 Despite being a well-known intervention with evidence from a well conducted high quality
19 trial, the Letterbox club intervention did not report any significant benefit on educational
20 outcomes in looked after children. The trial stated "As a book gifting scheme directed at the
21 child, the intervention does not rely on, expect or demand foster carer involvement and, as
22 such, there is no manual or guidance for carers about how and in what ways they/the child
23 should engage with the parcel." However, the committee stated that this was not the usual
24 guidance and support provided by Letterbox to foster carers to promote the implementation
25 and use of the intervention. The committee considered that the Letterbox intervention is often
26 used in combination with strategies such as paired reading to promote the use of their
27 parcels. Additional, untested, benefits include the fact that (in the experience of the
28 committee) foster children frequently find it very meaningful to receive mail and a letter
29 addressed to them personally. However, it was conceded that for some children the
30 Letterbox club books were left stacked and unused.

31 Potential harms of the letterbox intervention were also considered, for example the Letterbox
32 club intervention was noted for being popular amongst LACYP however this intervention
33 could have a negative impact on relationships in the household through disappointment and
34 jealousy amongst other (non-looked after) children in a foster home who don't receive a
35 parcel. The committee reported anecdotal evidence of foster carers contacting Letterbox
36 asking if they can purchase additional Letterbox parcels for other children. The committee
37 agreed to delay judgement on this intervention until qualitative evidence had been
38 considered.

39 The Letterbox club intervention is a well-known UK intervention targeted at LACYP and the
40 committee noted that the intervention was popular amongst LACYP as it is personalised and
41 attractively presented. The committee noted that the intervention also helped build a sense of
42 identity amongst LACYP. However, this intervention did not report any significant benefit on
43 education outcomes such as reading or recreational reading skills scores.

44 Secondary school aged interventions

45 Four interventions aimed at primarily secondary school-aged children, were considered:
46 Take Charge (coaching and mentoring); Multidimensional Treatment Foster Care; ESTEP
47 tutoring; and animal-assisted psychotherapy.

1 Take Charge was associated with improvements in the (self-reported) number of hours spent
2 doing homework postintervention, a total count of self-reported educational accomplishments
3 at postintervention, and mean youth knowledge and engagement in educational planning
4 (student and parent reported). However, the committee considered these outcomes to be
5 mostly surrogate and unable to show that academic outcomes were improved.

6 Multidimensional Treatment Foster Care was considered as a highly intensive intervention
7 for LACYP with severe emotional/behavioural disorders and unstable placements. One UK-
8 based randomised trial was not able to differentiate an effect for Multidimensional Treatment
9 Foster Care (MDTFC) on scholastic/language skills or odds of higher school attendance. The
10 USA-based RCT found that MDTFC was associated with improved homework completion
11 score, and school attendance score on follow up. The committee found that the academic
12 outcomes reported by these studies were insufficient to recommend its use on the basis of
13 academic outcomes alone. The committee decided to consider this intervention again for its
14 use in improving the health/wellbeing, relationships, and placement stability of LACYP.

15 One study found evidence of no meaningful effect of ESTEP tutoring on grade level,
16 academic outcomes, and school behaviour. The committee discounted results reported in the
17 RCT study of the ESTEP tutoring programme due to considerable cross-over between
18 intervention and comparison groups meaning that (by the end of the study) similar
19 proportions of participants in both groups had received some form of tutoring.

20 Finally, the committee considered results from two non-randomised controlled trials
21 considering the use of animal assisted psychotherapy in youth in residential care with
22 emotional behavioural disorders. This study found improvements in teacher-rated school
23 maladjustment and adaptive skills in the intervention group. Once again, the committee
24 found that the academic outcomes reported by these studies were insufficient to recommend
25 its use on the basis of academic outcomes alone. The committee agreed that it may be a
26 useful intervention in children experiencing trauma and decided to consider this intervention
27 again for its use in improving the health/wellbeing, relationships, and placement stability of
28 LACYP in later evidence reviews. However, the committee were particularly interested in the
29 use of therapeutic strategies to support the education of LACYP with mental health problems
30 or emotional and behavioural disorders. Therefore, a research recommendation was drafted:
31 What is the effectiveness and cost-effectiveness of therapeutic interventions for improving
32 learning outcomes and school attendance and exclusion in educational settings for looked
33 after children? (for example: art therapy, play therapy, occupational therapy, music therapy,
34 psychotherapy, animal-assisted psychotherapy, and therapeutic foster carer training.

35 In the absence of strong evidence, the committee discussed tutoring amongst LACYP
36 attending secondary school. In current practice a large amount of money is spent on tutoring,
37 however there is a lack of evidence showing effectiveness for this intervention for LACYP. In
38 stead the committee recommended that interventions for improving education in secondary
39 school-aged looked-after young people are regularly evaluated to check they are appropriate
40 for the user and effective.

41 All ages

42 The committee considered the findings from the Child Advocate Volunteers intervention
43 which was aimed at both primary and secondary school aged LACYP and showed
44 improvements in passing all courses and reports of poor conduct by 1 year follow up.
45 However, these outcomes were not clearly defined. The committee agreed with the need for
46 child advocacy, however, highlighted a problem in the implementation of this intervention in
47 which there is a high turnover in child advocates. There is often a difficulty in finding
48 advocates to maintain a long-term relationship with LACYP. Training and support would also

1 be needed for advocates. The committee noted that advocacy is supposed to be the role of
2 the independent visitor in UK practice.

3 Finally, the committee considered evidence from a before and after study considering Evolve
4 Interagency Services, a wrap around model of care for LACYP presenting with psychological
5 and behavioural disorders. This study found improvements in scholastic/language and school
6 attendance when comparing pre and postintervention outcomes. Participants in this study
7 received a range of therapeutic interventions, of different intensity and duration. Therefore,
8 the committee were unable to extrapolate the impact of the wrap-around model of care itself
9 since the study had no contemporary control group.

10 **Cost effectiveness and resource use**

11 There were no published cost-effectiveness analyses addressing this review question and no
12 original economic modelling was undertaken due to the limited amount of effectiveness
13 evidence for key educational outcomes. In discussing the evidence, the committee took into
14 consideration the type of resource use that would be required to deliver each intervention.

15 Among primary school aged looked after children, the “Teach Your Children Well” tutoring
16 programme and paired-reading interventions were delivered by foster carers and volunteers.
17 In the studies, tutoring was delivered at an intensity of 3 hours per week and paired reading
18 for 20 minutes or more 3 times per week. Overall, these interventions were not expected to
19 be very costly. However, the committee recognised that even interventions that have an
20 apparently low cost (such as those delivered by volunteers) are likely to have hidden costs
21 such as the carer or volunteer time, training, travel and administrative support. The
22 committee commented that some carers may not want to take on the responsibility for
23 tutoring as this can blur the line between the carer and educator roles.

24 It was highlighted that foster carers would benefit from extra support or training from schools
25 on active reading. Infrastructure may be needed to support this and to train volunteer paired
26 readers. The committee noted the important role that virtual schools play in supporting and
27 training not only teaching staff but also foster carers, and that therefore they may be best
28 placed to deliver training in paired reading to foster parents. Overall, the committee felt that
29 the resource impact of tutoring programmes and paired-reading interventions would be
30 limited and could be funded as part of the pupil premium.

31 The interventions involving secondary school participants were perceived as being more
32 resource intensive. MTFC in particular was associated with 9-month placements with full-
33 time specialist foster carers and continuous multidisciplinary team support. Take Charge was
34 delivered weekly over 9 months period and required coaches to undergo formal training and
35 be mentored on a weekly basis. Given the available evidence, the committee did not feel
36 these interventions were an effective use of resources to support learning needs in LACYP.

37 The committee agreed that the resource impact of these recommendations is low. Paired
38 reading is currently offered to all children in primary schools, so no additional resource is
39 required. Individual or small group tutoring has the potential to also have a low resource
40 impact especially if delivered by trained foster carers or trained volunteers. The use of
41 professional tutors may have resource implications, however, these interventions can be
42 prioritised for funding through the Pupil Premium which is part of statutory education funding
43 provision for LACYP.

1 Recommendations

2 1.6.15 To improve educational outcomes, such as literacy and numeracy, in primary school-
3 aged looked-after children:

- 4 • offer paired reading
5 • consider individual or small group tutoring (for example, by trained foster carers,
6 trained volunteers, or professional tutors).

7 1.6.16 Ensure that interventions for improving education in secondary school-aged looked-
8 after young people are regularly evaluated to check they are appropriate for the user and
9 effective.

10

This evidence review supports recommendations 1.6.15 to 1.6.16 and the research recommendation on therapeutic interventions for improving learning outcomes and school attendance and exclusion in educational settings.

11

1 References – included studies

2 Effectiveness

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12 **Cost effectiveness**

- 13 No cost-effectiveness evidence was identified for this review question

1 Appendices

2 Appendix A – Review protocols

3 Review protocol for interventions to support learning needs for looked-after children and young people

4

ID	Field	Content
0.	PROSPERO registration number	[Complete this section with the PROSPERO registration number once allocated]
1.	Review title	Interventions to support learning needs of school-aged looked-after children and young people
2.	Review question	<p>4.2a What is the effectiveness of interventions to support learning needs by either a learning provider or carer of school-aged looked-after children and young people?</p> <p>4.2b are interventions to support learning needs 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 learning needs in school-aged looked-after children and young people?</p>
3.	Objective	<p><u>Quantitative</u> To determine the effectiveness and harms of interventions to support learning needs by either a learning provider or carer of school-aged looked-after children and young people.</p> <p><u>Qualitative</u> To determine if interventions to support learning needs are acceptable and accessible to looked after children, their carers, and providers who</p>

		would deliver them. To determine other barriers and facilitators to the effectiveness of these interventions.
4.	Searches	<p>Sources to be searched</p> <ul style="list-style-type: none"> • 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 <p>Supplementary search techniques</p> <ul style="list-style-type: none"> • 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. <p>Limits</p> <ul style="list-style-type: none"> • 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 support of learning in school-aged looked-after children and young people in their current educational placement.
6.	Population	<p>School-aged looked after children and young people (wherever they are looked after) from primary-school age until secondary-school age and further education until age 18.</p> <p>Including:</p> <ul style="list-style-type: none"> • 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	<p>Interventions and approaches to support learning needs by either a learning provider or carer of looked-after children and young people</p> <p>Example interventions and approaches of interest include:</p> <ul style="list-style-type: none"> • Interventions to support learning needs for primary school • Interventions to support learning needs for secondary school

		<ul style="list-style-type: none"> • Interventions to promote positive relationships (as relates to their impact on educational outcomes) • Interventions to promote health and wellbeing (as relates to their impact on educational outcomes) • Teacher-delivered and carer-delivered interventions • School-based and home-based interventions • Tutoring programmes • Reading, and paired-reading programmes • Coaching and mentoring • Other pedagogical interventions • Training for teachers and carers to support the education of looked-after children and young people
8.	Comparator	<p><u>Quantitative evidence</u> Comparator could include standard care, waiting list, or another active intervention to support learning needs by either a learning provider or carer of school-aged looked-after children and young people.</p> <p><u>Qualitative evidence</u> Not applicable</p>
9.	Types of study to be included	<p><u>Quantitative evidence</u></p> <ul style="list-style-type: none"> • Systematic reviews of included study designs • Randomised controlled trials <p>If insufficient evidence, progress to non-randomised prospective controlled study designs</p> <p>If insufficient evidence, progress to non-randomised, non-prospective, controlled study designs (for example, retrospective cohort studies,</p>

		<p>case control studies, uncontrolled before and after studies, and interrupted time series)</p> <p><u>Qualitative evidence</u> Including focus groups and interview-based studies (mixed-methods studies will also be included provided they contain relevant qualitative data). Evidence must be related to acceptability, accessibility of interventions or other barriers to and facilitators for their effectiveness to support learning needs in school.</p>
10.	Other exclusion criteria	<ul style="list-style-type: none"> • 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 <p><u>Quantitative evidence exclusion</u></p> <ul style="list-style-type: none"> • 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) <p><u>Qualitative evidence exclusion</u></p> <ul style="list-style-type: none"> • 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	<p>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. Looked-after children are 5 times more likely to offend than the general population. Local authorities have a duty to support looked-after children and young people. This includes providing individual care plans covering for educational needs.</p>
12.	Primary outcomes (critical outcomes)	<p><u>Quantitative outcomes</u></p> <ul style="list-style-type: none"> • Educational outcomes (academic skills; academic achievement; grade completion; 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 (including confidence and interest in academia and education) <p><u>Qualitative outcomes</u></p> <p>Qualitative evidence related to interventions to support learning needs will be examined. Evidence should relate to the views of looked after children, their carers, and providers, who would deliver eligible interventions, on:</p> <ul style="list-style-type: none"> • The accessibility and acceptability of the intervention, including information about the source and type of intervention used.

		<ul style="list-style-type: none"> Barriers to and facilitators for intervention effectiveness in supporting school learning.
13.	Secondary outcomes (important outcomes)	None
14.	Data extraction (selection and coding)	<p>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.</p> <p>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).</p> <p>Study investigators may be contacted for missing data where time and resources allow.</p>
15.	Risk of bias (quality) assessment	<p>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.</p> <p>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/</p>

		<p>GRADE and GRADE CERQual will be used to assess confidence in the findings from quantitative and qualitative evidence synthesis respectively.</p>
<p>16.</p>	<p>Strategy for data synthesis</p>	<p><u>Quantitative data</u> Meta-analyses of interventional data will be conducted with reference to the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al. 2011).</p> <p>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:</p> <ul style="list-style-type: none"> • 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 <p>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.</p>

		<p><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.</p> <p><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.</p>
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.

		<p>Age of LACYP:</p> <ul style="list-style-type: none"> • LACYP in primary school education • LACYP in secondary school education and further education until age 18 <p>Subgroups, of specific consideration, will include:</p> <ul style="list-style-type: none"> • 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 • Looked-after children and young people who 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	<input checked="" type="checkbox"/> Intervention <input type="checkbox"/> Diagnostic <input type="checkbox"/> Prognostic

		<input type="checkbox"/> Qualitative <input type="checkbox"/> Epidemiologic <input type="checkbox"/> Service Delivery <input type="checkbox"/> Other (please specify)																					
19.	Language	English																					
20.	Country	England																					
21.	Anticipated or actual start date	<p>[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.</p> <p>A protocol can be deemed complete after sign-off by the NICE team with responsibility for quality assurance.]</p>																					
22.	Anticipated completion date	<p>[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.]</p>																					
23.	Stage of review at time of this submission	<table border="1"> <thead> <tr> <th>Review stage</th> <th>Started</th> <th>Completed</th> </tr> </thead> <tbody> <tr> <td>Preliminary searches</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Piloting of the study selection process</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Formal screening of search results against eligibility criteria</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Data extraction</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Risk of bias (quality) assessment</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Data analysis</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Review stage	Started	Completed	Preliminary searches	<input type="checkbox"/>	<input type="checkbox"/>	Piloting of the study selection process	<input type="checkbox"/>	<input type="checkbox"/>	Formal screening of search results against eligibility criteria	<input type="checkbox"/>	<input type="checkbox"/>	Data extraction	<input type="checkbox"/>	<input type="checkbox"/>	Risk of bias (quality) assessment	<input type="checkbox"/>	<input type="checkbox"/>	Data analysis	<input type="checkbox"/>	<input type="checkbox"/>
		Review stage	Started	Completed																			
		Preliminary searches	<input type="checkbox"/>	<input type="checkbox"/>																			
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		Risk of bias (quality) assessment	<input type="checkbox"/>	<input type="checkbox"/>																			
Data analysis	<input type="checkbox"/>	<input type="checkbox"/>																					
24.	Named contact	<p>5a. Named contact [Give development centre name]</p>																					

		<p>5b Named contact e-mail [Guideline email]@nice.org.uk [Developer to check with Guideline Coordinator for email address]</p> <p>5e Organisational affiliation of the review National Institute for Health and Care Excellence (NICE)</p>
25.	Review team members	<p>From the Guideline Updates Team:</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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, learning outcomes, 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	<input type="checkbox"/> Ongoing

		<input type="checkbox"/> Completed but not published <input type="checkbox"/> Completed and published <input type="checkbox"/> Completed, published and being updated <input type="checkbox"/> 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

1

2

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 10 th 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)

Medline Strategy, searched 10th June 2019

Database: Ovid MEDLINE(R) 1946 to June 10, 2019

Search Strategy:

- 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)
- 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 (premat* 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)

Medline Strategy, searched 10th June 2019

Database: Ovid MEDLINE(R) 1946 to June 10, 2019

Search Strategy:

- 30 (child* or minor or minors or boy* or girl* or kid or kids or young*).ti,ab,in,jn. (2212038)
- 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)

Medline Strategy, searched 10th June 2019

Database: Ovid MEDLINE(R) 1946 to June 10, 2019

Search Strategy:

43 animals/ not humans/ (4554892)

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.

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

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:

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

-
- 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 (premat* 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:

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 (prematu* 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:

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 (premat* 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:

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:

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 (premat* 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:

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 (prematu* 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:

-
- 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 (premat* 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:

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 (premat* 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)

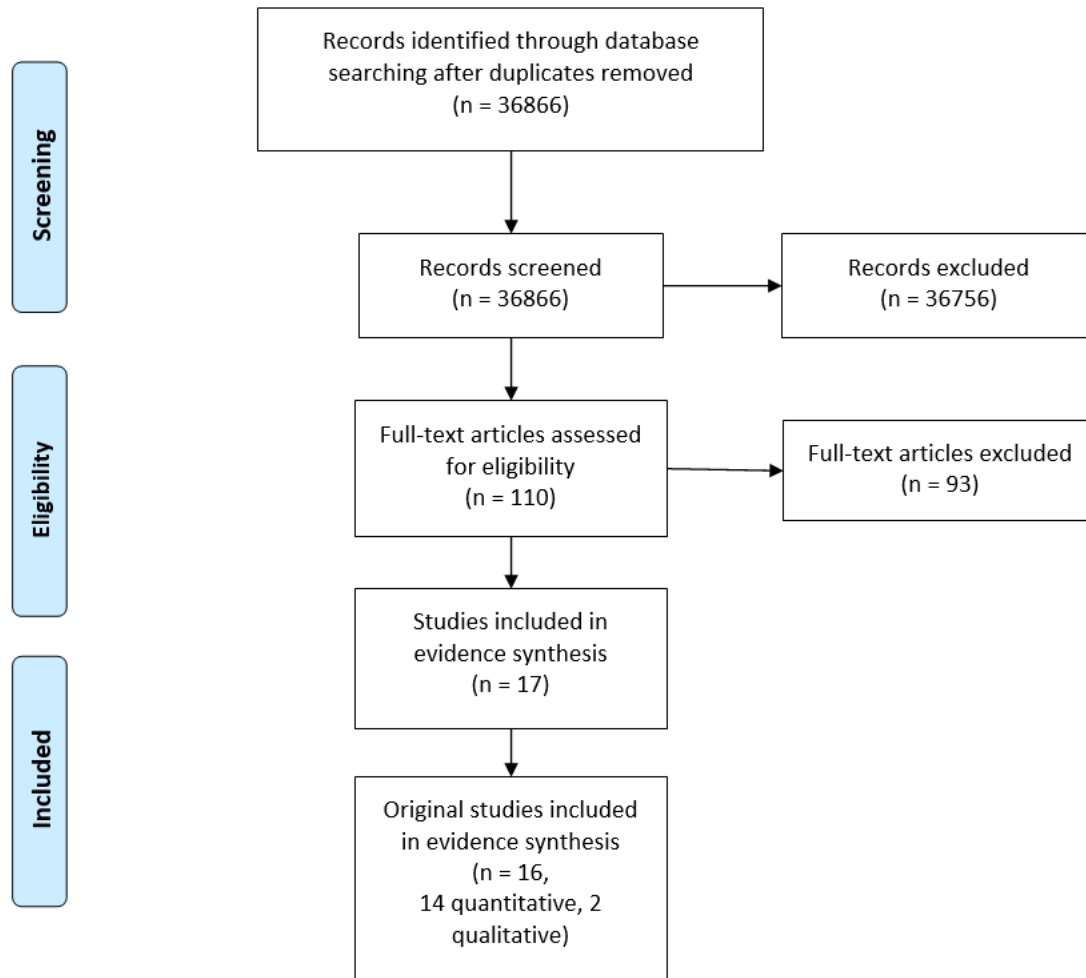
40 38 not 39 (16745)
41 (letter or editorial).pt. (1542836)
42 (conference abstract or conference paper or conference proceeding or "conference review").pt. (4231963)
43 41 or 42 (5774799)
44 40 not 43 (13711)
45 limit 44 to dc=19900101-20190606 (13274)
46 limit 45 to english language (12254)
47 Markov 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 hqol 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 – Evidence study selection



Appendix D – Evidence tables

Effectiveness studies (randomised controlled trials)

Flynn 2012

Study type	Randomised controlled trial (RCT)
Study location	Canada
Study setting	Tutoring delivered by foster carers to children in foster care
Study dates	2008 to 2009
Duration of follow-up	Post intervention testing (unclear duration of follow up)
Sources of funding	the Canada Education Savings Plan, Human Resources and Skills Development Canada, Government of Canada
Inclusion criteria	<p>Age Aged 6-13 years and in grade 2-7</p> <p>Care situation foster or kinship care home; living in a placement assessed as stable by child welfare worker and supervisor; possessing the legal status of a Crown Ward or Society Ward</p> <p>Other nominated by their child welfare worker as likely to benefit;</p> <p>Language English speaking</p>
Exclusion criteria	<p>Care situation Living in group home</p> <p>Education level Either very strong students or extremely weak students</p> <p>Behavioural</p>

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

	very behaviourally disturbed
Sample size	77
Split between study groups	42 foster children randomised to the TYCW group and 35 to the wait list group
Loss to follow-up	12 were lost to follow up in the TYCW group and 1 in the wait list group
% Female	Not reported
Mean age (SD)	10.7 ± 1.6 years
Outcome measures	<p>Educational outcome 1</p> <p>Wide Range Achievement Test—Fourth Edition (WRAT4). a standardized, norm-referenced test that assesses basic reading and math skills. It was developed for use with individuals aged 5–94 or in Grades K12. The WRAT4 comprises four subtests, Word Reading, Sentence Comprehension, Spelling, and Math Computation, and also yields a Reading Composite score that is obtained by combining the Word Reading and Sentence Comprehension standard scores.</p>
Study arms	<p>Foster parent-delivered Teach Your Children Well tutoring (N = 30)</p> <p>The foster children in the experimental group received tutoring and a Registered Education Saving Plan (to encourage saving for secondary education). The TYCW tutoring intervention was designed to provide 3 h per week of individual tutoring, for 30 weeks. The 3 h of weekly tutoring was to consist of 2 h of one-on-one direct instruction to the foster child in reading, 30 min of reading aloud by the foster child to the tutor or another adult in the home, and 30 min of self-paced instruction in math for the foster child, under the supervision of the foster parent. The math component was taught through step-by-step instruction in the form of a computer-based CD-ROM that the foster child used at his or her own pace. The reading component consisted of a four-level learn-to-read series of books, written by the designer of the TYCW program, Michael Maloney, and his team. For each reading level, there was a detailed instructor's manual and a student reader, and, for some levels, a student workbook as well. To determine the level of the TYCW program at which the foster child was to begin, his or her current reading level was determined by means of a standard assessment passage, administered by a research team member immediately after the child had been randomly assigned to the tutoring or wait-list control group. Also, to promote behavioral self-regulation and optimal learning, the TYCW program incorporated a behavior-</p>

	management component, based on a reward system in which the child was to be awarded points for positive behavior in a particular tutoring session.
% Female	50%
Mean age (SD)	Not reported
Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 100.32 (p=0.19); Spelling: 97.67 (p=0.74); Maths: 92.10 (p=0.009); Sentence comprehension: 103.22 (p=0.035) Reading composite: 101.23 (p=0.096). Adjusted for pre-intervention means.
	<p>Wait list (N = 34)</p> <p>The control children received the TYCW tutoring intervention during the school year (2009–2010) following that in which the experimental children had been tutored (2008–2009). During both years, each of the foster children in the experimental and control groups received a Registered Education Saving Plan (RESP) from their respective CAS for future post-secondary educational purposes. (RESPs are financial instruments created by the Government of Canada to encourage families and organizations such as CASs to save for children's post-secondary education.) Each child was assured of having \$1400 deposited in his or her RESP account. The foster parents in the two groups agreed to communicate weekly or more often to their tutees that the RESP was a symbol of their value as persons and a concrete financial investment in their futures.</p>
% Female	57.1%
Mean age (SD)	Not reported
Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 97.78; Spelling: 98.87; Maths: 86.30; Sentence comprehension: 98.69; Reading composite: 97.44. Adjusted for pre-intervention means.
Risk of bias	Domain 1: Bias arising from the randomisation process

Risk of bias judgement for the randomisation process

Some concerns

(Few baseline variables reported. Unclear if allocation concealment.)

Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)

High

(Unclear if deviations from intended intervention. Per-protocol analysis and >30% drop out on the intervention arm).

Domain 3. Bias due to missing outcome data

High

(Large loss to follow up and unclear how much missing data otherwise. Missing data imputed but unclear how much and if appropriate method used.)

Domain 4. Bias in measurement of the outcome

Some concerns

(Outcome assessors were likely unblinded and outcome may be influenced by knowledge of intervention received (but not likely))

Domain 5. Bias in selection of the reported result

Some concerns

(Unclear and insufficient detail provided about certain aspects of conducting trial e.g. approach to loss to follow up).

Overall bias and Directness

Risk of bias judgement

High

Overall Directness

This question has not yet been answered.

Geenen 2012

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Youth in Foster Care
Study dates	Not reported (published 2013)
Duration of follow-up	9 month follow up
Sources of funding	Funded by the Institute of Educational Sciences, U.S. Department of Education.
Inclusion criteria	<p>Age In the freshman, sophomore, or junior year of high school</p> <p>Care situation In the state foster care system</p> <p>Educational status receiving special education services within an urban school district</p>
Exclusion criteria	<p>Care situation scheduled to move out of state</p> <p>Language Non-English speaking</p>
Sample size	133
Split between study groups	63 in the TAKE CHARGE intervention group, 60 in the usual care group

Loss to follow-up	10 were lost to follow up in total, unclear how loss to follow up varied between intervention groups
% Female	46.3
Mean age (SD)	15.49 ± 2.21 years
Condition specific characteristics	<p>At risk or victims of exploitation Physical abuse: 38.2%; Sexual abuse: 33.3%; Neglect: 27.6%</p> <p>Disabilities, speech or communication needs, or special education needs Intellectual disability: 8.1%; Learning disability: 26.8%; Speech disability: 14.6%; Physical disability: 1.6%; Autism: 3.25%;</p> <p>Non-white ethnicity 50.4%</p> <p>Care characteristics Non kinship: 82.1%; Kinship: 13.0%; group home: 4.9%; length of time in foster care (mean): 84.6 months</p> <p>Number of placement moves mean 7.1</p>
Outcome measures	<p>Educational outcome 1 Youth knowledge and engagement in educational planning: measured using The student, parent, and teacher versions of the Educational Planning Assessment</p> <p>Educational outcome 2 Postsecondary preparation: On the outcome survey, youth completed a checklist indicating activities they had performed in planning for college. In all, 10 postsecondary items included “talked with guidance counselor or teacher about going to college” and “visited colleges”. Item sums were calculated for each category.</p> <p>Educational outcome 3 Career development: Information regarding key activities youth had engaged in around career exploration and preparation for employment was also gathered on the outcome survey. 7 career items included “talked with family members about my career interests” and “job shadowed someone in my career area.” Item sums were calculated for each category.</p> <p>Educational outcome 4 Student self-attribution of accomplishments: To assess selfattribution of educational success, conceptualized as an essential element of self-determination, youth were asked to list all their educational accomplishments for the past 6 months and a total count was gathered at each time point.</p> <p>Agency outcome 1 Self-determination: Self-determination was assessed with the parent, student, and teacher versions of the AIR as well as by asking youth to describe their goals and accomplishments as respective indices of youths’ future directedness and positive self-attribution,</p> <p>Emotional and behaviour outcomes 1</p>

	<p>Measured with the Teacher Report Form (TRF) and the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001), and Youth Self-Report YSR (Achenbach, 1991). These parallel measures include scales for withdrawn-depressed, anxious-depressed, delinquent, and aggressive behavior, as well as attention problems. Analyses focused on the Withdrawn-Depressed, Anxious-Depressed, and Somatic Complaints subscales.</p> <p>Educational outcome 5 Student identification of education goals: At each time point, youth were asked to list all of their educational goals for the upcoming year and a total count was taken, gauged to reflect students' self-directedness.</p> <p>Educational outcome 6 Hours spent doing homework</p>						
<p>Study arms</p>	<p>TAKE CHARGE intervention (N = 60) Youth participated in two components of TAKE CHARGE: (a) Individualized coaching in applying self-determination skills to achieve their educational and related goals and to participate in educational planning meetings and (b) group mentoring, where the youth and near-peer foster care alumni who had completed high school and were working or in college gathered for information sharing and peer support. Mentors were recruited from college campuses, nominations from caseworkers, and study participants from earlier waves. To ensure fidelity, all coaches completed formal training and observation, and they attended weekly meetings where they discussed their work with youth and received ongoing support. Coaches also completed weekly log sheets where they documented the activities they engaged in and the time spent with each participant. The mean number of coaching sessions over an approximate 9-month period was 30.5 (SD = 7.8) with youth participating in an average of 32.97 (SD = 8.71) coaching hours over the duration of the intervention. Coaches and youth typically met weekly for 60 to 90 min; 13 was the minimum number of coaching hours and 55 was the maximum; youth availability accounted for much of the variation in coaching hours. Typically, one third of coaching time was didactic (M = 9.05, SD = 3.4) and two thirds experiential (M = 23.9, SD = 7.1). Overall fidelity for 79 coaching elements across all waves was 90.68%. Youth were invited to participate in three mentoring workshops, and they attended an average of 1.79 workshops. Workshop topics selected by youth included leading your education planning meeting, postsecondary education, careers, transportation, and relationships.</p> <table border="1"> <tr> <td>Study type</td> <td>Randomised controlled trial (RCT)</td> </tr> <tr> <td>Study location</td> <td>USA</td> </tr> <tr> <td>Study setting</td> <td>Youth in Foster Care</td> </tr> </table>	Study type	Randomised controlled trial (RCT)	Study location	USA	Study setting	Youth in Foster Care
Study type	Randomised controlled trial (RCT)						
Study location	USA						
Study setting	Youth in Foster Care						

Study dates	Not reported (published 2013)
Duration of follow-up	9 month follow up
Sources of funding	Funded by the Institute of Educational Sciences, U.S. Department of Education.
Inclusion criteria	Age In the freshman, sophomore, or junior year of high school
	Care situation In the state foster care system
	Educational status receiving special education services within an urban school district
Sample size	133
Split between study groups	63 in the TAKE CHARGE intervention group, 60 in the usual care group
Loss to follow-up	10 were lost to follow up in total, unclear how loss to follow up varied between intervention groups
% Female	40.0
Mean age (SD)	mean 15.79 years
Condition specific characteristics	At risk or victims of exploitation Physical abuse: 45.0%; Sexual abuse: 26.7%; Neglect: 26.7%
	Disabilities, speech or communication needs, or special education needs Intellectual disability: 8.3%; Learning disability: 26.7%; Speech disability: 23.3%; Physical disability: 45.0%; Autism: 1.7%
	Non-white ethnicity 53.3%

	<p>Care characteristics Non kinship: 85.0%; Kinship: 11.7%; group home: 4.9%; length of time in foster care (mean): 84.6 months</p> <p>Number of placement moves mean 7.9</p> <p>Educational outcome 1 Educational Planning Assessment score (following intervention/9-month follow up): Student-reported: 26.10 ± 5.71/26.61 ± 6.99; Parent reported: 22.13 ± 7.31/22.62 ± 8.05; Teacher reported: 20.40 ± 7.95/20.88 ± 7.84</p> <p>Educational outcome 2 Postsecondary preparation score: mean 2.53 ± 0.92/2.58 ± 0.94</p> <p>Educational outcome 3 Career development mean score (postintervention/9-month follow up): 2.64 ± 0.97/2.18 ± 0.78</p> <p>Educational outcome 4 Student self-attribution of accomplishments mean score (post-intervention/9-month follow up): 2.75 ± 1.44/2.31 ± 1.34</p> <p>Agency outcome 1 AIR self-determination score (post-intervention/9-month follow up): 66.43 ± 8.90/65.76 ± 8.56</p> <p>Emotional and behaviour outcomes 1 Youth Self Report Anxiety mean score (post-intervention/9-month follow up): 53.60 ± 5.11/54.09 ± 6.05; Child Behaviour Checklist anxiety: 55.33 ± 6.84/56.20 ± 6.94; Child Behaviour Checklist withdrawn score: 58.89 ± 7.04/58.23 ± 6.52; Child Behaviour Checklist somatic mean score: 57.84 ± 9.88/55.56 ± 6.52</p> <p>Educational outcome 5 Student identification of education goals score (postintervention/9-month follow up): 2.30 ± 1.23/1.90 ± 1.03</p> <p>Educational outcome 6 Hours spent doing homework mean (post intervention/9-month follow up): 1.32 ± 1.27/1.08 ± 1.13</p>
	<p>Outcome measures</p> <p>Usual Care (N = 60) Youth participating in the control group received typical educational services (business as usual), including general and special education classes, related services, interaction with special education case managers, individualized educational planning, and extracurricular activities.</p>

	<p>Outcome measures</p> <p>Educational outcome 1 Educational Planning Assessment score (following intervention/9-month follow up): Student-reported: 23.65 ± 7.85/23.93 ± 9.15; Parent reported: 19.32 ± 12.89/19.40 ± 8.14; Teacher reported: 17.89 ± 8.05/18.11 ± 8.90</p> <p>Educational outcome 2 Postsecondary preparation score (postintervention/9-month follow up): mean 1.52 ± 0.40/2.56 ± 0.89</p> <p>Educational outcome 3 Career development mean score (postintervention/9-month follow up): 2.04 ± 0.71/2.01 ± 0.69</p> <p>Educational outcome 4 Student self-attribution of accomplishments mean score (post-intervention/9-month follow up): 1.95 ± 1.20/2.07 ± 1.23</p> <p>Agency outcome 1 Parent reported AIR self-determination score (post-intervention/9-month follow up): 63.52 ± 8.94/62.96 ± 8.81</p> <p>Emotional and behaviour outcomes 1 Youth Self Report Anxiety mean score (post-intervention/9-month follow up): 56.19 ± 6.61/54.61 ± 5.79; Child Behaviour Checklist anxiety: 60.43 ± 8.60/59.00 ± 8.58; Child Behaviour Checklist withdrawn score: 62.36 ± 9.60/61.19 ± 9.08; Child Behaviour Checklist somatic mean score: 60.70 ± 9.39/60.00 ± 9.53</p> <p>Educational outcome 5 Student identification of education goals score (postintervention/9-month follow up): 2.05 ± 1.14/1.92 ± 1.05</p> <p>Educational outcome 6 Hours spent doing homework mean (post intervention/9-month follow up): 0.81 ± 1.11/0.94 ± 0.96</p>
<p>Risk of bias</p>	<p>Domain 1: Bias arising from the randomisation process</p> <p>High</p> <p>(Some considerable differences between comparison groups for length of time in foster care, speech and language disability, autism, and emotional/behavioural needs)</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Some concerns</p> <p>(unclear if any deviations from intended interventions; unclear if intention to treat analysis used (but most likely))</p> <p>Domain 3. Bias due to missing outcome data</p>

	<p>High</p> <p>(Just over 10% with missing data post randomisation; unclear whether any further missing outcome data; unclear reasons for drop out; unclear how drop out varied between groups; It is possible that missingness of data is related to outcomes.)</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Some concerns</p> <p>(It is unclear how assessments were performed (by whom). Unclear if facilitators were aware of intervention status of participants. Measurements used are often crude indicators of the phenomenon of interest.)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>High</p> <p>(unclear that analysis was conducted according to a pre-specified protocol. Data not provided for certain non-significant results. Evidence of multiple analyses used for different outcomes)</p> <p>Overall bias and Directness</p> <p>Risk of bias judgement</p> <p>High</p> <p>Overall Directness</p> <p>This question has not yet been answered.</p>
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Green 2014

Study type	Randomised controlled trial (RCT)
Study location	UK England
Study setting	Looked after young people (on a placement at risk of breakdown)
Study dates	June 2005 to December 2008

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

Duration of follow-up	12 months
Sources of funding	The project was funded by a grant from the UK Department for Children, Schools and Families to the Institute of Psychiatry (reference: ACLBMC). It was sponsored by the University of Manchester.
Inclusion criteria	Age aged 10-17 years Care situation in a placement that was unstable, at risk of breakdown or not meeting their assessed needs, or at risk of custody or secure care Emotional or behavioral disorders showing complex or severe emotional difficulties and/or challenging behaviour
Exclusion criteria	Special educational needs severe intellectual difficulties (referred to as learning disabilities by UK health services, this was indexed by specialist school placement) Medical health problem psychotic illness from medical records.
Sample size	34
Split between study groups	20 randomised to MTFC-A, 14 randomised to usual care
Loss to follow-up	3 lost to follow up in the MTFC-A group, 2 in the usual care group
% Female	Not reported for total population
Mean age (SD)	Not reported for total population
Outcome measures	Global health outcome 1 Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA): Sources included structured interviews with the young person and carers, the standard carer-rated Child Behaviour Checklist (CBCL) and self-rated Youth Self Report (YSR), 10 along with collated reports and records directly accessed from education, health and social services. This information was integrated, transcribed, fully anonymised and then located within each relevant HOTN domain before being rated. A second researcher, masked to all other case data including the first rating, independently rated this anonymised information within each domain.

	<p>Global health outcome 2 Children's Global Assessment Scale (CGAS). Sources included structured interviews with the young person and carers, the standard carer-rated Child Behaviour Checklist (CBCL) and self-rated Youth Self Report (YSR),¹⁰ along with collated reports and records directly accessed from education, health and social services. This information was integrated, transcribed, fully anonymised and then located within each relevant CGAS domain before being rated. A second researcher, masked to all other case data including the first rating, independently rated this anonymised information within each domain.</p> <p>Educational outcome 1 Scholastic/language skills. Education outcomes were assessed using masked ratings on the two education-related HoNOSCA domains (scholastic/language skills and education attendance).</p> <p>Educational outcome 2 School attendance. Education outcomes were assessed using masked ratings on the two education-related HoNOSCA domains (scholastic/language skills and education attendance).</p> <p>Criminal outcome 1 Offending at follow up. Data on specific incidents of offending (reprimand, caution or charged with offence) during the previous 6 months were gathered from the social worker at baseline and from carer and social worker at end-point covering the previous 3 months.</p>
Study arms	<p>Multidimensional treatment foster care for adolescents (MTFC-A) (N = 20) In MTFC-A, specialist foster parents receive training and ongoing support and supervision in an intensive social learning approach pioneered at the Oregon Social Learning Center. Attention is paid to the mental health of foster children through the provision of psychiatry and psychology input, including individual and family therapy, social skills training and support with education. The aim is for a short-term intensive placement, of around 9 months, followed by a short period of aftercare. Key elements include: the provision of a consistent reinforcing environment in which young people are mentored and encouraged; a clear structure, with clearly specified boundaries to behaviour and specified consequences that can be delivered in a teaching-oriented manner; close supervision of young people's activities and whereabouts at all times; diversion from associations with antisocial peers and help to develop positive social skills that will help young people form relationships with more positive peers. Behaviour is closely monitored and positive behaviours are reinforced in a concrete manner using a system of points and levels; moving during the course of the programme from early restrictions through a series of 'levels,' each of which brings increased privileges and enhanced incentives. Specialist foster carers are paid a full-time salary, provided with continuously available intensive support, have daily telephone interviews with MTFC-A staff for support and to complete a Parent Daily Report (PDR), a checklist enabling the team to monitor intervention adherence, and identify problems, progress and carer stress. Foster carers have weekly face-to-face group meetings with the intervention team. Participating intervention teams received initial training from the UK national implementation group and the programme developers in the USA to prespecified levels of fidelity. Following this, ongoing fidelity to the model throughout the programme was monitored through weekly supervision telephone calls with the programme developers in</p>

<p>the USA, including evaluation of individual PDR data. In each local team there were two additions to the US model: (a) an education worker; and (b) a part-time programme manager to liaise with the Social Services department.</p>	
% Female	Not reported for RCT sample
Mean age (SD)	Not reported for RCT sample
Outcome measures	<p>Global health outcome 1 Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) at 12 months: mean 14.04 ± 5.57. Adjusted mean difference between MTFC-A and usual care at follow up: -1.04 (-6.21 to 4.13). Adjusted for baseline score.</p> <p>Global health outcome 2 Children's Global Assessment Scale (CGAS) at 12 month follow up: mean 56.00 ± 10.06. Adjusted mean difference between MTFC-A and usual care at 12 months: 1.30 (-7.14 to 9.74). Adjusted for baseline score.</p> <p>Educational outcome 1 Scholastic/language skills. Odds of higher follow up score in the MTFC compared to usual care intervention group: OR 0.6 (95%CI 0.15 to 2.4)</p> <p>Educational outcome 2 School attendance. Odds of higher school attendance score in the MTFC group: 2.5 (95%CI 0.48 to 13.1)</p> <p>Criminal outcome 1 Number offending at follow up: 7. adjusted odds of offending in MTFC compared to usual care: aOR 1.24 (95%CI 0.22 to 7.38). Odds ratio adjusted for baseline offending age, gender, baseline offending and antisocial behaviour with inverse probability weighting by propensity score.</p>
<p>Usual care (N = 14) Usual care consisted of care placements routinely in use in local authorities at the time. These included existing (non-MTFC-A) family foster care, residential care, residential schools and other placements. Details of the use of these placements and of other mental health services were gathered at carer interview.</p>	
% Female	Not reported for RCT population
Mean age (SD)	Not reported for RCT population

	<table border="1"> <tr> <td> <p>Outcome measures</p> </td> <td> <p>Global health outcome 1 Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) at 12 months follow up: mean score 14.93 ± 7.99</p> <p>Global health outcome 2 Children's Global Assessment Scale (CGAS) at 12 months follow up: mean score 55.25 ± 12.56</p> <p>Criminal outcome 1 Participants offending at follow up: 4</p> </td> </tr> </table>	<p>Outcome measures</p>	<p>Global health outcome 1 Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA) at 12 months follow up: mean score 14.93 ± 7.99</p> <p>Global health outcome 2 Children's Global Assessment Scale (CGAS) at 12 months follow up: mean score 55.25 ± 12.56</p> <p>Criminal outcome 1 Participants offending at follow up: 4</p>
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<p>Risk of bias</p>	<p>Domain 1: Bias arising from the randomisation process</p> <p>Low</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Some concerns</p> <p>(Unclear if/why participants did not receive allocated intervention; Significant deviations apparent since 8/20 in the treatment group did not receive their interventions.)</p> <p>Domain 3. Bias due to missing outcome data</p> <p>High</p> <p>(In the intervention group 15-20% had missing data; it was also unclear how much other data was missing since some outcomes were imputed; Unclear if appropriate imputation methods used; reasons for missing data not given; Missingness of data may well be related to the result of the outcomes reported.)</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Low</p> <p>(However, outcomes were triangulated from multiple sources. Assessors were masked to treatment group.)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>High</p> <p>Overall bias and Directness</p>		

	<p>Risk of bias judgement</p> <p>High</p> <p>Overall Directness</p> <p>This question has not yet been answered.</p>
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Harper 2012

Study type	Randomised controlled trial (RCT)
Study location	Canada
Study setting	Small group tutoring programme for children in foster care
Study dates	September 2010 to April 2011
Duration of follow-up	Following the intervention (no specific length of follow up defined)
Sources of funding	funding provided through the Ministry of Children and Youth Services, Ministry of Education, and the Ministry of Training, Colleges and Universities.
Inclusion criteria	<p>Age Between grade 2 and 8</p> <p>Care situation Foster or kinship care</p> <p>Educational status behind in their academic achievement but not intellectually challenged (i.e. IQ>70)</p> <p>Other Able to remain in the study for the full 25 weeks of the intervention</p>
Exclusion criteria	Special educational needs

	IQ <70
Sample size	68
Split between study groups	33 randomised to TYCW and 35 to wait list
Loss to follow-up	3 lost to follow up in the TYCW group
% Female	42.6%
Mean age (SD)	Not reported
Condition specific characteristics	Non-white ethnicity 73.5% aboriginal ethnicity
Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4). The WRAT-4 was used to measure academic achievement across four dimensions including reading, spelling, sentence comprehension and mathematics. The WRAT-4 is standardized and norm-referenced, with all scores converted to standard scores with a mean of 100, and a standard deviation of 15. Word Reading measures letter and word decoding by word recognition and identification. Spelling measures the ability to encode sounds into written form by use of a dictated spelling format containing both letters and words. Sentence Comprehension measures the ability to gain meaning from words and to understand and comprehend ideas and information within the sentences. Math Computation measures the ability to perform and execute mathematical computations by counting, identifying numbers, solving simple oral problems and calculating written math problems.
Study arms	Volunteer tutor-delivered Teach Your Children Well (TYCW) (N = 30) A tutoring intervention program, children were assessed on a measure of word fluency, used in the TYCW program, and placed into small tutoring groups of three or four children according to skill level. The group-based tutoring groups ran over a 25-week time frame, for 2 h each week, with either one or two tutor volunteers running each group. Each session followed the basic structure of Michael Maloney's TYCW curriculum, which uses direct instruction and behaviour management to improve the educational attainment of children. Volunteer university students were recruited to run the weekly tutoring program. Prior to working with the children, the tutors completed two full days of training with the tutoring developer, Michael Maloney. Tutors were required to collect performance data at each tutoring session. This data comprised the fidelity checks and consisted of sound fluency (e.g. number of sounds read from a list of sounds per 30 s), word fluency (e.g. number of words read from a list per 30 s), and story fluency (e.g. number of words read from a story in

	<p>1 min). This data was compiled into a weekly spreadsheet that was sent to Mr. Maloney. Throughout the course of the study, tutors had their performance monitored by Mr. Maloney who served as an ongoing consultant. All volunteers received an honorarium at the middle and end of the tutoring program.</p> <table border="1"> <tr> <td>% Female</td> <td>Not reported</td> </tr> <tr> <td>Mean age (SD)</td> <td>Not reported</td> </tr> <tr> <td>Outcome measures</td> <td> Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 93.81 (p=0.002); Spelling: 99.68 (p=0.004); Maths: 82.89 (p=ns); Sentence comprehension: 92.61 (p=ns). Adjusted for pre-intervention means. </td> </tr> </table> <p>Wait list (N = 35) No further description</p> <table border="1"> <tr> <td>% Female</td> <td>Not reported</td> </tr> <tr> <td>Mean age (SD)</td> <td>Not reported</td> </tr> <tr> <td>Outcome measures</td> <td> Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores: Word reading: 89.36; Spelling: 91.79; Maths: 79.69; Sentence comprehension: 91.75 (adjusted for pre-intervention means). </td> </tr> </table>	% Female	Not reported	Mean age (SD)	Not reported	Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 93.81 (p=0.002); Spelling: 99.68 (p=0.004); Maths: 82.89 (p=ns); Sentence comprehension: 92.61 (p=ns). Adjusted for pre-intervention means.	% Female	Not reported	Mean age (SD)	Not reported	Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores: Word reading: 89.36; Spelling: 91.79; Maths: 79.69; Sentence comprehension: 91.75 (adjusted for pre-intervention means).
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Risk of bias	<p>Domain 1: Bias arising from the randomisation process</p> <p>Low</p> <p>(Centralised randomisation prior to direct contact with participants)</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Some concerns</p> <p>(Unclear if deviations from intended intervention; unclear why loss to follow up; Per-protocol analysis; <10% lost to follow up.)</p>												

	<p>Domain 3. Bias due to missing outcome data</p> <p>Low</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Some concerns</p> <p>(Unclear if outcome assessors were aware of a participants intervention status. It is possible that such knowledge could have impacted results.)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>High</p> <p>(Unclear that analysis was conducted with a pre-specified plan e.g. for multivariable analysis; some evidence that multiple analyses were performed but only one reported. Raw data not reported.)</p> <p>Overall bias and Directness</p> <p>High</p> <p>Overall Directness</p> <p>This question has not yet been answered.</p>
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Harper 2016

Study type	Randomised controlled trial (RCT)
Study location	Canada
Study setting	Small group tutoring programme for children in foster care
Study dates	2010 and 2011

Duration of follow-up	Following the intervention (no specific length of follow up defined)
Sources of funding	funding provided through the Ministry of Children and Youth Services, Ministry of Education, and the Ministry of Training, Colleges and Universities.
Inclusion criteria	<p>Age Between grade 1 and 8</p> <p>Care situation Foster or kinship care</p> <p>Educational status behind in their academic achievement but not intellectually challenged (i.e. IQ>70)</p> <p>Other Able to remain in the study for the full 25 weeks of the intervention</p>
Exclusion criteria	<p>Special educational needs IQ <70</p>
Sample size	101
Split between study groups	49 randomised to TYCW intervention, 51 randomised to wait-list control
Loss to follow-up	9 lost to follow up (4 in the TYCW group, 5 in the wait list group).
% Female	42.6%
Mean age (SD)	Not reported
Condition specific characteristics	<p>Non-white ethnicity 78.2% aboriginal</p>
Outcome measures	Educational outcome 1

	<p>Wide Range Achievement Test Fourth Edition (WRAT-4). The WRAT-4 was used to measure academic achievement across four dimensions including reading, spelling, sentence comprehension and mathematics. The WRAT-4 is standardized and norm-referenced, with all scores converted to standard scores with a mean of 100, and a standard deviation of 15. Word Reading measures letter and word decoding by word recognition and identification. Spelling measures the ability to encode sounds into written form by use of a dictated spelling format containing both letters and words. Sentence Comprehension measures the ability to gain meaning from words and to understand and comprehend ideas and information within the sentences. Math Computation measures the ability to perform and execute mathematical computations by counting, identifying numbers, solving simple oral problems and calculating written math problems.</p>						
<p>Study arms</p>	<p>Volunteer tutor-delivered Teach Your Children Well (TYCW) (N = 45) A tutoring intervention program, children were assessed on a measure of word fluency, used in the TYCW program, and placed into small tutoring groups of three or four children according to skill level. The group-based tutoring groups ran over a 25-week time frame, for 2 h each week, with either one or two tutor volunteers running each group. Each session followed the basic structure of Michael Maloney's TYCW curriculum, which uses direct instruction and behaviour management to improve the educational attainment of children. Volunteer university students were recruited to run the weekly tutoring program. Prior to working with the children, the tutors completed two full days of training with the tutoring developer, Michael Maloney. Tutors were required to collect performance data at each tutoring session. This data comprised the fidelity checks and consisted of sound fluency (e.g. number of sounds read from a list of sounds per 30 s), word fluency (e.g. number of words read from a list per 30 s), and story fluency (e.g. number of words read from a story in 1 min). This data was compiled into a weekly spreadsheet that was sent to Mr. Maloney. Throughout the course of the study, tutors had their performance monitored by Mr. Maloney who served as an ongoing consultant. All volunteers received an honorarium at the middle and end of the tutoring program.</p> <table border="1"> <tr> <td>% Female</td> <td>Not reported</td> </tr> <tr> <td>Mean age (SD)</td> <td>Not reported</td> </tr> <tr> <td>Outcome measures</td> <td> Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 93.62 (p<0.001); Spelling: 94.80 (p=0.02); Maths: 84.27 (p=0.044); Sentence comprehension: 92.78 (p=ns). Adjusted for pre-intervention means. </td> </tr> </table> <p>Wait list (N = 51) No further description</p>	% Female	Not reported	Mean age (SD)	Not reported	Outcome measures	Educational outcome 1 Wide Range Achievement Test Fourth Edition (WRAT-4) adjusted mean scores post-intervention. Word reading: 93.62 (p<0.001); Spelling: 94.80 (p=0.02); Maths: 84.27 (p=0.044); Sentence comprehension: 92.78 (p=ns). Adjusted for pre-intervention means.
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Risk of bias	<p>Domain 1: Bias arising from the randomisation process</p> <p>Low</p> <p>(Centralised randomisation prior to direct contact with participants)</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Some concerns</p> <p>Domain 3. Bias due to missing outcome data</p> <p>Low</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Some concerns</p> <p>(It is possible that the test could have been influenced by prior knowledge of intervention group. Unclear that assessment was masked.)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>High</p> <p>(Unclear that analysis was performed according to a pre-specified plan; unclear when post-test took place; Some evidence of multiple analysis techniques used but only one reported. Unclear how covariates were defined. No raw data presented.)</p> <p>Overall bias and Directness</p> <p>Risk of bias judgement</p>						

	High
	Overall Directness
	This question has not yet been answered.

Hickey 2020**Study details**

Study type	Randomised controlled trial (RCT)
Study location	Canada
Study setting	Two local Children's Aid Societies (CASs) in Ontario: school-aged foster children in care
Study dates	Not reported
Duration of follow-up	Post-intervention
Sources of funding	University of Ottawa,
Inclusion criteria	<p>Care situation</p> <p>in foster care, kinship care, or adoption probation; living in a foster, kinship, or adoption-probation home; assessed by their child welfare worker as likely to remain in their current placement for the duration of the study.</p> <p>Educational status</p> <p>enrolled in school grades 1–12</p> <p>Language</p> <p>fluent in English (the TYCW program existed only in English);</p>
Exclusion criteria	Special educational needs

	<p>intellectually disabled or very behaviorally disturbed (and thus not likely to complete or benefit from the intervention).</p> <p>Care situation</p> <p>living in a group home</p> <p>Education level</p> <p>in the judgment of the child welfare worker, were either very strong students (and thus not likely to need tutoring)</p>
Sample size	83
Split between study groups	<p>15 week TYCW = 42</p> <p>25 week TYCW = 41</p>
Loss to follow-up	<p>15 week TYCW = 5</p> <p>25 week TYCW = 5</p>
% Female	not reported for total sample
Mean age (SD)	not reported for total sample
Outcome measures	<p>Educational outcome 1</p> <p>Woodcock-Johnson-Third Edition (WJ-III; Woodcock, McGrew, & Mather, 2001). The WJ-III is a norm-referenced, standardized test that assesses basic reading and math skills. The following subtests were administered: Letter-Word Identification, Reading Fluency, Story Recall, Understanding Directions, Calculation, Math Fluency, Spelling, Passage Comprehension, Applied Problems, and Story Recall-Delayed, Picture Vocabulary, and Oral Comprehension. These subtests were selected because their administration allows for the calculation of an “intra-achievement” discrepancy score. That is, an Oral Language score (derived from Understanding Directions, Picture Vocabulary, and Oral Comprehension) can be used to predict the level of math and reading achievement, based upon the individual’s level of oral language development. A significant discrepancy between Oral Language ability and academic performance (i.e., reading and math) may help substantiate the existence of a specific math or reading learning disability.</p> <p>Educational outcome 2</p> <p>A Reading Composite score (i.e., Broad Reading) is obtained by combining the Letter-Word Identification, Reading Fluency, and</p>

Passage Comprehension subtests.

Educational outcome 3

A Math Composite score (i.e., Broad Math) is obtained by combining the scores for Calculation, Math Fluency, and Applied Problems.

Educational outcome 4

Comprehensive Executive Function Inventory—Parent Version (CEFI; Naglieri, 2012). The CEFI is a norm-referenced, standardized measure of executive functioning in children aged 5–18 years. Lower scores indicate greater difficulty with executive functioning.

Educational outcome 5

Parental Support for Learning Scale – Caretaker Version (PSLS; Rogers, Markel, Midgett, Ryan, & Tannock, 2014; Rogers, Hickey, Wiener, Heath, & Noble, 2018). The PSLS was used to assess the extent of caregiver support for educational activities in the home. The PSLS, consisting of 48 items (1 = strongly disagree; 5 = strongly agree), was completed by the caregiver. Two subscales were computed. Instrumental Parental Involvement ($\alpha = 0.87$ in the present sample) assessed the degree of caregiver warmth, patience, and independence regarding the child's school-related choices, with higher scores suggesting more effective involvement. Controlling parental involvement measured caregiver use of commands, punishment, nagging and disapproval regarding the child's schoolwork, with higher scores indicating less effective involvement.

Mental health outcome 1

Strengths and Difficulties Questionnaire. The SDQ uses 25 parent or caregiver ratings to assess mental health problems over the last six months in children or youth aged 4–17 years. The Total Difficulties score was used for the current study, with scores ranging from 0 to 40, with a higher score demonstrating greater behavioural problems.

Mental health outcome 2

Trauma Symptom Checklist for Children (TSCC; Briere, 1996). The TSCC is a self-report instrument that assesses a broad range of symptoms

of traumatic experiences in children and adolescents, aged 8–17 years. Given its reading level, the measure was administered to children aged 10 years and older. Authors used the total Posttraumatic Stress score, based on all 44 items.

Mental health outcome 3

Trauma Symptom Checklist for Young Children (TSCYC; Briere et al., 2001). The TSCYC is a parent-reported measure of traumatic symptoms experienced by young children, ages 3–12 years. In the current study, it was administered to caregivers of foster children aged 5–9 years. A total Posttraumatic Stress T-score was calculated, with a higher T-score indicating a greater level of posttraumatic stress.

Study arms

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

Teach Your Children Well tutoring (short version) (N = 36)

TYCW program. All of the children in care received the Teach Your Children Well tutoring intervention, for either 15 or 25 weeks. The TYCW program consists of a four-level series of books, written by the designer of the program, Michael Maloney et al. For each reading level, there was a detailed instructor’s manual and a student reader and a student workbook. The math program consisted of a four-level series of workbooks and a student workbook. The TYCW tutoring program was designed to provide 3.0 h a week of individual tutoring, that is, two 1.5 h sessions, each divided into 30 min of one-to-one direct instruction in reading, 30 min of one-to-one direct instruction in math, and the remaining 30 min in either math or reading, depending on the needs of the child. The targeted number of TYCW sessions was 30 (i.e., 45 h of tutoring) for participants in the 15-week group.

% Female	44.4%
Mean age (SD)	10.28 ± 2.78 years
Condition specific characteristics	<p>Disabilities, speech or communication needs, or special education needs ADHD: 22.2% Learning Disability: 19.4% Developmental Disability: 16.7% Autistic Spectrum Disorder: 8.1% Psychiatric: 19.4%</p> <p>Care characteristics age of first placement: 4.99 ± 3.14 years Reasons for Entry into care - Neglect: 72.2% Sexual Abuse: 0.0% Domestic Violence: 22.2% Emotional Harm: 13.9% Abandonment: 5.6% Problem Behaviour: 8.3% Other: Parental mental illness: 0.0%</p> <p>Number of placement moves Number of previous placements: 2.30 ± 1.74 Number of unplanned school changes: 1.84 ± 1.50</p>

Teach Your Children Well (long version) (N = 36)

TYCW program. All of the children in care received the Teach Your Children Well tutoring intervention, for either 15 or 25 weeks. The TYCW program consists of a four-level series of books, written by the designer of the program, Michael Maloney et al. For each reading level, there was a detailed instructor’s manual and a student reader and a student workbook. The math program consisted of a four-level series of workbooks and a student workbook. The TYCW tutoring program was designed to provide 3.0 h a week of individual tutoring, that is, two 1.5 h sessions, each divided into 30 min of one-to-one

direct instruction in reading, 30 min of one-to-one direct instruction in math, and the remaining 30 min in either math or reading, depending on the needs of the child. The targeted number of TYCW sessions was 50 TYCW sessions (or 75 h) for those in the 25-week group.

% Female	44.4%
Mean age (SD)	12.18 ± 2.97 years
Condition specific characteristics	<p>Disabilities, speech or communication needs, or special education needs ADHD: 38.8% Learning Disability: 22.2% Developmental Disability: 11.1% Autistic Spectrum Disorder: 0.0% Psychiatric: 19.4%</p> <p>Care characteristics age of first placement: 5.80 ± 3.86 years Reasons for Entry into care - Neglect: 69.4% Sexual Abuse: 5.6% Domestic Violence: 27.8% Emotional Harm: 38.9% Abandonment: 11.1% Problem Behaviour: 13.9% Other: Parental mental illness: 2.8%</p> <p>Number of placement moves Number of previous placements: 2.61 ± 2.30 Number of unplanned school changes: 1.61 ± 1.41</p>

Risk of Bias

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Some concerns <i>(there were some significant differences observed between comparison groups, slightly more than would be expected by chance. However, these differences were not found to be associated with the outcomes of interest, according to the authors.)</i>
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	High <i>(over 10% drop out in both arms and these results were excluded from the analysis, even where attendance of the intervention had begun)</i>
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low <i>(All of the variables had less than a 6% missing data rate, with the majority having less than 5% missing.)</i>

Section	Question	Answer
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Some concerns (<i>Outcome assessors appeared to be unblinded, which may have influenced results</i>)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Some concerns (<i>Raw pre-test and post-test data was not presented, by comparison group.</i>)
Overall bias and Directness	Risk of bias judgement	High
	Overall Directness	Indirectly applicable (<i>Canada</i>)

Leve 2007

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Group care and foster care settings
Study dates	1997 to 2002
Duration of follow-up	12 months
Sources of funding	Support for this research was provided by the Oregon Youth Authority and by the following grants: MH54257, NIMH, U.S. PHS; DA15208, NIDA, U.S. PHS; and DA17592, NIDA, U.S. PHS.
Inclusion criteria	Age 13 to 17 years old Care situation Placed in out of home care within 12 months following referral Criminal characteristic

	<p>Referred by juvenile court judges in Oregon State. At least one criminal referral in the past 12 months</p> <p>Pregnancy Not currently pregnant</p> <p>Gender female</p>
Sample size	81
Split between study groups	37 were randomised to MTFC, 44 to Group Care
Loss to follow-up	90% of the sample participated at 3–6 months postbaseline, 88% of the sample participated at 12 months postbaseline, and 12-month lockup data were available for 98% of the sample.
% Female	100%
Mean age (SD)	15.3 ± 1.1 years
Condition specific characteristics	<p>At risk or victims of exploitation 88% had documented physical abuse and 69% had documented sexual abuse</p> <p>Behavior that challenges Prior to entering the study, the average lifetime criminal referrals per girl was 11.9 (SD = 8.9), and 70% of the girls had committed at least one felony</p> <p>Non-white ethnicity 26%</p> <p>Care characteristics At baseline, 68% of the girls had been residing in single-parent families,</p>
Outcome measures	<p>Educational outcome 1 Homework completion: caregivers and girls reported independently at baseline and at 12 months postbaseline on the number of days in the last week that the girls spent at least 30 min/day on homework. In the second measure, caregivers and girls reported on whether or not the girls did homework that day (0 [No]; 1 [Yes]) via three PDR phone interviews conducted within a 1-week period at 3–6 months postbaseline. Scores were aggregated within rater across calls. Composite scores were formed for each of the educational engagement variables by aggregating caregiver and girl reports.</p> <p>Educational outcome 2</p>

	<p>School attendance: at 12-months post baseline, caregivers and girls reported of how often the girls attended school (1 [Not attending], 2 [Attending very infrequently], 3 [Attending infrequently], 4 [Attending more often than not], 5 [Attending regularly], or 6 [Attending 100% of the time]). Composite scores were formed for each of the educational engagement variables by aggregating caregiver and girl reports.</p>
<p>Study arms</p>	<p>Multidimensional Treatment Foster Care (MTFC) (N = 37) The MTFC model was individualized based on the girls’ behavioral problems and on aftercare considerations. The program supervisor placed girls individually in foster homes with trained MTFC foster parents. The program supervisor worked with juvenile justice and school systems and supervised all other MTFC staff involved with the girls and families (e.g., foster parents, skills trainers, and family and individual therapists). Youth behaviors were tracked via the Parent Daily Report Checklist, which is a brief telephone interview conducted each weekday to track foster parents stress level, girl behavior at home and in school, and girl performance on the point-and-level system. Foster parents were trained and supervised to consistently reinforce high rates of positive and normative youth behaviors. When problem behaviors were identified, the program supervisor and foster parents worked to identify a nondegrading definition of the behavior. Typically, the prosocial alternative to the problem behavior was identified (e.g., accepting feedback without comment); once a behavior had been identified and defined for a particular girl, it was included on the point-and-level system that the foster parents implemented at home. The program supervisor coached the foster parents to take points away for all negative behaviors and to give points for all prosocial or adaptive behaviors. An individual therapist met weekly with each girl to focus on problems at school, with her parents, and in the foster home. Targets for the individual therapy sessions were selected based on PDR data, the daily school cards, and the aftercare resources; efforts were then made to motivate the girl to address behaviors that appeared to be having a negative impact. The focus was on adaptive functioning and highlighting the girl’s strengths. Thus, each therapist–youth dyad generated mutual definitions of problematic life areas and selected behavioral areas to focus on. Coordinated psychiatric consultation was available when medication management was needed. To help generalize developing skills to environments outside of the foster home, each girl was assigned a skills trainer (typically a recent college graduate), who helped the girl to identify and participate in community activities of interest. The skills trainer also addressed specific social skills by coaching or reinforcing the girl with adaptive ways to respond to specific situations. Once a behavioral target had been identified and clearly defined, the skills trainer attempted to help the girl to expand her behavioral options through role-plays in hypothetical situations and real-world contexts. In many cases, the skills trainer offered to teach appropriate behaviors to prevent the girl from losing points or to help her in earning a desired reinforcer. This approach helped to establish a collaborative relationship. As the skills trainer worked with the youth to develop more adaptive individual behaviors, the family therapist worked with the youth’s family to identify prosocial and problem behaviors occurring in the family context and to define structured responses to these behaviors. The family therapist worked with the aftercare resource (typically a biological parent) to improve their</p>

supervision, reinforcement, and limit-setting methods. Parents were taught to use the point-and-level system to provide feedback and consequences for youth behavior using brief, nonemotional reactions to misbehavior, thus avoiding long discussions of the circumstances surrounding the behavior.

% Female	100%
Mean age (SD)	Not reported
Outcome measures	<p>Educational outcome 1 Homework completion score at 3-6 months post-intervention: mean 1.71 ± 1.07; Homework completion score at 12 months post-intervention: mean 3.47 ± 2.44. In multivariable analysis adjusting for baseline homework score, girls receiving MTFC spend significantly longer on homework (P<0.01)</p> <p>Educational outcome 2 School attendance at 12-months post baseline (mean score): 5.48 ± 0.77</p>

Group Care control (N = 44)

Group Care (GC) is the standard intervention service provided for delinquent girls who are referred for out-of-home care. In the current study, girls randomly assigned to the GC condition took part in 1 of 19 community-based group care programs located throughout Oregon State. The programs had 2–51 youth in residence (mean = 21), 1–50 staff members (Median = 2), and on-site schooling. Although each GC program differed somewhat in its theoretical orientations, 86% of the programs endorsed a specific treatment model, of which the primary philosophy of their program was a behavioral (70%), an eclectic (26%), or a family-style therapeutic approach (4%). Seventy percent of the programs reported delivering therapeutic services at least weekly.

% Female	100%
Mean age (SD)	Not reported
Outcome measures	<p>Educational outcome 1 Mean homework completion score at 3-6 months post-baseline: 1.07 ± 1.13; mean homework completion score at 12 months post baseline: 2.03 ± 2.12</p>

	<p style="text-align: center;">Educational outcome 2 School attendance mean score at 12-months post baseline: 4.87 ± 1.33</p>
Risk of bias	<p>Domain 1: Bias arising from the randomisation process</p> <p>Some concerns</p> <p>(Unclear how randomisation was performed or if allocation concealment)</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Some concerns</p> <p>(Unclear if all participants assigned to their groups received their interventions as allocated. Intention to treat analysis used.)</p> <p>Domain 3. Bias due to missing outcome data</p> <p>High</p> <p>(Over 10% lost to follow up. Unclear how much additional missing outcome data or if this differed between comparison groups)</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Some concerns</p> <p>(Quite crude measures used for homework completion and school attendance. Unclear if outcome assessors were aware of intervention group. Possibility that reporting of outcomes was affected by knowledge of intervention group.)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>Some concerns</p> <p>(In sufficient information to convince that trial was conducted according to a prespecified plan that was finalised before unblinded outcome data was available.)</p> <p>Overall bias and Directness</p> <p>Risk of bias judgement</p>

	High
	Overall Directness
	This question has not yet been answered.

Mooney 2016

Study type	Randomised controlled trial (RCT)
Study location	United Kingdom
Study setting	Children in foster care
Study dates	April 2013 to June 2014
Duration of follow-up	Four weeks following the intervention (which took place over 6 months)
Sources of funding	Funded by UK government. In this period Booktrust received financial support from the Department for Children, Schools and Families to extend its programme to 1600 children. Subsequently, and in 2009, the Letterbox Club opened to every Local Authority in the UK. In the same year The Letterbox Club was introduced as a pilot scheme in Northern Ireland where it has been funded through a partnership between the charities Booktrust and the Fostering Network's Fostering Achievement Scheme since that time.
Inclusion criteria	Age Aged 7-11 years Care situation All children in foster care in Northern Ireland
Sample size	116

Split between study groups	60 children allocated to the letter box intervention and 56 children to the wait list control
Loss to follow-up	4 children were lost to follow up in the control group
% Female	50.9%
Mean age (SD)	Not reported (48.3% aged 7-8 years and 51.7% aged 9-10 years)
Condition specific characteristics	Care characteristics 67.2% in foster care, 32.8% in kinship care,
Outcome measures	<p>Educational outcome 1 The Neale Analysis of Reading Ability was used to measure literacy outcomes for the trial (reading rate, accuracy and comprehension)</p> <p>Educational outcome 2 The Elementary Reading Enjoyment Scale (known as the 'Garfield Test') was used to measure the children's attitudes to recreational reading and academic reading.</p> <p>Educational outcome 3 Children were asked "Do you like school?" with the option of reply "not really", "a little" or "a lot".</p> <p>Educational outcome 4 Children were asked "Do you like reading?" with the option of reply "not really", "a little" or "a lot".</p>
Study arms	<p>Letterbox club (N = 56) The Letterbox Club is a book gifting intervention that provides direct support to children in foster care care aged 7–11 years to improve their educational outcomes. The intervention comprises once-monthly personalised parcels posted between May and October of each year to children in their foster homes. Parcels comprise a brightly coloured envelope (with different colours depending on the age group targeted) which is personally addressed to the child at their foster carers home and which has, as its contents: a personalised letter; two books (one fiction and one non-fiction which have been selected by a panel at Booktrust); stationery items (for example pencils, exercise book, stickers); and a mathematics game (comprising puzzle sheets/practice papers, games with a die/plastic coins for example). The parcels are delivered between May and October each year and over the six-month period it is anticipated that children will have built up their own collection of books and related items consisting of a range of books including non-fiction (biology, history), activity-based,</p>

fun based, story based books as well as a book of poems and other items (Winter et al., 2011). As a book gifting scheme directed at the child, the intervention does not rely on, expect or demand foster carer involvement and, as such, there is no manual or guidance for carers about how and in what ways they/the child should engage with the parcel.

% Female	50.0%
Mean age (SD)	Not reported (48.2% aged 7-8 years and 51.8% aged 9-10 years)
Condition specific characteristics	Care characteristics 66.1% in foster care, 33.9% in kinship care
Outcome measures	Educational outcome 1 Reading skills mean scores: reading accuracy: 92.15 ± 15.14; reading comprehension: 91.48 ± 16.05; and reading rate: 97.83 ± 14.04
	Educational outcome 2 Recreational reading mean score: 29.58 ± 7.36; academic reading mean score: 29.78 ± 7.22
	Educational outcome 3 Liked school "a lot": 55.2%
	Educational outcome 4 Liked reading "a lot": 58.6%

Wait list (N = 51)

The control group did not receive their parcels during the study period but carried on as normal.

% Female	51.7%
Condition specific characteristics	Care characteristics 68.3% in foster care, 31.7% in kinship care,
Outcome measures	Educational outcome 1 Reading skills mean scores: reading accuracy: 91.15 ± 14.26; reading comprehension: 91.97 ± 15.35; and reading rate: 100.98 ± 13.06

	<p>Educational outcome 2 Recreational reading mean score: 30.39 ± 6.68; academic reading mean score: 30.45 ± 6.75</p> <p>Educational outcome 3 Liked school "a lot": 65.4%</p> <p>Educational outcome 4 Liked reading "a lot": 61.3%</p>
<p>Risk of bias</p>	<p>Domain 1: Bias arising from the randomisation process</p> <p>Low</p> <p>Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)</p> <p>Low</p> <p>(Only participants with missing outcome data excluded and less than 5% attrition)</p> <p>Domain 3. Bias due to missing outcome data</p> <p>Low</p> <p>(<5% missing)</p> <p>Domain 4. Bias in measurement of the outcome</p> <p>Some concerns</p> <p>(Possible that tests administered could have been influenced by knowledge of intervention group, but unlikely)</p> <p>Domain 5. Bias in selection of the reported result</p> <p>Low</p> <p>(No protocol cited but enough information provided in the study)</p> <p>Overall bias and Directness</p> <p>Risk of bias judgement</p>

	Low
	Overall Directness
	This question has not yet been answered.

Zinn 2014/Courtney 2008

Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Home-delivered tutoring for youth in foster care
Study dates	September 2003 to June 2004
Duration of follow-up	Two follow up interviews approximately 13 months apart. the median duration between baseline and second follow up was 26.8 months.
Sources of funding	funding from the Office of Planning, Research and Evaluation and the Children’s Bureau, Administration for Children and Families, U.S. Department of Health and Human Services
Inclusion criteria	<p>Age Age 14 or older</p> <p>Care situation In foster care (kinship and non-kinship)</p> <p>Educational status determined by the program to be one to three years behind grade level in reading or math based on an educational assessment process devised by The Community College Foundation</p>

Exclusion criteria	Care situation Not in residential care or correctional placements
Sample size	529
Split between study groups	277 randomised to the intervention group, 252 randomised to the control group
Loss to follow-up	64 youth were considered to be "out of the sampling frame" leading to 31 excluded post-randomisation in the intervention group and, 33 excluded post-randomisation in the control group
% Female	54.4%
Mean age (SD)	14.5 ± 0.8
Condition specific characteristics	<p>Mental health or emotional wellbeing needs PTSD: 6.5%</p> <p>Disabilities, speech or communication needs, or special education needs Participates in special education 35.1%; has learning disability 26.1%</p> <p>Behavior that challenges Internalising behaviours: 30.3%; externalising behaviours: 25.8%; prior runaway from care: 16.6%</p> <p>Non-white ethnicity 69.2%</p> <p>Care characteristics Kinship foster care: 46.5%; Non-kinship foster care: 50.3%; Group home/residential care; other: 0.7%</p>
Outcome measures	<p>Educational outcome 1 Woodcock–Johnson Tests of Achievement III: letter– word identification, calculation, and passage comprehension. These tests provide age-based norms (i.e., percentile scores) for individuals 2 years of age and older.</p> <p>Educational outcome 2 Grade Point Average. Youths were asked what grades they had received in (1) English or language arts, (2) mathematics, (3) history or social studies, and (4) science during their last full semester of school attendance. Response options ranged from "A" (4) to "D or lower" (1). Reported grades in these four subjects were then averaged to obtain an overall grade score. Responses were scored based on a standard 4-point scale, and an overall GPA was computed by taking the average of these.</p>

	<p>Educational outcome 3 Qualifications: youth were asked several questions about their educational achievement, including the highest grade they had completed, and whether they had a high school diploma or general equivalency diploma</p> <p>Educational outcome 4 School behaviour: School behaviours: Youths were asked to indicate how often they had had “trouble” completing the following five tasks during their last full semester of school attendance: (1) getting along with your teachers, (2) paying attention in school, (3) getting your homework done, (4) getting along with other students, and (5) arriving on time for class. Response options ranged from “never” (0) to “every day” (5). School behaviour was then operationalized or defined as the mean of these five items.</p>
<p>Study arms</p>	<p>ESTEP tutoring program (N = 212) The primary objectives of the ESTEP Tutoring program were to (1) improve the reading and math skills of foster youth, ages 14 and 15, who were one to three years behind grade level in reading or math and (2) empower youth to use other educational services and resources that may have been available to them. At the time of referral to the ESTEP Tutoring program, youth were matched to tutors based on several criteria, including gender congruence and the proximity and availability of the tutor. Tutors were typically undergraduate and graduate students with at least 15 semester credits and grade point averages higher than 2.5 (L.A. DCFS, 2002). The Community College Foundation provided tutors with a one-day training at the start of their employment as well as ongoing training about twice per year. These training sessions cover assessment and curriculum materials, methods to engage youth, and various issues related to case management. After a youth was matched with a tutor, the tutor conducted a series of home visits, during which they assessed the youth's reading, math, and spelling to determine the curriculum levels to use with the youth. The tutor then met individually with the youth twice per week in the youth's home, providing up to 50 hours of tutoring; on average, youth received 8 h of math tutoring and 17 hours of reading (language) tutoring during the evaluation. The curriculum used by ESTEP tutors is based on a combination of the Houghton–Mifflin curricula for math, spelling, and vocabulary, and Science Research Associates Reading 3A curriculum. Generally, tutors reported that they had no involvement with the participating youths' schools, because the ESTEP Tutoring program had an independent curriculum and focus. The ESTEP Tutoring program was a one-to-one, in-home model focused on ameliorating youths' broader academic deficits. Based on program materials and interviews with program staff, the use of a one-to-one model was intended to abet the development of a mentoring relationship between tutors and youth. In addition to facilitating the task of tutoring. This relationship was posited to provide the youth with the skills and experience to develop other healthy relationships with adults. The provision of tutoring in a youths' home was posited to encourage caregivers to become involved and invested in youths' education. Together, these added supports were expected to increase youths' engagement with the ESTEP Tutoring program and, in turn, lead to greater investment by youth in their educational progress.</p>

	<table border="1"> <tr> <td>Outcome measures</td> <td> <p>Educational outcome 1 Woodcock–Johnson Tests of Achievement III (mean scores): letter– word identification: 28.9 ± 22.6; Calculation: 19.5 ± 19.0; passage comprehension 23.0 ± 20.6</p> <p>Educational outcome 2 Grade level completed: 10.2 ± 0.9; Grade point average: 2.3 ± 0.8</p> <p>Educational outcome 3 High school diploma or general equivalency diploma: 19 (9.7%)</p> <p>Educational outcome 4 School behaviour score: 1.06 ± 0.70</p> </td> </tr> </table>	Outcome measures	<p>Educational outcome 1 Woodcock–Johnson Tests of Achievement III (mean scores): letter– word identification: 28.9 ± 22.6; Calculation: 19.5 ± 19.0; passage comprehension 23.0 ± 20.6</p> <p>Educational outcome 2 Grade level completed: 10.2 ± 0.9; Grade point average: 2.3 ± 0.8</p> <p>Educational outcome 3 High school diploma or general equivalency diploma: 19 (9.7%)</p> <p>Educational outcome 4 School behaviour score: 1.06 ± 0.70</p>
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	<p>No ESTEP tutoring (N = 190) No description of control intervention. Control participants may have accessed tutoring through other sources.</p> <table border="1"> <tr> <td>Outcome measures</td> <td> <p>Educational outcome 1 Woodcock–Johnson Tests of Achievement III (mean scores): letter– word identification: 26.8 ± 21.9; Calculation 19.8 ± 20.9; Passage comprehension: 23.2 ± 21.5</p> <p>Educational outcome 2 Grade level completion: 10.2 ± 1.0; Grade Point Average: 2.3 ± 0.7</p> <p>Educational outcome 3 High school diploma or general equivalency diploma: 21 (9.8%)</p> <p>Educational outcome 4 School behaviour score: 1.08 ± 0.75</p> </td> </tr> </table>	Outcome measures	<p>Educational outcome 1 Woodcock–Johnson Tests of Achievement III (mean scores): letter– word identification: 26.8 ± 21.9; Calculation 19.8 ± 20.9; Passage comprehension: 23.2 ± 21.5</p> <p>Educational outcome 2 Grade level completion: 10.2 ± 1.0; Grade Point Average: 2.3 ± 0.7</p> <p>Educational outcome 3 High school diploma or general equivalency diploma: 21 (9.8%)</p> <p>Educational outcome 4 School behaviour score: 1.08 ± 0.75</p>
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Risk of bias

Domain 1: Bias arising from the randomisation process

Some concerns

(No information about randomisation process or whether allocation was concealed.)

Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)

High

(12% of randomised participants were excluded immediately following randomisation; While intention to treat analysis was used, there was significant deviations from the intended treatment in both groups. 38.2% of those assigned to the E-STEP group did not receive E-STEP services and 12.3% of those in the control group did receive ESTEP services.)

Domain 3. Bias due to missing outcome data

High

(Other than the 12% who were excluded immediately following randomisation, there was also <10% who responded to the follow up surveys. The reasons for this are unclear and may be associated with having poorer school outcomes.)

Domain 4. Bias in measurement of the outcome

Some concerns

(Unclear if assessors were blinded to intervention status. It is possible that they may influence some of the outcomes.)

Domain 5. Bias in selection of the reported result

Some concerns

(Insufficient information provided to convince that trial was conducted according to a pre-specified plan)

Overall bias and Directness

Risk of bias judgement

High

(Study authors note that approximately equal proportions of ESTEP and control groups received some form of tutoring (58.4% vs 60.8%))

Overall Directness

This question has not yet been answered.

Effectiveness studies (non-randomised controlled studies)***Balluerka 2015***

Study type	Non-randomised controlled trial
Study location	Spain
Study setting	Residential care
Study dates	2010- 2014
Duration of follow-up	pre-test and post-test evaluation was performed
Sources of funding	funded by a grant from the Research Bureau of the University of the Basque Country
Inclusion criteria	Age between 12 and 17 years old Care situation in residential care Emotional or behavioral disorders presenting with mental healthproblems and difficulties adapting to the care facility)
Exclusion criteria	Medical health problem psychotic disorders, substance addictions, Behavioural serious antisocial disorder with aggression toward people or animals Other aversion to animals
Sample size	67

Split between study groups	39 youths in the intervention group, 24 in the control group
Loss to follow-up	four participants did not complete the intervention
% Female	38.1%
Mean age (SD)	15.27 ± 1.63
Condition specific characteristics	<p>outside of mainstream education 42.9% were enrolled in compulsory secondary education, 47.6% were attending vocational training courses, and 9.5% were not studying</p> <p>Unaccompanied children seeking asylum 31.7% were unaccompanied minors (FUMs) from northern Africa</p> <p>Non-white ethnicity 31.7% were unaccompanied minors (FUMs) from northern Africa</p> <p>Care characteristics In terms of their residential care, 71.4% were involved in a basic care program and 28.6% in a specialized program. The basic care program was designed for children and young people aged between 4 and 18 years, and it was implemented in residential facilities with a maximum capacity of 10 people per center. The specialized program was designed for young people over the age of 13 years who could not be treated on the basic program because of their disruptive behavior.</p>
Outcome measures	<p>Educational outcome 1 School maladjustment: self-rated and rated by teachers: measured as part of the Spanish version of the Behavior Assessment System for Children. School maladjustment refers to a lack of adaptation to school and academic problems, including problems of motivation, attention, learning, and cognition. In this study, the level of school maladjustment was determined by both the T-score obtained on the School Problems composite scale of the TRS, comprising the Attention Problems and Learning Problems subscales, and the T-score on the School Maladjustment composite of the SRP, which consists of subscales measuring Negative Attitudes toward school and teachers and Sensation-Seeking. The Attention Problems subscale assesses the inability to maintain attention and the tendency to be easily distracted. The Learning Disabilities subscale collects information from teachers on different educational areas such as reading, writing, and mathematics in order to detect learning difficulties. The Negative Attitude to School subscale reflects feelings of alienation, hostility, and dissatisfaction with the school. The Negative Attitude to Teachers subscale examines the feelings of resentment and antipathy toward teachers, that is, the belief that teachers are unfair, do not pay attention to their students, are excessively demanding, or are not motivated to help. Finally, the Sensation-Seeking subscale assesses the need for new, varied sensations and experiences and the willingness to take physical and social risks to achieve these experiences.</p> <p>Emotional and behaviour outcomes 1 Personal adjustment composite scale- Self Report of Personality: measured as part of the Spanish version of the Behavior Assessment System for Children. Personal adjustment, which refers to the coping strategies used by youths and the social and family support available to them, was determined from the T-score obtained in the Personal Adjustment composite scale of the SRP, which consists of subscales labeled Interpersonal Relations, Relations with Parents, Self-Reliance, and Self-Esteem. The Interpersonal Relations subscale refers to the perception of having good social relationships and friendships with peers. The Relations with Parents subscale assesses positive attitudes toward parents and the feeling of being loved. The Self-Reliance subscale examines the confidence in one's ability to solve problems, the belief in one's own independence, and the ability to decide for oneself. Finally, the Self-Esteem subscale reflects feelings of self-worth, self-respect, and self-acceptance.</p>

	<p>Behaviour outcome 1 Behavioral symptoms rated by teachers (TRS): measured as part of the Spanish version of the Behavior Assessment System for Children</p> <p>Behaviour outcome 2 Behavioral symptoms rated by residential care staff: measured as part of the Spanish version of the Behavior Assessment System for Children</p> <p>Health outcome 1 Self-rated clinical maladjustment: The presence of clinical symptoms was determined based on the T-score obtained in the Behavioral Symptom Index of the PRS and TRS and through the T-score corresponding to the Clinical Maladjustment composite in the SRP. The Behavioral Symptom Index of the PRS and TRS comprises the subscales Aggression, Hyperactivity, Attention Problems, Atypicality, Depression, and Anxiety. The Clinical Maladjustment composite in the SRP comprises subscales labeled Atypicality, Locus of control, Somatization and Anxiety.</p> <p>Social outcome 1 Adaptive skills: Adaptive skills were assessed based on the score obtained in the Adaptive Skills composite of the PRS and the TRS, which includes Social Skills and Leadership subscales. The Social Skills subscale reflects the skills needed to interact successfully with peers and adults in the areas of home, school, and community. The Leadership subscale evaluates skills associated with achieving academic, social, or community goals, including, in particular, the ability to work well with others.</p>						
<p>Study arms</p>	<p>Animal-assisted psychotherapy (N = 43) Implementation of the AAP program took place 12-weeks at a farm. Teenagers spent 2 consecutive days each week staying overnight at a “caserío” (a typical farm in the Basque region of northern Spain). The program consisted of 34 sessions involving both group (23 sessions) and individual (11 sessions) AAP. A dog and nine horses (five adults and four colts) were used as therapy animals. Guided interactions also took place using cats and farm animals such as sheep, goats, chickens, and pigs. The treatment consisted of six thematic blocks: (1) establishing a secure base, (2) identification, understanding and verbalization of emotions, (3) emotional regulation, (4) Interpersonal relationships, (5) self-esteem and self-competence, and (6) close. Details of the contents of thematic blocks, individual, and group sessions can be found in the study. Throughout the treatment, the therapist received supervision for the clinical work performed. The selection of animals was performed by an ethologist. All of the animals used in the program had previously received training.</p> <table border="1"> <tr> <td>% Female</td> <td>48.7%</td> </tr> <tr> <td>Mean age (SD)</td> <td>15.03 ± 0.51</td> </tr> <tr> <td>Outcome measures</td> <td> <p>Educational outcome 1 Self-rated school maladjustment: mean change (pre- vs post- intervention) -2.13 (no significant difference observed between treatment and comparison group, p=0.80); Teacher-rated school maladjustment: mean change (pre- vs post- intervention) -2.71 (no significant difference observed between treatment and comparison group, p=0.10)</p> </td> </tr> </table>	% Female	48.7%	Mean age (SD)	15.03 ± 0.51	Outcome measures	<p>Educational outcome 1 Self-rated school maladjustment: mean change (pre- vs post- intervention) -2.13 (no significant difference observed between treatment and comparison group, p=0.80); Teacher-rated school maladjustment: mean change (pre- vs post- intervention) -2.71 (no significant difference observed between treatment and comparison group, p=0.10)</p>
% Female	48.7%						
Mean age (SD)	15.03 ± 0.51						
Outcome measures	<p>Educational outcome 1 Self-rated school maladjustment: mean change (pre- vs post- intervention) -2.13 (no significant difference observed between treatment and comparison group, p=0.80); Teacher-rated school maladjustment: mean change (pre- vs post- intervention) -2.71 (no significant difference observed between treatment and comparison group, p=0.10)</p>						

	<p>Emotional and behaviour outcomes 1 Personal adjustment composite scale: mean change in score 2.84 (no statistical difference between treatment and control group, p=0.73)</p> <p>Behaviour outcome 1 Behavioral symptoms rated by teachers (TRS): mean change in score (pre- vs post-test). -1.53 (non-significant difference when compared to the control group p=0.55)</p> <p>Behaviour outcome 2 Behavioral symptoms rated by residential care staff: mean change in score (pre- vs post-intervention -4.33 (no significant difference when compared to control group p=0.87)</p> <p>Health outcome 1 Self-rated clinical maladjustment: change in mean score pre- and post-test -3.33 (test of difference between comparison groups p=87). Participants in the intervention group presented with more reduced hyperactivity symptoms than the control group (p=0.005).</p> <p>Social outcome 1 Residential care staff rated adaptive skills: mean change (pre- vs post intervention) 3.52 (no significant difference between treatment and control group, p=0.38); Teacher-rated adaptive skills: mean change (pre- vs post intervention) 4.88 (a significant difference observed between treatment and control group, p=0.009). However, participants in the treatment group were found to have significantly higher social skills on the personal adjustment subscale (p=0.009).</p>
<p>Residential care as usual (N = 24) Both controls and members of the treatment group received individual psychotherapy before, during, and after the AAP intervention. It should also be noted that participants in the control group followed the same routine as did their peers in the treatment group, except for the AAP. In particular, the general running of the residential care facilities included the fulfillment of everyday routines in relation to basic living standards and regular attendance at school and other after-school activities.</p>	
<p>% Female</p>	<p>20.8%</p>
<p>Mean age (SD)</p>	<p>15.67 ± 1.63</p>
<p>Outcome measures</p>	<p>Educational outcome 1 Self-rated school maladjustment mean change in score (pre-vs post-intervention): -1.50; Teacher-rated school maladjustment mean change in score (pre-vs post-intervention): 0.48</p> <p>Emotional and behaviour outcomes 1</p>

	<p>Self-rated personal adjustment mean change in score (pre-vs post-intervention): 1.96</p> <p>Behaviour outcome 1 Behavioral symptoms rated by teachers mean change in score (pre-vs post-intervention): -0.14</p> <p>Behaviour outcome 2 Behavioral symptoms rated by residential care staff mean change in score (pre-vs post-intervention): -3.68</p> <p>Health outcome 1 Self-rated clinical maladjustment mean change in score (pre- vs post-intervention): -2.92</p> <p>Social outcome 1 Teacher-rated adaptive skills mean change in score (pre-vs post-intervention): -1.00; Residential care staff rated adaptive skills mean change in score (pre-vs post-intervention): 1.18</p>
<p>Risk of Bias</p>	<p>1. Bias due to confounding</p> <p>Serious</p> <p>(Matching methods used. Unclear how matching criteria were measured. Similarity between groups was not reported in detail.)</p> <p>2. Bias in selection of participants into the study</p> <p>Low</p> <p>3. Bias in classification of interventions</p> <p>Low</p> <p>4. Bias due to deviations from intended interventions</p> <p>Low</p> <p>5. Bias due to missing data</p> <p>Serious</p> <p>(Large amounts of missing data for various outcomes, no reason for missing data provided)</p> <p>6. Bias in measurement of outcomes</p>

	<p>Low</p> <p>(Teachers/caregivers/residential care staff were unaware of intervention status. However, self-report outcomes were completed with knowledge of intervention status.)</p> <p>7. Bias in selection of the reported result</p> <p>Moderate</p> <p>(Various subscales reported (often if significant) but not others)</p> <p>Overall bias</p> <p>Risk of bias judgement</p> <p>Serious</p> <p>Directness</p> <p>This question has not yet been answered.</p>
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Muela 2017

Study type	Non-randomised controlled trial
Study location	Spain
Study setting	Youth in residential care
Study dates	2010 to 2016
Duration of follow-up	pre-test and post-test evaluation was performed
Sources of funding	funded by a grant from the Research Bureau of the University of the Basque Country

Inclusion criteria	<p>Age between 12 and 17 years old</p> <p>Care situation in residential care</p> <p>Emotional or behavioral disorders presenting with mental health problems and difficulties adapting to the care facility)</p>
Exclusion criteria	<p>Medical health problem psychotic disorders, substance addictions,</p> <p>Behavioural serious antisocial disorder with aggression toward people or animals</p> <p>Other aversion to animals</p>
Sample size	87
Split between study groups	52 youths in the intervention group, 25 in the control group
Loss to follow-up	Eight were excluded post randomisation: two did not complete the AAP programme because they were transferred to special treatment care centres, five dropped out, and one was expelled for refusing to accept the rules established for participation. Unclear to which group these participants were randomised.
% Female	39.1%
Mean age (SD)	15.17 ± 1.53 years
Condition specific characteristics	<p>outside of mainstream education Regarding educational level, 36.4% were enrolled in compulsory secondary education, 53.4% were attending vocational training courses, and 10.2% were not studying.</p> <p>Non-white ethnicity 36.4% were unaccompanied asylum seekers from northern Africa</p>

	<p>Care characteristics In terms of their residential care, 64.8% were involved in a basic care programme and 35.2% in a specialized programme. The basic programme was designed for children and adolescents aged between 4 and 18 years who were living in residential care units housing a maximum of 10 young people. The specialized programme was a specific resource targeted at adolescents over the age of 13 who, due to their disruptive behaviour, could not be managed under the basic programme.</p>
<p>Outcome measures</p>	<p>Outcome 1 Outcomes were derived from the Spanish version of the Behaviour Assessment System for Children: The Behaviour Assessment System for Children (BASC) is a multimethod, multidimensional system used to assess a wide array of behaviours that represent both problems and strengths, including internalizing or externalizing problems, issues at school, and adaptive skills. It includes both a Parent Rating Scale (PRS) and a Self-Report of Personality (SRP). The PRS can be used to measure both adaptive and problem behaviours in the community and residential settings, whereas the SRP enables the young person to describe his or her emotions and self-perceptions. The PRS was completed by residential care staff and includes descriptors of behaviours whose frequency must be rated on a 4-point scale (ranging from Never to Almost always). The 137 items are distributed across 18 scales: 3 control scales and 15 scales grouped into clinical, adaptive, and composite scales. This instrument takes approximately 10–20 min to complete. The SRP consists of 185 statements that require a response of “True” or “False,” with around 30 min being required to complete the scale. The 185 items are spread across 23 scales: 5 control scales and 18 scales grouped into clinical, adaptive, and composite scales.</p> <p>Educational outcome 1 School adjustment: As a measure of school adjustment, was determined on the bases of the T score obtained on the attitude to school and attitude to teachers scales of the SRP.</p> <p>Health outcome 1 The presence of clinical symptoms: determined on the basis of the T score obtained on the clinical scales of both the SRP and PRS: atypicality, locus of control, somatization, social stress, anxiety, depression, sensation seeking, and sense of inadequacy from the SRP and aggression, hyperactivity, conduct problems, atypicality, depression, anxiety, withdrawal, and somatization from the PRS.</p> <p>Social outcome 1 Adaptive skills was measured using the score obtained on the social skills and leadership scales of the PRS. The former focuses on interpersonal aspects of social adaptation, and the latter assesses a range of skills related to successful adaptation to the community and school.</p> <p>Emotional and relationship outcomes 1 Personal adjustment: determined on the basis of the T score obtained on the interpersonal relations, relations with parents, selfreliance, and self-esteem scales of the SRP.</p>
<p>Study arms</p>	<p>Animal-assisted psychotherapy (N = 52) Implementation of the AAP program took place 12-weeks at a farm. Teenagers spent 2 consecutive days each week staying overnight at a “caserío” (a typical farm in the Basque region of northern Spain). The program consisted of 34 sessions involving both group (23 sessions) and individual (11 sessions) AAP. A dog and nine horses (five adults and four colts) were used as therapy animals. Guided interactions also took place using cats and farm animals such as sheep, goats, chickens, and pigs. The treatment consisted of six thematic blocks: (1) establishing a secure base, (2) identification, understanding and verbalization of emotions, (3) emotional regulation, (4) Interpersonal relationships, (5) self-esteem and self-competence, and (6) close. Details of the contents of thematic blocks, individual, and group sessions can be found in</p>

the study. Throughout the treatment, the therapist received supervision for the clinical work performed. The selection of animals was performed by an ethologist. All of the animals used in the program had previously received training.

% Female	48.1%
Mean age (SD)	15.00 ± 1.55 years
Outcome measures	<p>Educational outcome 1 School adjustment: mean change in negative attitude to school score (pre- vs post-intervention): -2.29; no significant difference was observed between treatment and control group on follow up, p=0.989. School adjustment: mean change in negative attitude to teachers score (pre- vs post-intervention): -4.60; treatment group had a significantly reduced score compared to control group, p=0.012.</p> <p>Health outcome 1 The presence of self-rated clinical symptoms, mean change in score pre- vs post-intervention (significant difference between treatment and control group, p-value): Atypicality -4.17 (p=0.278); Locus of Control -3.33 (0.717), Somatization -2.96 (p=0.337); Social stress -2.15 (0.828); Anxiety -0.29 (0.353); Depression -6.75 (0.032); Sensation seeking 0.42 (p=0.569); Sense of inadequacy -5.29 (p=0.014). The presence of residential care staff-rated clinical symptoms, mean change in score pre- vs post-intervention (significant difference between treatment and control group, p-value): Aggression -2.08 (p=0.232); Hyperactivity -2.68 (p=0.675), Conduct problems -1.08 (p=0.681); Atypicality -2.24 (p=0.716); Depression -3.66 (0.907); Anxiety -0.55 (p=0.408); Withdrawal -0.24 (0.839); Somatization -6.39 (0.023).</p> <p>Social outcome 1 Adaptive skills scale mean change in score pre- vs post-intervention (significant difference between treatment and control group): Social skills: 4.79 (p=0.037); Leadership skills: 2.82 (0.582)</p> <p>Emotional and relationship outcomes 1 Personal adjustment. Mean change in score pre- vs post-intervention (significant difference between intervention and control group, p-value): Interpersonal relations: 4.33 (0.248); Relations with parents: 2.21 (0.531); Self-reliance: 2.02 (0.593); Self-esteem: 4.48 (0.265)</p>

Residential care as usual (N = 25)

Both controls and members of the treatment group received individual psychotherapy before, during, and after the AAP intervention. It should also be noted that participants in the control group followed the same routine as did their peers in the treatment group, except for the AAP. In particular, the general running of the residential care facilities included the fulfillment of everyday routines in relation to basic living standards and regular attendance at school and other after-school activities.

	<p>Outcome measures</p> <p>Educational outcome 1 School adjustment: mean change in negative attitude to school score: -2.26. Mean change in negative attitude to teachers score: -1.91</p> <p>Health outcome 1 The presence of self-rated clinical symptoms, mean change in score pre- vs post-intervention: Atypicality -1.71; Locus of Control -2.54; Somatization -0.74; Social stress -1.71; Anxiety -1.91; Depression -1.37; Sensation seeking -0.63; Sense of inadequacy 0.06. Residential care staff-rated clinical symptoms, mean change in score pre- vs post-intervention: Aggression 3.41; Hyperactivity -1.31, Conduct problems 0.90; Atypicality -4.34; Depression -3.34; Anxiety -2.28; Withdrawal -0.83; Somatization 1.24.</p> <p>Social outcome 1 Adaptive skills scale mean change in score pre- vs post-intervention: Social skills: -0.55; Leadership skills: 1.62</p> <p>Emotional and relationship outcomes 1 Personal adjustment. Mean change in score pre- vs post-intervention: Interpersonal relations: 1.63; Relations with parents: 0.26; Self-reliance: 0.91; Self-esteem: 2.03</p>
<p>Risk of bias</p>	<p>1. Bias due to confounding Serious (Matching methods used. Unclear how matching criteria were measured. Similarity between groups was not reported in detail.)</p> <p>2. Bias in selection of participants into the study Low</p> <p>3. Bias in classification of interventions Low</p> <p>4. Bias due to deviations from intended interventions Low</p> <p>5. Bias due to missing data Serious (Large amounts of missing data for various outcomes, no reason for missing data provided)</p> <p>6. Bias in measurement of outcomes</p>

	<p>Low</p> <p>(Teachers/caregivers/residential care staff were unaware of intervention status. However, self-report outcomes were completed with knowledge of intervention status.)</p> <p>7. Bias in selection of the reported result</p> <p>Moderate</p> <p>(Various subscales reported but not others)</p> <p>Overall bias</p> <p>Risk of bias judgement</p> <p>Serious</p> <p>Directness</p> <p>This question has not yet been answered.</p>
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Waxman 2009

Study type	Non-randomised controlled trial
Study location	USA
Study setting	Children in custody of the Texas Department of Protective and Regulatory Services
Study dates	Treatment group included children who were assigned a court-appointed advocate volunteer from February 1999 to August 1999.
Duration of follow-up	Three years

Sources of funding	The Hogg Foundation for Mental Health in Austin, Texas, funded the initial study. As the longitudinal study progressed, the USAA Foundation provided additional funding to collect needed data and complete the analyses.
Inclusion criteria	Care situation All children in the Harris County Court system were considered part of the population of the study. comparison children were chosen randomly from a population of 1,643 children in custody of the Texas Department of Protective and Regulatory Services (TDPRS) from October 1998 through October 1999.
Sample size	581
Split between study groups	327 participants in the intervention group, 254 in the comparison group
Loss to follow-up	Not all instruments were administered to all children and sample sizes for various data sources vary. Approximately 10-15% loss to follow up by year 2. A much greater loss to follow up was reported at year 3 (over 50% in some cases). Therefore year 1 and 2 results are reported.
% Female	Not reported for total study sample
Mean age (SD)	Not reported for total study sample (range 5 months to 18 years)
Condition specific characteristics	At risk or victims of exploitation 36.0% had experienced physical abuse; 27.0% neglectful supervision; 23.1% physical neglect; 10.5% sexual abuse; 3.1% emotional abuse
Outcome measures	Educational outcome 1 School indicators: pass all courses (%); poor conduct (%); expelled (%) Agency outcome 1 Self esteem and locus of control: Children who were age 9 and older completed an instrument designed to assess children's self-esteem and locus of control. Both scales were measured on a four-point Likert type scale (4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree). Multidimensional outcome 1 Protective Factors Scale (PFS) is a 36-item instrument designed to determine the extent to which programs are successful in strengthening protective factors. The PFS was completed by caregivers. Items pertain to children's age, 6 and older, and are scored on a four-point scale ranging from one (strongly disagree) to four (strongly agree). The nine scales are as follows: (1) neighborhood resources; (2) interested adults; (3) sense of acceptance; (4) controls against deviant behavior; (5) models of conventional behavior; (6) positive attitude toward the future; (7) value on achievement; (8) ability to work with others; and (9) ability to work out conflicts.

	<p>Relationship outcomes 1 Family Functioning Scale (FFS). A 40-item instrument designed to measure general dimensions of family functioning. The FFS has five factors: (1) positive family effect, (2) family communication, (3) family conflicts, (4) family worries, and (5) family rituals/supports. The scale of positive effect was found to be unreliable in this study and was eliminated.</p>	
<p>Study arms</p>	<p>Child Advocate Volunteers (N = 327) Child Advocates, Inc. (CA) addresses the needs of abused and neglected children in Harris County, Texas. The organization’s purpose is to find safe, loving, permanent homes for abused and neglected children. CA is one of over 900 court-appointed special advocates (CASA) community volunteer intervention programs. The CA volunteer concentrates on one case, while a Harris County CPS caseworker is more burdened with a workload of 25 to 40 cases. Support from a teacher, neighbor, or a friend’s parent helps children become resilient to stress and adversity (Garmezy, 1991, 1993; Pollack, 2006). A CA volunteer is one such person in the lives of abused or neglected children. Children who have been abused or neglected may have had many discontinuities in caregiving relationships. A good quality relationship with a caring adult can be a catalyst to build resilience in children. Even the most severely abused child can develop resilience from a short-term relationship if the adult conveys a sense of value to the child. CA serves abused and neglected children from infancy through 18 years of age. After being appointed to a child’s case by a juvenile court judge, the CA volunteer assesses and addresses each child’s needs. Then, the volunteer makes recommendations to the court. By working with juvenile court judges, attorneys, caseworkers, parents, foster parents, teachers, physicians, and therapists, the volunteer attempts to serve the child’s best interests.</p>	
	<p>Study type</p>	<p>Non-randomised controlled trial</p>
	<p>Study location</p>	<p>USA</p>
	<p>Study setting</p>	<p>Children in custody of the Texas Department of Protective and Regulatory Services</p>
	<p>Study dates</p>	<p>Treatment group included children who were assigned a court-appointed advocate volunteer from February 1999 to August 1999.</p>
	<p>Duration of follow-up</p>	<p>Three years</p>

Sources of funding	The Hogg Foundation for Mental Health in Austin, Texas, funded the initial study. As the longitudinal study progressed, the USAA Foundation provided additional funding to collect needed data and complete the analyses.
Inclusion criteria	Care situation All children in the Harris County Court system were considered part of the population of the study. comparison children were chosen randomly from a population of 1,643 children in custody of the Texas Department of Protective and Regulatory Services (TDPRS) from October 1998 through October 1999.
Sample size	581
Split between study groups	327 participants in the intervention group, 254 in the comparison group
Loss to follow-up	Not all instruments were administered to all children and sample sizes for various data sources vary. Approximately 10-15% loss to follow up by year 2. A much greater loss to follow up was reported at year 3 (over 50% in some cases). Therefore year 1 and 2 results are reported.
% Female	49%
Mean age (SD)	Not reported
Condition specific characteristics	At risk or victims of exploitation 36.7% had experienced physical abuse; 28.1% neglectful supervision; 27.8% physical neglect; 15.0% sexual abuse; 3.1% emotional abuse Non-white ethnicity 73%
Outcome measures	Educational outcome 1 Year 1 School indicators: pass all courses: 82.1%; poor conduct: 30.5%; expelled 4.1%. Year 2 School indicators: pass all courses: 88.4%; poor conduct: 34.6%; expelled 11.3% Agency outcome 1 Year 1 self esteem score mean ± SD: 3.01 ± 0.43. Year 1 locus of control mean ± SD: 2.57 ± 0.58. Year 2 self esteem score mean ± SD: 3.07 ± 0.41. Year 2 locus of control mean ± SD: 2.82 ± 0.55.

	<p>Multidimensional outcome 1 Protective Factors Scale (PFS) 1 year mean scores \pm SD: neighborhood resources: 3.02 ± 0.46; interested adults 3.27 ± 0.52; sense of acceptance 3.21 ± 0.49; controls against deviant behavior 3.25 ± 0.50; models of conventional behavior 3.08 ± 0.64; positive attitude toward the future 2.97 ± 0.50; value on achievement 3.09 ± 0.5; ability to work with others 2.99 ± 0.61; ability to work out conflicts 2.72 ± 0.64. Protective Factors Scale (PFS) 2 year mean scores \pm SD: neighborhood resources: 3.05 ± 0.48; interested adults 3.40 ± 0.56; sense of acceptance 3.25 ± 0.57; controls against deviant behavior 3.19 ± 0.57; models of conventional behavior 2.98 ± 0.71; positive attitude toward the future 3.01 ± 0.53; value on achievement 3.15 ± 0.65; ability to work with others 2.92 ± 0.60; ability to work out conflicts 2.63 ± 0.65.</p> <p>Relationship outcomes 1 Family Functioning Scale (FFS) 1 year mean score \pm SD: family rituals/supports: 6.39 ± 0.57; family conflicts: 2.98 ± 0.94; family worries: 4.18 ± 1.10; family communication: 5.27 ± 1.03. Family Functioning Scale (FFS) 2 year mean score \pm SD: family rituals/supports: 6.40 ± 0.68; family conflicts: 2.92 ± 0.94; family worries: 4.06 ± 1.19; family communication: 5.17 ± 0.97</p> <p>Placement changes Year 1 mean \pm SD: 1.72 ± 1.31; Year 2 mean \pm SD: 0.89 ± 1.04. Year 3 mean \pm SD: 0.33 ± 0.72.</p>
<p>Usual care (N = 254) The comparison group included 254 children who were selected from October 1998 to October 1999 from a population of 1,643 children who were taken into CPS custody during this time period.</p>	
<p>Study type</p>	<p>Non-randomised controlled trial</p>
<p>Study location</p>	<p>USA</p>
<p>Study setting</p>	<p>Children in custody of the Texas Department of Protective and Regulatory Services</p>
<p>Study dates</p>	<p>Treatment group included children who were assigned a court-appointed advocate volunteer from February 1999 to August 1999.</p>
<p>Duration of follow-up</p>	<p>Three years</p>

Sources of funding	The Hogg Foundation for Mental Health in Austin, Texas, funded the initial study. As the longitudinal study progressed, the USAA Foundation provided additional funding to collect needed data and complete the analyses.
Inclusion criteria	Care situation All children in the Harris County Court system were considered part of the population of the study. comparison children were chosen randomly from a population of 1,643 children in custody of the Texas Department of Protective and Regulatory Services (TDPRS) from October 1998 through October 1999.
Sample size	581
Split between study groups	327 participants in the intervention group, 254 in the comparison group
Loss to follow-up	Not all instruments were administered to all children and sample sizes for various data sources vary. Approximately 10-15% loss to follow up by year 2. A much greater loss to follow up was reported at year 3 (over 50% in some cases). Therefore year 1 and 2 results are reported.
% Female	49%
Mean age (SD)	Not reported
Condition specific characteristics	At risk or victims of exploitation 35.0% had experienced physical abuse; 25.6% neglectful supervision; 16.9% physical neglect; 4.7% sexual abuse; 3.1% emotional abuse Non-white ethnicity 80%
Outcome measures	Educational outcome 1 Year 1 School indicators: pass all courses: 60.0%; poor conduct: 56.1%; expelled 7.6%. Year 2 School indicators: pass all courses: 82.9%; poor conduct: 38.5%; expelled 12.1% Agency outcome 1 Year 1 self esteem score mean \pm SD: 2.97 \pm 0.42. Year 1 locus of control mean \pm SD: 2.53 \pm 0.68. Year 2 self esteem score mean \pm SD: 3.06 \pm 0.50. Year 2 locus of control mean \pm SD: 2.59 \pm 0.67.

	<p>Multidimensional outcome 1 Protective Factors Scale (PFS) 1 year mean scores \pm SD: neighborhood resources: 2.78 ± 0.59; interested adults 3.13 ± 0.58; sense of acceptance 2.93 ± 0.59; controls against deviant behavior 3.05 ± 0.57; models of conventional behavior 2.83 ± 0.75; positive attitude toward the future 2.72 ± 0.53; value on achievement 2.75 ± 0.62; ability to work with others 2.75 ± 0.62; ability to work out conflicts 2.58 ± 0.66. Protective Factors Scale (PFS) 2 year mean scores \pm SD: neighborhood resources: 2.96 ± 0.61; interested adults 3.18 ± 0.59; sense of acceptance 3.07 ± 0.51; controls against deviant behavior 3.19 ± 0.52; models of conventional behavior 2.79 ± 0.71; positive attitude toward the future 2.92 ± 0.53; value on achievement 3.02 ± 0.62; ability to work with others 2.99 ± 0.56; ability to work out conflicts 2.64 ± 0.56.</p> <p>Relationship outcomes 1 Family Functioning Scale (FFS) 1 year mean score \pm SD: family rituals/supports: 6.25 ± 0.68; family conflicts: 3.00 ± 0.98; family worries: 4.10 ± 1.07; family communication: 5.06 ± 0.93. Family Functioning Scale (FFS) 2 year mean score \pm SD: family rituals/supports: 6.21 ± 0.81; family conflicts: 2.97 ± 0.97; family worries: 4.07 ± 1.02; family communication: 4.84 ± 1.13</p> <p>Placement changes Year 1 mean \pm SD: 2.08 ± 1.30; Year 2 mean \pm SD: 1.11 ± 1.73. Year 3 mean \pm SD: 0.48 ± 1.53.</p>
<p>Risk of bias</p>	<p>1. Bias due to confounding Serious (Participants were only matched for gender, age, and type of abuse. However, there are several other relevant factors e.g. behaviour, special education needs, and mental health problems)</p> <p>2. Bias in selection of participants into the study Moderate (Unclear if intervention had already begun at the start of observation period. Children still in advocate system may be those with more stable placements. Therefore, starting observation midway through the treatment may ignore those who received treatment with worse outcomes.)</p> <p>3. Bias in classification of interventions Serious (Unclear how often advocates met with youth, or the placement types of those youth. Treatment children received double the amount of counselling ?as a direct result of the intervention but not necessarily.)</p> <p>4. Bias due to deviations from intended interventions</p>

Moderate

(Unclear level of interaction youth had with the advocate. Only assignment of treatment tested. Unclear if deviations from intended intervention, however drop out was high.)

5. Bias due to missing data

Critical

(By year 2, there was a 10-15% loss to follow up. Also there was substantial missing data which was >50% in some cases. Unclear reasons for missing data and how reasons differed between groups.)

6. Bias in measurement of outcomes

Critical

(Interviewers were the advocates (the treatment givers) in the intervention group. Therefore, different personnel were used to carry out interviews for different comparison groups." Not all measures were administered to all children" but no further information provided.)

7. Bias in selection of the reported result

Low

Overall bias

Critical

Directness

This question has not yet been answered.

Effectiveness studies (uncontrolled studies)**Klag 2010**

Study type	Uncontrolled before-and-after study
Study location	Australia
Study setting	Children in out-of-home care who present with severe and/or complex psychological and/or behavioural problems
Study dates	2006 to 2011
Duration of follow-up	Pre- and post-treatment comparisons were made. ETS interventions are medium to long-term (i.e. 12–18 months); however crisis and short-term interventions may be utilised to stabilise the system and child/young person, so longer term or more intensive work is possible.
Sources of funding	No information provided
Inclusion criteria	<p>Age child under 18 years of age</p> <p>Care situation In out-of-home care under and on interim or finalised Child Protection Orders</p> <p>Emotional or behavioral disorders Presents with severe and/or complex psychological and/or behavioural problems (i.e. a chronic trauma history, extreme behavioural problems across multiple settings, at risk of harming self/others and multiple placement breakdowns)</p>
Sample size	396
Split between study groups	Not applicable (uncontrolled before and after study)
Loss to follow-up	Data was available for 255 participants for "problems with scholastic or language skill" and 249 for "school attendance"

% Female	38.4%
Mean age (SD)	10.6 years (range 1 - 17 years)
Condition specific characteristics	<p>Mental health or emotional wellbeing needs 100%. The majority (93.9% of 636) met diagnostic criteria for at least one major mental health disorder (ICD-10; F-Codes; WHO, 2010), with 41.5% diagnosed with multiple mental health disorders. 49.1% of ETS clients were diagnosed with attachment disorders, the most common mental health issue at admission. Subsequent diagnoses were PTSD (20.8%), Mood Disorders (17.8%), Conduct Disorders (17.1%), Disturbances of Activity and Attention (17.1%), Developmental and Intellectual Impairment (16.9%), Emotional and Behavioural Disorders (14.6%) and Anxiety and Stress Disorders (8.0%). A small percentage of C/YP were diagnosed with Childhood Disorders (4.9%), Disorders in Social Functioning (4.4%) and Substance Misuse (2.2%), with 1.5% receiving a diagnosis of Mental Disorder not otherwise specified (MDNOS).</p> <p>Non-white ethnicity 26.9% were aboriginal and/or Torres Strait Islander in background.</p>
Outcome measures	<p>Educational outcome 1 Health of the Nation Outcome Scales for Children and Adolescents: relevant subscales included: problems with scholastic or language skills; and school attendance. The Health of the Nations Outcome Scale for Children and Adolescents, is a 15- item clinician-rated measure designed specifically for assessment of child and adolescent outcomes in mental health services. It includes 13 clinical/psychosocial items (disruptive/aggressive behaviour, overactivity and attentional difficulties, non-accidental self-injury, alcohol or substance/solvent misuse, scholastic and language skills, physical illness/ disability problems, hallucinations and delusions, non-organic somatic symptoms, emotional and related symptoms, peer relationships, self-care and independence, family life and relationships and poor school attendance) and two items relating to knowledge about the child and/or young person's difficulties, management and services available. Each item is scored on a five-point scale from 0 (no problems) to 4 (severe problems) based on the previous two weeks, with a detailed glossary for each point of the scale and item. Pre-/post-HoNOSCA items were completed by clients' clinicians. A rating of 2, 3, or 4 indicates clinically significant problems requiring active monitoring or intervention.</p> <p>Health outcome 1 The Children's Global Assessment Scale is clinician-rated and provides a global level of adjustment and functioning on a scale of 1–100. Scores > 70 indicate no clinically significant functional impairment, scores < 70 are associated with increasingly severe dysfunction. Children and young people referred to clinical services generally have scores of <61.</p>
Study arms	<p>Evolve Interagency Services (N = 255) The Evolve Interagency Services (EIS) program is an interagency partnership between Queensland Health, the Department of Communities, Child Safety & Disability Services, and the Department of Education, Training & Employment. The key focus of EIS is to provide planned and coordinated therapeutic and behaviour supports to C/YP in out-of-home care, aimed at improving their emotional wellbeing and the development of skills to enhance participation in school and in the community. A collaborative 'wrap-around' model of service. Provision of service is achieved through a flexible use of appropriate evidence-informed individual and systemic therapeutic interventions and a coordinated and sustainable partnership with key government and non-government and private sector agencies. Clinical interventions include a comprehensive assessment of the bio/psycho/social/cultural aspects of the child/young person and their significant others, and attachment and/or trauma focused therapies, which may include dyadic work (where the focus is on the facilitation of</p>

	<p>therapeutic attachment relationships between the child/young person and their carer), individual therapy, family-based intervention or the use of other treatment modalities. Interventions are targeted not only towards young people, but can extend to carers, biological parents, youth workers, educational staff, and other professionals involved. Systemic interventions include assisting and facilitating (where needed) the development of a regular cohesive stakeholder group, involving all relevant stakeholders and where clinical appropriate the young person, with a focus of (1) having a shared understanding of the child's strengths and needs, (2) working collaboratively in the child's best interests, and (3) developing and reviewing developed therapeutic goals. Other systemic interventions include provision of carer support including foster carer training, specialist consultation-liaison services, and specialist professional development and training. ETS interventions are medium to long-term (i.e. 12–18 months); however crisis and short-term interventions may be utilised to stabilise the system and child/young person, so longer term or more intensive work is possible.</p> <table border="1"> <tr> <td>Outcome measures</td> <td> <p>Educational outcome 1 Health of the Nation Outcome Scales for Children and Adolescents - relevant subscales: problems with scholastic or language skills, mean preintervention score: 2.2 ± 1.3, mean postintervention score: 1.56 ± 1.3; Poor school attendance mean score preintervention: 1.26 ± 1.6, mean score postintervention: 0.72 ± 1.3</p> </td> </tr> </table>	Outcome measures	<p>Educational outcome 1 Health of the Nation Outcome Scales for Children and Adolescents - relevant subscales: problems with scholastic or language skills, mean preintervention score: 2.2 ± 1.3, mean postintervention score: 1.56 ± 1.3; Poor school attendance mean score preintervention: 1.26 ± 1.6, mean score postintervention: 0.72 ± 1.3</p>
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<p>Risk of Bias</p>	<p>1. Bias due to confounding</p> <p>Critical</p> <p>(No contemporary comparison group used. Children and young people with severe emotional and behavioral disorders are more likely to discontinue treatment and therefore less likely to be included in the final analysis. Only treatment completers and participants without missing data were included in analysis. This "per-protocol" approach means that the final cohort may have been importantly different to the cohort who were included at the start (n=664).)</p> <p>2. Bias in selection of participants into the study</p> <p>Moderate</p> <p>(Unclear if baseline data was collected prior to the start of intervention and how this varied between participants)</p> <p>3. Bias in classification of interventions</p> <p>Moderate</p> <p>(Evolve Interagency Services describes an interagency model of care, however the interventions delivered within that system may have varied considerably in type and quality. No information about the specific types of services given was reported.)</p>		

	<p>4. Bias due to deviations from intended interventions</p> <p>Serious</p> <p>(A large number of initially eligible participants did not complete and were not included in the final analysis)</p> <p>5. Bias due to missing data</p> <p>Critical</p> <p>(A significant amount of missing data was missing for several outcomes.)</p> <p>6. Bias in measurement of outcomes</p> <p>Serious</p> <p>(Clinicians delivering the treatment were responsible for data collection. It is likely that they were aware whether outcomes were collected pre- or post-intervention)</p> <p>7. Bias in selection of the reported result</p> <p>Low</p> <p>Overall bias</p> <p>Risk of bias judgement</p> <p>Critical</p> <p>Directness</p> <p>This question has not yet been answered.</p>
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Osbourne 2010

Study type	Uncontrolled before-and-after study
Study location	UK

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

Study setting	Children in foster care
Study dates	Not reported (published 2010)
Duration of follow-up	12 months
Sources of funding	Not reported
Inclusion criteria	Age Primary school aged Care situation Any looked after children identified by schools to take part in the project
Sample size	68
Split between study groups	NA
Loss to follow-up	33
% Female	Not reported
Mean age (SD)	9 years 4 months ± 1 year 9 months
Condition specific characteristics	Disabilities, speech or communication needs, or special education needs Mean reading age was 8 years 0 months ± 1 year 8 months
Outcome measures	Educational outcome 1 Reading age: using the Salford test. Measures were recorded immediately before the paired reading began and again immediately after the intervention was finished.
Study arm	Paired Reading (N = 35)

	<p>Paired reading is a literacy intervention that involves the pupil and a partner reading together. The technique involves a number of key elements: The first stage involves both pupil and partner reading together, so that the pupil is provided with a model of competent reading. As the pupil becomes more confident, they are given the option of reading alone. If the pupil subsequently makes a mistake which they are unable to correct themselves, their partner repeats the correct word and begins to read with them again. Thus, paired reading involves a cycle, moving from reading together to reading alone, ensuring the child receives as much help as necessary. The process is designed to be interactive; the child selects their own reading material and is supported by their partner through discussion, questioning and correction, where necessary. This method enables the child to gain extra practice in reading, receive feedback on their performance, and also experience modelling of correct reading by their partner, thereby promoting reading fluency and comprehension. Thus, as well as providing an opportunity for the child to participate in regular reading sessions, it also offers a way of including the carer within this process. Training workshops for foster carers, school staff and social workers in the use and delivery of paired reading were undertaken by the lead area co-ordinator for the programme and the educational psychology service. Foster carers subsequently took part in the paired reading programme with their child for 16 weeks. Carers were advised that the reading should take place at least three times a week, for a minimum of 20 minutes each session. Schools liaised with carers on a weekly basis, and this contact was formalised through the completion of weekly monitoring sheets.</p> <table border="1"> <tr> <td> <p>Outcome measures</p> </td> <td> <p>Educational outcome 1 Reading age, mean \pm SD. Initial reading age: 8 years \pm 1 year 8 months; Reading age post-intervention: 9 years \pm 1 year 7 months; Increase in reading age: 1 year \pm 8 months (difference $p < 0.001$). On average for every month spent on the intervention reading age increased by 2.96 months. Mean increase in reading age of children who were initially 36 months behind (n=3): 1 year 3 months. Mean increase in reading age of children who were initially 24-35 months behind (n=10): 1 year 4 months. Mean increase in reading age of children who were initially 12-23 months behind (n=11): 1 year 2 months. Mean increase in reading age of children who were initially 1-11 months behind (n=4): 6 months. Mean increase in reading age of children who's reading age was better than their own age (n=7): 7 months</p> </td> </tr> </table>	<p>Outcome measures</p>	<p>Educational outcome 1 Reading age, mean \pm SD. Initial reading age: 8 years \pm 1 year 8 months; Reading age post-intervention: 9 years \pm 1 year 7 months; Increase in reading age: 1 year \pm 8 months (difference $p < 0.001$). On average for every month spent on the intervention reading age increased by 2.96 months. Mean increase in reading age of children who were initially 36 months behind (n=3): 1 year 3 months. Mean increase in reading age of children who were initially 24-35 months behind (n=10): 1 year 4 months. Mean increase in reading age of children who were initially 12-23 months behind (n=11): 1 year 2 months. Mean increase in reading age of children who were initially 1-11 months behind (n=4): 6 months. Mean increase in reading age of children who's reading age was better than their own age (n=7): 7 months</p>
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<p>Risk of bias</p>	<p>1. Bias due to confounding Critical (No contemporary comparison group used)</p> <p>2. Bias in selection of participants into the study Low</p> <p>3. Bias in classification of interventions</p>		

Low
4. Bias due to deviations from intended interventions
Serious
(Participants who were unable to adhere to the intervention were likely to have had poorer results, but were not included in this study (missing data))
5. Bias due to missing data
Critical
(Participants with missing data are likely to be those who would have had poorer responses to intervention)
6. Bias in measurement of outcomes
Moderate
(A validated measure was used but assessors were aware of intervention status (pre/post))
7. Bias in selection of the reported result
Low
Overall bias
Risk of bias judgement
Critical
Directness
This question has not yet been answered.

Qualitative studies***Forsman 2017*****Study Characteristics**

Study type	Semi structured interviews RQ4.2
Aim of study	To explore variations in foster carers' experiences of conducting the intervention
Study location	Sweden
Study setting	Paired reading project carried out in seven local authorities in Sweden
Study methods	Semi-structured interviews with participating carers from the Swedish paired reading project. To capture a wide range of carers' experiences, a stratified purposeful sample was used. Semi-structured telephone interviews were conducted following project completion. The carers were asked to describe how they had conducted the programme and to talk about positive/negative parts of the method, and contextual aspects they considered to be supports or barriers. Additionally, the interview protocol included a set of questions aimed at exploring the carers' expectations of the project and perceptions of how their participation had affected relations within the family, their everyday life and the child's reading ability. The interviews were recorded and ranged in length from 30 to 45 min. Thematic analysis, the transcribed interviews were read repeatedly and categorized into initial codes. Next, different codes were sorted into general themes related to the case descriptions. The thematic mapping of the data was further developed to define the process of conducting the paired reading intervention that carers across the data set had highlighted.
Population	Foster carers
Study dates	Not reported
Sources of funding	Not reported

<p>Inclusion Criteria</p>	<p>Carer situation Foster carers</p> <p>Delivering an intervention Paired Reading</p>
<p>Exclusion criteria</p>	<p>None reported</p>
<p>Sample characteristics</p>	<p>Sample size 13 foster carers</p> <p>Special educational needs or learning disability Judging from carer information, more than half of the fostered children either had delayed speech, literacy problems, attention deficit/hyperactivity disorder (ADHD) or had experienced grade repetition.</p> <p>Gender 13 women and two men; children were 11 boys and 10 girls</p> <p>Age children aged 7 to 12 years</p>
<p>Relevant themes</p>	<p>Theme 1 Getting carers involved in the intervention – a question of attitude? - active involvement of foster carers - One rationale for using paired reading with children in out-of-home care is that the method actively involves foster parents in the reading process. As indicated by the case descriptions, carers embraced this task differently. Some carers talked about reading in general as something important. Children in their care were encouraged to read and they had a positive attitude towards the project. Carers, like Linda (Sufficient, but problematic reading), were already actively involved in the education of the children in their care. They expressed an awareness of foster children's academic vulnerability and tried to prevent school failure. Such attitudes were linked to carers committing to the programme and following through – despite experiencing problems. Previous studies indicate that low expectations and lack of support from key adults are two main reasons for foster children's educational underperformance, but as one carer stated: "These children should have the same opportunities to succeed in school as other children have. We should have the same expectations on them. They are able and we should not pity them or think any less of them, but this might not come natural for everyone. I think that a project like this could be helpful in that respect." (Sufficient reading)</p> <p>Theme 2 Being a part of the project meant that carers could become aware of the importance of foster children's school performance - Knowing that good literacy skills are crucial for managing school became a motivational factor to get engaged. Carers, who had not previously been involved in their child's education and reading, were provided with a tool to become active supporters: "I guess you could say that we were aware of him having problems in school, and we were happy that we had been chosen to be a part of the project. Without it we would probably not have sat down to read with him. (Sufficient, but problematic reading) When practicing paired reading, carers would learn more about their children's needs. Receiving feedback on the literacy tests the children did as a part of the pre/post-evaluation had a similar effect. As in the case of foster mother Julia (Sufficient reading), further insights about the children's abilities and needs could enhance the engagement. Some had continued to use paired reading or wanted to try it with other children.</p> <p>Theme 3 Opportunity to spend more time with the child - Another reason for carers to get involved was linked to seeing an opportunity to spend more time with the child, as in the case of foster mother Anita (Dropout). For these carers the intervention meant that they could spend 'quality time' together. This relational aspect seemed to be a motivational factor for carers in all participant groups. According to some carers, the intervention had improved their relations with the child.</p>

Theme 4

Barriers - not needed, beyond the area of responsibility, feeling forced, - There were also examples of carers who had a more or less explicitly negative attitude towards the intervention. As with the case of foster father Martin (Insufficient reading), this could be due to not experiencing that the child was in need of any reading training. Additionally, some carers felt as if the intervention went beyond their area of responsibility: "I feel like we already have a pretty, ehm, foster children have a lot to deal with and then this becomes another liability for us . . . Perhaps it could be something that they can do in school or something that the libraries could take responsibility for." (Insufficient reading) Although participation was said to be voluntarily, one carer even felt as if she was forced. She talked about the intervention in negative terms, and felt a big relief when it ended. It is possible that a negative attitude could come from carers' own school experiences and reading habits. Not all carers seemed to regard reading as something important. This could potentially make it more difficult to get involved. Either way, a negative attitude was clearly associated with reduced programme compliance, compared with those who saw relational benefits or talked about the importance of reading or succeeding in school.

Theme 5

Integrating the reading training in the everyday life – motivating and prioritizing - The carers who participated in the project took on the task of reading with their foster children on a regular weekly basis. Although the majority complied with the programme, the interviews showed that it could be difficult to integrate the reading training in the everyday life. The key to success seemed to be working with the child's motivation and prioritizing the reading sessions. Some carers meant that having many children to care for made it difficult to find the time: "We already have a tight schedule and since we're so many, there are so many things that need to work out. Our everyday life is planned in detail with meals, dropping off and picking the children up, school work and so on." (Insufficient reading) Others had the same situation but managed anyway, as in the case of foster mother Julia (Sufficient reading). Carers who were used to reading with or helping children with homework were more successful in finding the time. For them, engaging in this intervention was not radically different from what they already did in their daily life with the children. Moreover, their positive attitude towards the project made them prioritize the reading.

Theme 6

motivation and prioritising - But the intervention also had to fit within the children's everyday life. As indicated by the case descriptions, carers meant that the reading sessions competed with activities such as sports, watching TV and hanging out with friends: "Other activities were more appealing. You have to motivate them, but it's not always that easy. They did not want to read, and you can't force them into doing this." (Sufficient, but problematic reading)

Theme 7

Overcoming reluctance - Some children were reluctant to read, and the carer above makes a point about motivating the children. A period of 16 weeks was described as long, and it turned out to be difficult to keep up the motivation throughout the whole project. Some carers thought that it could have been easier motivating the children had the intervention lasted a shorter time. Others meant that children do not have to enjoy it at all times. When it comes to homework or attending school, children will sometimes resist, and the same goes for paired reading. The responsibility to making it work lies on the carers: "It's on us as adults to make sure that this goes well . . . I think that it's beneficial if the adult is positive, because your attitude will be reflected on the children. Perseverance does it! I think that it's on us to communicate this to the children." (Sufficient reading)

Theme 8

Use of rewards to motivate, but better motivation was using books that children were excited to read - At times, giving stickers or using bribes could be facilitating. As in the case of foster mother Linda and her boy Yusef (Sufficient, but problematic reading), children could be motivated to read more when they themselves noticed progress. However, the actual key in motivating the child and making the intervention work seemed to be making the reading session into an enjoyable activity. If the children got to read books or other reading material that excited them, it could be something to long for: "It was not like they thought it was bothersome to read – quite the opposite! They longed for it. They chose their own books, books they found exciting, so they wanted to know how the plot would unfold." (Sufficient reading)

Theme 9

Challenge of choosing appropriate reading material - However, choosing appropriate reading material could be rather challenging. As in the case of foster father Martin (Insufficient reading), choosing wrong books made it difficult to motivate the child. Another carer who had experienced difficulties motivating her children explained that the releasing point for them was when they dropped the books and instead read the IKEA catalogue. Carers like Julia (Sufficient reading) would try to make the reading sessions cosy. Having the one to one time could be important for both children and carers: "He thought that this way of reading was so nice and wanted me to read with him at all times. I think that it was special for him to get close to me, to spend time with me and to get my full attention." (Sufficient reading)

Theme 10

Flexible approach - Making the reading training enjoyable also involved being sensitive to the child and adapt a flexible approach when delivering the intervention. If a child at one time did not want to read the full 20 min, carers could make them read less and try to catch up at another time. Having a rigid approach made it even more difficult to motivate children who were not used to read in their everyday life. At times of carer/child conflicts, a flexible approach could also involve having someone else reading with the child. Having more than one person reading with the child could make both siblings and the extended family involved in a positive way.

Theme 11

Practicing the paired reading method - a great or disturbing way of reading? - According to interviewees' responses, this was a new and unfamiliar way of reading. Some were enthusiastic about the method, thinking it was great, and noticing its positive effect on their child's reading. In contrast, others found it disturbing. In the weekly monitoring sheets, reading aloud together and/or correcting the child were described as frustrating factors that affected the reading in a negative sense. During the interviews, this sentiment was echoed repeatedly and further explained through statements such as: "I think that reading aloud together, it was not okay. It ruins the concentration, so I can understand that she didn't like it either . . . She got really irritated when I corrected her. The first couple of times it was okay, but when I continued she said 'Stop it! You're spoiling my reading'." (Insufficient reading)

Theme 12

temporary difficulties - For some the difficulties were temporary. Once they got a hold of it, carers could see benefits with this particular way of reading. As mentioned before, sitting next to each other and having the full focus on the child's reading could lead to new insights about their abilities and needs. Carers also experienced how paired reading, in particular reading aloud together, enabled them to model competent reading: "It was a bit tricky at first because you're not used to reading like this. But it was fun once you got a hold of it and it brought a sense of togetherness. I could actually notice a difference in his reading. He adapted to my reading speed, learned that you should make a pause at punctuation, and heard how words that he didn't know were pronounced." (Sufficient, but problematic reading)

Theme 13

Difficulties that remain - However, difficulties could remain. Carers had different approaches in trying to handle this. Some were inflexible in their approach and practiced the method in a manual-based way, which made the reading problematic. Insisting on reading in a way that did not suit the child would make the reading training less enjoyable and often lead to conflicts. As in the case of foster mother Anita (Dropout), this could ultimately lead to a dropout. With help from the special education pedagogue, foster mother Linda (Sufficient, but problematic reading), on the other hand, adapted the method to the child's preferences, and thus made the reading training more enjoyable. Having a flexible approach and adapting the day-to-day delivery of the intervention was in some cases essential in order for the reading training to work at all. One carer succinctly stated: "She was the one doing all the reading. We just followed along and only intervened if it was 'going to pot'. You have to adapt to her conditions and the situation we had with her otherwise she gets annoyed and the reading will fail." (Sufficient reading)

Theme 14

Independent reading, following not leading - According to the carers, some children wanted to read alone all the time. For others it could take weeks before the child became confident enough to take on the independent reading. This could be frustrating. One carer told how she was advised not to push the child despite this. She let the child be in charge of the reading and afterwards she thought that this was a key factor for the improved self-confidence that she later on noticed in the boy's reading. One can assume that some children might need encouragement to read by themselves. Either way, judging from the carers' experiences, it looks as if it is better to adopt a strategy of following and not leading the child.

Study arms

Paired Reading (N = 15)

Paired reading is a method for literacy tutoring by non-professionals. It is based on structured and regular carer/child reading. It is not a manual-based method and has been slightly modified in different settings. The key elements aim to ensure that the child receives as much help from a reading partner as necessary through modelling, correction, questioning and discussion. The first stage of the procedure involves the child and partner reading aloud together. When the child wants to read without support she or he gives an agreed sign of wanting to read alone. If the child

is unable to self-correct a mistake, the partner repeats the correct word and joins in. The method thus involves a cycle, moving from reading together to reading alone.

Risk of Bias

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes
Research Design	Was the research design appropriate to address the aims of the research?	Yes
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	Yes
Data collection	Was the data collected in a way that addressed the research issue?	Yes <i>(However no discussion of study setting or saturation of data)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Can't tell <i>(Unclear that researchers critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location)</i>
Ethical Issues	Have ethical issues been taken into consideration?	Can't tell

Section	Question	Answer
Data analysis	Was the data analysis sufficiently rigorous?	Yes <i>(However, unclear that researchers critically examine their own role, potential bias and influence during analysis and selection of data for presentation)</i>
Findings	Is there a clear statement of findings?	Can't tell <i>(No triangulation, respondent validation, or use of more than one analyst apparent)</i>
Research value	How valuable is the research?	The research is valuable
Overall risk of bias and directness	Overall risk of bias	Moderate
	Directness	Partially applicable <i>(Study was based in Sweden)</i>

Griffiths 2012**Bibliographic Reference**

Griffiths, Rose; The Letterbox Club: An account of a postal club to raise the achievement of children aged 7 to 13 in foster care.; Children and Youth Services Review; 2012; vol. 34 (no. 6); 1101-1106

Study Characteristics

Study type	Semi structured interviews
	RQ2
	RQ4
	Evaluation of an intervention

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

	Letterbox
Aim of study	To explore participants' views about each aspect of the Letterbox Club in greater detail, including whether the children continued to use any of the items they had received.
Study location	UK
Study setting	Three different UK local authorities
Study methods	Semi-structured interviews six months after the children had received their last parcel. parcel, with a sample of four children and four foster carers for Letterbox Red and Blue in 2009, and with six children and their foster carers for Letterbox Green in 2011, selected from three different local authorities. These explored participants' views about each aspect of the Letterbox Club in greater detail, including whether the children continued to use any of the items they had received. Unclear how thematic analysis was performed.
Population	Children in care aged 7 to 11
Study dates	2009-2011
Sources of funding	not reported
Inclusion Criteria	Age aged 7 to 13 Care Situation in foster care
Exclusion criteria	None reported
Sample characteristics	Sample size four children and four foster carers for Letterbox Red and Blue in 2009, and with six children and their foster carers for Letterbox Green in 2011

Relevant themes	<p>Theme 1 Encouragement to learn: "many carers and children did feel that receiving the materials had provided important additional support and encouragement to learn. For example, the carer of a boy aged 8 wrote, "The parcels have played a big part in Hamza becoming more enthusiastic about reading. Even made him keen to bring home school books". "Mr Quinn [my teacher] done a test on us today and I got twenty out of twenty on it. Because I answered all twenty of them right, because I've been playing the maths games and it's helped me with my adding up".</p>
	<p>Theme 2 Receiving personalised packages created the sense of being important and that someone was interested in them: "It may not seem a lot, but when you've not had much attention in your life, it is." Children clearly felt they could make decisions themselves about what to do with the materials, and were usually keen to share them: "Jake felt rather special as he loved the postman delivering the parcel for himself each month. He enjoyed getting everyone together and playing with his games and reading his books". The bright envelope was important to many: "Brandon watches the post and can immediately identify 'his' package." Many children told us they kept each envelope, "because it has my name on".</p>
	<p>Theme 3 Enthusiasm maintained for the parcels: Children who had been in Letterbox Club before were still very enthusiastic when they were members again. One carer said that her foster daughter had had the Red parcels eighteen months before, and when her first Green parcel came she "just ripped it straight open. Excited and straight into it!" Her foster daughter said, "It's a great thing and it makes you feel a bit happier ... To get the parcels, it'll take a lot of money to put together for people, but it makes people happy".</p>
	<p>Theme 4 Source of continuity: The fact that the parcels followed placements was important: The fact that the parcel is delivered to the child's home address was particularly important to children who had moved recently or frequently. One boy (aged 9) in the earlier pilot had expressed this very poignantly: "So somebody knows where I live?" The foster mother of a girl aged 10 who had moved three times in a year, said, "The Letterbox Club was the continuity, something that stayed the same when she moved from A to B. She'd had so many ups and downs and I think something like that, that stays the same, is quite important to children and it was very important to Kelly." A carer with two foster daughters aged 11 confirmed this: "They love just getting the parcels and that was important to them, especially when they hadn't been here very long, it was like 'somebody from the outside knows I'm here'."</p>
	<p>Theme 5 Useful for under resourced foster homes: Some foster homes had comparatively few books suitable for the children they cared for, so the Letterbox Club parcels were a valuable resource.</p>
	<p>Theme 6 Something to call their own: Even where foster families were already well-provided, many carers commented that a critical element in gaining children's interest was that the Letterbox books were their own. For example, the carer of a boy aged 9 said, "We've got a cupboard absolutely full of books, but he never paid them any attention at all, so it was nice that these came just for him." Similarly, Katie's foster mother wrote: "The books she has received we've often got already, being a 'bookish' house, but none the less she enjoys the parcels and it gets her to read old favourites again".</p>
	<p>Theme 7 Being part of a club: Lewis, aged 8, told us: "It was good fun because I've never been in a club before". The aspect of being a member of a club seemed to have encouraged many children to tell their teacher at school about the books and games they had received. Perhaps "I'm a member of a club" provides a simpler, less problematic explanation than the more emotional "I'm getting books and games because I'm in care". Elements in the parcels that emphasised 'being in a club' (all marked with a Letterbox Club logo) were consistently popular, including personalised sticky labels with "This book belongs to..." and the child's name printed on them.</p>
	<p>Theme 8 Children liked the element of surprise, not knowing what books they might get, and carers, too, commented that this broadened the range of books their children used. Many foster carers said that they looked forward to the parcels arriving as much as the children. For example, the foster mother of Janie, aged 8, wrote, "Everything in the parcels was excellent, but the Diary of a Killer Cat was superb and the CD is used in the car all the time – I love it, too!! Hope we can have more parcels one day."</p>

Theme 9

Relationship building aspect of Letterbox: Children enjoyed Where's Wally? (published as Where's Waldo? in North America) for its social qualities – one carer of a girl aged 8 wrote, "We all had a go at Where's Wally? – even the teenagers wanted to have a go." There were many reports of children reading to each other, and asking others (both adults and children) to read to them. For example, Kyle, aged 12, told us he read excerpts from the Guinness Book of World Records to his younger brother: "I'd show him stuff that was a bit weird and stuff. Like the dog with the longest tongue". The majority of carers (over 80%) indicated that the parcels had helped them do more with the child. Many foster carers commented on the value of the materials in helping them make better attachments with their children. The carer of Marley, aged 10, wrote, "Found it a great way to bond with my daughter", and the carer of Danny, aged 9, said, "He has had fun, and we have spent a lot of time together because of Letterbox Club." Cadey was 11, and his foster carer wrote, "He is still a reluctant reader, but the books give us an opportunity to spend time together". The carer of another 11 year old said, "It's nice to have something to do with Jamie, where he doesn't feel I'm forcing my attentions on him. He finds it very hard to be close to anyone, but he's been keen to be read to and to play the games he's made. It's made me feel more comfortable with him".

Theme 10

New ways of reading (audio): At least one parcel in each age range included a story on CD with its accompanying book. Many carers commented that they had not previously thought of using audio stories with their foster child, but said they were often used at bedtime or on car journeys. The carer of Damon (aged 11) said, "He's of an age where he wouldn't appreciate a bedtime story from me, but he listened to the CD at bedtime" and another, with a foster son aged 8, wrote, "Best gift ever... He never seems to get enough of it".

Theme 11

Variety in the packages was helpful: Foster carers commented favourably on every genre of books in the parcels – one foster father said, "Poetry, I'd never have thought of that, but it's great!" Non-fiction was similarly praised by foster carers: "I've learnt such a lot". Classic books, where many foster carers would already know the story, were welcomed: for example, when Danny, aged 10, received The Silver Sword, he said, "my [foster] dad knows this story, he read it when he was at school".

Theme 12

Encouraging education in a non-threatening way: providing educational support in a nonthreatening and enjoyable way could contribute to improving the stability of foster care placements. Certainly, the parcels raised the profile of educational activity amongst children and adults in many of the participating families, and for some children it seemed to have begun a 'virtuous circle' of improved engagement at school and improved feelings of well-being in the child, with consequent feelings of relief and positive engagement for the foster carer. As Kezia (aged 12) said, "When you come home [from school], you're not expected to read or write, are you! Cause it's sort of your spare time. But because I got the Letterbox Club, I did sometimes read or write at home, and it helped me at school because I was prepared to do it at school." Her foster mother's pleasure at the improvement in Kezia's attitude to school was evident when she was interviewed.

Study arms**Letterbox (N = 14)**

The "Letterbox Club" is an intervention that provides reading, writing and mathematics materials to children in public care with the aim of improving their educational attainment. Materials are sent addressed to the child at their place of residence, for children to use on their own or to share with other family members. In response to concerns expressed by carers that materials addressed to them implied an expectation of them offering educational support, the decision was made to send materials directly to the child. The child would be told they were a member of a club, the "Letterbox Club", to reduce any feeling that they were being given compulsory homework; The materials would be provided in installments, to avoid the child feeling overwhelmed, and to provide an element of novelty and excitement each time the child received a parcel; The parcels

would be sent through the post, making distribution relatively simple, including for children whose placements were outside each local authority area.

Risk of Bias

Section	Question	Answer
Aims of the research	Was there a clear statement of the aims of the research?	Yes
Appropriateness of methodology	Is a qualitative methodology appropriate?	Yes
Research Design	Was the research design appropriate to address the aims of the research?	No <i>(Authors do not clearly justify the qualitative research design)</i>
Recruitment Strategy	Was the recruitment strategy appropriate to the aims of the research?	No <i>(Unclear how participants were selected for the qualitative aspect of this mixed methods study, or why these were the most appropriate. Unclear why some participants chose not to take part.)</i>
Data collection	Was the data collected in a way that addressed the research issue?	No <i>(Semi-structured interviews were conducted, however it is not explicit what the methods were. Form of data is not clear and the researchers did not discuss saturation of data.)</i>
Researcher and participant relationship	Has the relationship between researcher and participants been adequately considered?	Can't tell <i>(unclear that researchers ritically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location)</i>

Section	Question	Answer
Ethical Issues	Have ethical issues been taken into consideration?	Can't tell
Data analysis	Was the data analysis sufficiently rigorous?	No <i>(there was no description of how/if thematic analysis was performed. Unclear that researchers critically examine their own role, potential bias and influence during analysis and selection of data for presentation)</i>
Findings	Is there a clear statement of findings?	Can't tell <i>(Often unclear what portions of the data were retrieved from the qualitative interviews and which from comments on the questionnaires. No discussion of credibility of their findings (e.g. triangulation, respondent validation, more than one analyst))</i>
Research value	How valuable is the research?	The research has some value <i>(The research focuses on an intervention of interest. No discussion of generalisability of findings.)</i>
Overall risk of bias and directness	Overall risk of bias	High
	Directness	Partially applicable <i>(It is likely that some of the data was collected prior to 2010)</i>

Appendix E – Forest plots

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

Appendix F – GRADE tables

Quantitative evidence

Primary school age (primarily)

Foster-parent delivered tutoring (Teach Your Children Well) (FP-TYCW) vs Wait List (WL)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Word reading mean score post-intervention: assessed using the Wide Range Achievement Test Fourth Edition (WRAT-4)								
1 (Flynn 2012)	Parallel RCT	77	MD 2.54 (-1.22 to 6.30) ¹	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Spelling mean score post-intervention: assessed using the WRAT-4¹								
1 (Flynn 2012)	Parallel RCT	77	-1.2 (-8.26 to 5.86) ¹	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Maths mean score post-intervention: assessed using the WRAT-4¹								
1 (Flynn 2012)	Parallel RCT	77	5.8 (1.58 to 10.02) ¹	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Sentence comprehension mean score post-intervention: assessed using the WRAT-4¹								
1 (Flynn 2012)	Parallel RCT	77	4.53 (0.41 to 8.65) ¹	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
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Reading composite mean score post-intervention: assessed using the WRAT-4¹

1 (Flynn 2012)	Parallel RCT	77	3.79 (-0.60 to 8.18) ¹	Very serious ²	N/A	Serious ³	NE ⁴	Very low
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1. Adjusted for pre-intervention (baseline) means for these scores. Confidence intervals calculated by reviewer using reported mean values and p values.
2. Downgrade 2 levels for very serious risk of bias: few baseline variables reported, so difficult to assess success of randomisation process; unclear if allocation concealment; unclear if deviations from intended intervention; Per-protocol analysis and >30% dropped out on the intervention arm; Large loss to follow up and unclear how much missing data otherwise. Missing data imputed but unclear how much and if appropriate method used. Outcome assessors were likely unblinded and outcome may be influenced by knowledge of intervention received (but not likely). Unclear and insufficient detail provided about certain aspects of conducting trial e.g. approach to loss to follow up.
3. Downgrade 1 level for serious indirectness since study was based in Canada
4. Downgraded twice as imprecision was not estimable

Volunteer-delivered tutoring (Teach Your Children Well) (V-TYCW) vs Wait List (WL)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
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Word reading mean score post-intervention: assessed using the WRAT-4

1 (Harper 2012)	Parallel RCT	68	4.45 (1.75 to 7.15) ¹	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
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Spelling mean score post-intervention: assessed using the WRAT-4

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Harper 2012)	Parallel RCT	68	7.89 (2.71 to 13.07) ¹	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
Maths mean score post-intervention: assessed using the WRAT-4								
1 (Harper 2012)	Parallel RCT	68	3.2 (p value=ns) ¹	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
Sentence comprehension mean score post-intervention: assessed using the WRAT-4								
1 (Harper 2012)	Parallel RCT	68	0.86 (p value=ns) ¹	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
Word reading mean score post-intervention: assessed using the WRAT-4¹								
1 (Harper 2016)	Parallel RCT	101	MD 4.64 (2.01 to 7.27)	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
Spelling mean score post-intervention: assessed using the WRAT-4¹								
1 (Harper 2016)	Parallel RCT	101	MD 3.19 (0.55 to 5.83)	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
Maths mean score post-intervention: assessed using the WRAT-4¹								
1 (Harper 2016)	Parallel RCT	101	MD 3.84 (0.15 to 7.53)	Very serious ²	N/A	Very serious ³	NE ⁴	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Sentence comprehension mean score post-intervention: assessed using the WRAT-4¹								
1 (Harper 2016)	Parallel RCT	101	1.70 (p value=ns)	Very serious ²	N/A	Very serious ³	NE ⁴	Very low
<ol style="list-style-type: none"> Adjusted for pre-intervention (baseline) means for these scores. Confidence intervals calculated by reviewer using reported mean values and p values. Downgrade 2 levels for very serious risk of bias: Unclear if deviations from intended intervention; unclear why loss to follow up; Per-protocol analysis; <10% lost to follow up; Unclear if outcome assessors were aware of a participants intervention status. It is possible that such knowledge could have impacted results; Unclear that analysis was conducted with a pre-specified plan e.g. for multivariable analysis; some evidence that multiple analyses were performed but only one reported. Raw data not reported. Downgrade 2 levels for serious indirectness since study was based in Canada and the majority of participants were of aboriginal ethnicity Downgrade twice as imprecision was not estimable 								

Volunteer-delivered tutoring (Teach Your Children Well) (Short) vs Volunteer-delivered tutoring (Teach Your Children Well) (long)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Math Fluency score at postintervention: assessed using the Woodcock-Johnson-Third Edition (WJ-III)								
1 (Hickey 2020)	Parallel RCT	83	Beta coefficient – 3.94 (p=0.07)	Very serious ¹	N/A	Serious ²	NE ³	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Applied problems score at postintervention: assessed using the Woodcock-Johnson-Third Edition (WJ-III)								
1 (Harper 2016)	Parallel RCT	83	Beta coefficient – 3.07 (p=0.07)	Very serious ¹	N/A	Serious ²	NE ³	Very low
<ol style="list-style-type: none"> 1. Downgrade 2 levels for very serious risk of bias: there were some significant differences observed between comparison groups, slightly more than would be expected by chance. However, these differences were not found to be associated with the outcomes of interest, according to the authors. Over 10% drop out in both arms and these results were excluded from the analysis, even where attendance of the intervention had begun. All of the variables had less than a 6% missing data rate, with the majority having less than 5% missing. Outcome assessors appeared to be unblinded, which may have influenced results 2. Downgrade 1 level for serious indirectness since study was based in Canada 3. Downgraded twice as imprecision was not estimable 								

Letterbox club vs Wait List

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Reading accuracy mean score 4-weeks post-intervention: assessed using the Neale Analysis of Reading Ability								
1 (Mooney 2016)	Parallel RCT	116	MD 1.00 (-4.57 to 6.57)	Not Serious	N/A	Not Serious ¹	Not serious	High
Reading comprehension mean score 4-weeks post-intervention: assessed using the Neale Analysis of Reading Ability								
1 (Mooney 2016)	Parallel RCT	116	MD -0.49 (-6.44 to 5.46)	Not Serious	N/A	Not Serious ¹	Not serious	High
Reading rate mean score 4-weeks post-intervention: assessed using the Neale Analysis of Reading Ability								

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Mooney 2016)	Parallel RCT	116	MD -3.15 (-8.74 to 2.44)	Not Serious	N/A	Not Serious ¹	Serious ²	Moderate
Recreational reading mean score 4-weeks post-intervention: assessed using the Elementary Reading Enjoyment Scale (known as the 'Garfield Test')								
1 (Mooney 2016)	Parallel RCT	116	MD -0.81 (-3.47 to 1.87)	Not Serious	N/A	Not Serious ¹	Serious ³	Moderate
Academic reading mean score 4-weeks post-intervention: assessed using the Elementary Reading Enjoyment Scale (known as the 'Garfield Test')								
1 (Mooney 2016)	Parallel RCT	116	MD -0.67 (-3.32 to 1.98)	Not Serious	N/A	Not Serious ¹	Not Serious	High
Odds of liking school "a lot" 4-weeks post-intervention: children were asked "Do you like school?" with the option of reply "not really", "a little" or "a lot".								
1 (Mooney 2016)	Parallel RCT	116	OR 0.68 (0.31 to 1.47) ⁴	Not Serious	N/A	Not Serious ¹	Very Serious ⁵	Low
Like reading "a lot" 4-weeks post-intervention: children were asked "Do you like reading?" with the option of reply "not really", "a little" or "a lot".								
1 (Mooney 2016)	Parallel RCT	116	OR 0.93 (0.43 to 2.01) ⁴	Not Serious	N/A	Not Serious ¹	Very Serious ⁵	Low
<ol style="list-style-type: none"> 1. UK-based study 2. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=6.53) 3. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=3.34) 4. Reviewer calculated/imputed odds ratios using percentages reported in the study 5. Downgrade 2 levels for very serious imprecision since confidence intervals crossed 2 lines of MID (defined as 0.8 and 1.25 for odds ratios) 								

Paired-reading intervention

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Reading age pre- vs post-intervention: assessed using the Salford test								
1 (Osbourne 2010)	Uncontrolled BA study	35	MD 1.00 (0.24 to 1.76)	Very serious ¹	N/A	Not serious ²	Serious ³	Very low
<p>1. Downgrade 2 levels for very serious risk of bias: No contemporary comparison group used; Participants who were unable to adhere to the intervention were likely to have had poorer results, but were not included in this study (missing data); Participants with missing data are likely to be those who would have had poorer responses to intervention; A validated measure was used but assessors were aware of intervention status (pre/post).</p> <p>2. UK-based</p> <p>3. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as $0.5 \times \text{SD}$ in the control group = 0.83)</p>								

Secondary school-age (primarily)**Take Charge intervention (coaching and mentoring) vs Usual Care**

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Mean number of hours spent doing homework post-intervention: assessed by self-report								
1 (Geenen 2012)	Parallel RCT	120	MD 0.51 (0.08 to 0.94) hours	Very serious ¹	N/A	Serious ²	Serious ³	Very low
Mean number of hours spent doing homework at 9-month follow up: assessed by self-report								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Geenen 2012)	Parallel RCT	120	MD 0.14 (-0.24 to 0.52) hours	Very serious ¹	N/A	Serious ²	Serious ⁴	Very low
Mean youth knowledge and engagement in educational planning score post-intervention: assessed using the student version of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 2.45 (0.98 to 3.92)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
Mean youth knowledge and engagement in educational planning score at post-intervention follow up: assessed using the parent version of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 2.81 (-0.94 to 6.56)	Very serious ¹	N/A	Serious ²	Serious ⁵	Very low
Mean youth knowledge and engagement in educational planning score post-intervention: assessed using the teacher version of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 2.51 (-0.35 to 5.37)	Very serious ¹	N/A	Serious ²	Serious ⁶	Very low
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the student version of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 2.68 (-0.23 to 5.59)	Very serious ¹	N/A	Serious ²	Serious ⁷	Very low
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the parent versions of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 3.22 (0.32 to 6.12)	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
Mean youth knowledge and engagement in educational planning score at 9-month follow up: assessed using the teacher versions of the Educational Planning Assessment								
1 (Geenen 2012)	Parallel RCT	120	MD 2.77 (-0.23 to 5.77)	Very serious ¹	N/A	Serious ²	Serious ⁹	Very low
Student self-attribution of accomplishments score post-intervention: youth were asked to list all their educational accomplishments for the past 6 months and a total count was gathered at each time point.								
1 (Geenen 2012)	Parallel RCT	120	MD 0.80 (0.33 to 1.27)	Very serious ¹	N/A	Serious ²	Serious ¹⁰	Very low
Student self-attribution of accomplishments score at 9-months follow up: youth were asked to list all their educational accomplishments for the past 6 months and a total count was gathered at each time point.								
1 (Geenen 2012)	Parallel RCT	120	MD 0.24 (-0.22 to 0.70)	Very serious ¹	N/A	Serious ²	Serious ¹¹	Very low
<ol style="list-style-type: none"> 1. Downgrade 2 levels for very serious risk of bias: Some considerable differences between comparison groups for length of time in foster care, speech and language disability, autism, and emotional/behavioural needs; unclear if any deviations from intended interventions; unclear if intention to treat analysis used (but most likely); Just over 10% with missing data post randomisation; unclear whether any further missing outcome data; unclear reasons for drop out; unclear how drop out varied between groups; It is possible that missingness of data is related to outcomes; It is unclear how assessments were performed (by whom). Unclear if facilitators were aware of intervention status of participants. Measurements used are often crude indicators of the phenomenon of interest; unclear that analysis was conducted according to a pre-specified protocol. Data not provided for certain non-significant results. Evidence of multiple analyses used for different outcomes. 2. Downgrade 1 level for serious indirectness since study was based in USA 3. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.56) 4. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.48) 5. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=6.45) 6. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=4.03) 7. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=4.58) 8. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=4.07) 								

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 1 line of MID (defined as 0.5*SD in the control group=4.45)							
10.	Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.60)							
11.	Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.62)							

Multidimensional treatment foster care for adolescents (MTFC-A) vs Usual Care

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Odds of higher scholastic/language skills at 12 months follow up: assessed by a domain of the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)								
1 (Green 2014)	Parallel RCT	34	OR 0.6 (0.15 to 2.4)	Very serious ¹	N/A	Not serious ²	Serious ³	low
Odds of higher school attendance score at 12 months follow up: assessed by a domain of the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)								
1 (Green 2014)	Parallel RCT	34	OR 2.5 (0.48 to 13.1)	Very serious ¹	N/A	Not serious ²	Serious ³	low
<ol style="list-style-type: none"> Downgrade 2 levels for very serious risk of bias: Unclear if/why participants did not receive allocated intervention; Significant deviations apparent since 8/20 in the treatment group did not receive their interventions; In the intervention group 15-20% had missing data; it was also unclear how much other data was missing since some outcomes were imputed; Unclear if appropriate imputation methods used; reasons for missing data not given; Missingness of data may well be related to the result of the outcomes reported. UK-based Downgrade 2 levels for very serious imprecision since confidence intervals crossed 2 lines of MID (defined as 0.8 and 1.25 for odds ratios) 								

Multidimensional treatment foster care (MTFC) vs Group Care control

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Mean homework completion score at 3-6 months post-intervention: composite score using the number of days in the last week that the girls spent at least 30 min/day on homework; and whether or not the girls did homework that day.								
1 (Leve 2007)	Parallel RCT	81	MD 0.64 (0.16 to 1.12)	Very serious ¹	N/A	Serious ²	Serious ³	Very low
Mean homework completion score at 12 months post-intervention: composite score using caregiver and girl report of the number of days in the last week that the girls spent at least 30 min/day on homework; and whether or not the girls did homework that day.								
1 (Leve 2007)	Parallel RCT	81	MD 1.44 (0.59 to 2.29)	Very serious ¹	N/A	Serious ²	Serious ⁴	Very low
Mean school attendance score at 12 months post baseline: composite score using caregivers and girls reports of how often the girls attended school.								
1 (Leve 2007)	Parallel RCT	81	MD 0.61 (0.15 to 1.07)	Very serious ¹	N/A	Serious ²	Serious ⁵	Very low
<ol style="list-style-type: none"> 1. Downgrade 2 levels for very serious risk of bias: Unclear how randomisation was performed or if allocation concealment; Unclear if all participants assigned to their groups received their interventions as allocated. Intention to treat analysis used; Over 10% lost to follow up. Unclear how much additional missing outcome data or if this differed between comparison groups; Quite crude measures used for homework completion and school attendance. Unclear if outcome assessors were aware of intervention group. Possibility that reporting of outcomes was affected by knowledge of intervention group; Insufficient information to convince that trial was conducted according to a prespecified plan that was finalised before unblinded outcome data was available. 2. Downgrade 1 level for serious indirectness since study was based in USA 3. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.57) 4. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=1.06) 5. Downgrade 1 level for serious imprecision since confidence intervals crossed 1 line of MID (defined as 0.5*SD in the control group=0.67) 								

ESTEP tutoring programme vs No ESTEP tutoring

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Mean letter-word identification score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD 2.10 (-2.25 to 6.45)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
Mean calculation score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD -0.30 (-4.22 to 3.62)	Very serious ¹	N/A	Serious ²	Not serious	Very low
Mean passage comprehension score at approximately 26 months follow up: assessed by Woodcock–Johnson Tests of Achievement III								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD -0.20 (-4.33 to 3.93)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
Mean highest grade level completion at approximately 26 months follow up: self-report								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD 0.00 (-0.19 to 0.19)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
Mean grade point average at follow up at approximately 26 months follow up: Participants reported their school grades they had received across four core subjects during their previous full semester of school. Responses were scored based on a standard 4-point scale, and an overall GPA was computed by taking the average of these.								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD 0.00 (-0.18 to 0.18)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
<p>School behaviour score: youths were asked to indicate how often they had had “trouble” completing the following five tasks during their last full semester of school attendance: (1) getting along with your teachers, (2) paying attention in school, (3) getting your homework done, (4) getting along with other students, and (5) arriving on time for class. Response options ranged from “never” (0) to “every day” (5). School behaviour was then operationalized or defined as the mean of these five items.</p>								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	MD -0.02 (-0.25 to 0.21)	Very serious ¹	N/A	Serious ²	Not Serious	Very low
<p>Achieving high school diploma or general equivalency diploma at approximately 26 months follow up: self-report</p>								
1 (Zinn 2014/Courtney 2008)	Parallel RCT	529	OR 0.79 (0.41 to 1.52)	Very serious ¹	N/A	Serious ²	Very Serious ³	Very low
<ol style="list-style-type: none"> 1. Downgrade 2 levels for very serious risk of bias: No information about randomisation process or whether allocation was concealed; 12% of randomised participants were excluded immediately following randomisation; While intention to treat analysis was used, there was significant deviations from the intended treatment in both groups. 38.2% of those assigned to the E-STEP group did not receive E-STEP services and 12.3% of those in the control group did receive ESTEP services; other than the 12% who were excluded immediately following randomisation, there was also >10% who did not respond to the follow up surveys. The reasons for this are unclear and may be associated with having poorer school outcomes; Unclear if assessors were blinded to intervention status. It is possible that they may influence some of the outcomes; Insufficient information provided to convince that trial was conducted according to a pre-specified plan; study authors note that approximately equal proportions of ESTEP and control groups received some form of tutoring (58.4% vs 60.8%); Only results from second follow up were reported. 2. Downgrade 1 level for serious indirectness since study was based in USA 3. Downgrade 2 levels for very serious imprecision since confidence intervals crossed 2 lines of MID (defined as 0.8 and 1.25 for odds ratios) 								

Animal-assisted psychotherapy vs residential care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Mean change in self-rated school maladjustment (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.¹								
1 (Balluerka 2015)	Non-randomised controlled trial	67	MD -0.63 (-5.48 to 4.22)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Mean change in teacher-rated school maladjustment (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.¹								
1 (Balluerka 2015)	Non-randomised controlled trial	67	MD -3.19 (-6.93 to 0.55)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Mean change in teacher-rated behavioural symptoms (pre- vs post-intervention): measured as part of the Spanish version of the Behavior Assessment System for Children.¹								
1 (Balluerka 2015)	Non-randomised controlled trial	67	MD -1.39 (-5.92 to 3.14)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Mean change in teacher-rated adaptive skills (pre- vs post-intervention): measured as part of the adaptive skills composite of the Teacher Rating Scale.¹								
1 (Balluerka 2015)	Non-randomised controlled trial	67	MD 5.88 (1.61 to 10.15)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Mean change in negative attitude towards school score (pre- vs post-intervention): attitude to school scale of the Self-Report of Personality¹								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Muela 2017)	Non-randomised controlled trial	87	MD -0.03 (-4.28 to 4.22)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
Mean change in negative attitude towards teachers score (pre- vs post-intervention): attitude to teachers scale of the Self-Report of Personality¹								
1 (Muela 2017)	Non-randomised controlled trial	87	MD -2.69 (-4.73 to -0.65)	Very serious ²	N/A	Serious ³	NE ⁴	Very low
<ol style="list-style-type: none"> Confidence intervals calculated by reviewer using reported mean values and p values. Downgrade 2 levels for very serious risk of bias: Matching methods used. Unclear how matching criteria were measured. Similarity between groups was not reported in detail; Large amounts of missing data for various outcomes reported, no reason for missing data provided; Teachers/caregivers/residential care staff were unaware of intervention status. However, self-report outcomes were completed with knowledge of intervention status; various subscales reported (often if significant) but not others. Downgrade 1 level for serious indirectness since study was based in Spain Downgrade two levels as imprecision was not estimable 								

All ages

Child advocate volunteers vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Pass all courses by year 1 (%):¹ unclear how school indicators were measured/reported								
1 (Waxman 2009)	Non-randomised controlled trial	581	OR 3.05 (2.09 to 4.45)	Very serious ²	N/A	Serious ³	Not Serious	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Poor conduct by year 1 (%)¹ unclear how school indicators were measured/reported								
1 (Waxman 2009)	Non-randomised controlled trial	581	OR 0.35 (0.25 to 0.49)	Very serious ²	N/A	Serious ³	Not Serious	Very low
Expelled by year 1 (%)¹ unclear how school indicators were measured/reported								
1 (Waxman 2009)	Non-randomised controlled trial	581	OR 0.51 (0.25 to 1.06)	Very serious ²	N/A	Serious ³	Serious ⁴	Very low
Pass all courses by year 2 (%)¹ unclear how school indicators were measured/reported								
1 (Waxman 2009)	Non-randomised controlled trial	581	OR 1.55 (0.97 to 2.48)	Very serious ²	N/A	Serious ³	Serious ⁴	Very low
Poor conduct by year 2 (%)¹ unclear how school indicators were measured/reported								
1 (Waxman 2009)	Non-randomised controlled trial	581	0.84 (0.60 to 1.18)	Very serious ²	N/A	Serious ³	Serious ⁴	Very low
Expelled by year 2 (%)¹ unclear how school indicators were measured/reported								

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
1 (Waxman 2009)	Non-randomised controlled trial	581	OR 0.92 (0.55 to 1.53)	Very serious ²	N/A	Serious ³	Very Serious ⁵	Very low

1. Calculated using percentages reported in study
2. Downgrade 2 levels for very serious risk of bias: Participants were only matched for gender, age, and type of abuse. However, there are several other relevant factors e.g. behaviour, special education needs, and mental health problems; Unclear if intervention had already begun at the start of observation period. Children still in advocate system may be those with more stable placements. Therefore, starting observation midway through the treatment may ignore those who received treatment with worse outcomes; Unclear how often advocates met with youth, or the placement types of those youth. Treatment children received double the amount of counselling ?as a direct result of the intervention but not necessarily; Unclear level of interaction youth had with the advocate. Only assignment of treatment tested. Unclear if deviations from intended intervention, however drop out was high; By year 2, there was a 10-15% loss to follow up. Also there was substantial missing data which was >50% in some cases. Unclear reasons for missing data and how reasons differed between groups; Interviewers were the advocates (the treatment givers) in the intervention group. Therefore, different personnel were used to carry out interviews for different comparison groups."Not all measures were administered to all children" but no further information provided.
3. Downgrade 1 level for serious indirectness since study was based in USA
4. Downgrade 1 level for very serious imprecision since confidence intervals crossed 1 lines of MID (defined as 0.8 and 1.25 for odds ratios)
5. Downgrade 2 levels for very serious imprecision since confidence intervals crossed 2 lines of MID (defined as 0.8 and 1.25 for odds ratios)

Evolve Interagency Services vs care as usual

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Problems with scholastic or language skills score: assessed using a subscale of the Health of the Nations Outcome Scale for Children and Adolescents								
1 (Klag 2010)	Uncontrolled before and after study	255	MD -0.64 (-0.87 to -0.41)	Very serious ²	N/A	Serious ³	Not Serious	Very low

No. of studies	Study design	Sample size	Effect size (95% CI)	Risk of bias	Inconsistency	Indirectness	Imprecision	Quality
Poor school attendance score: assessed using a subscale of the Health of the Nations Outcome Scale for Children and Adolescents								
1 (Klag 2010)	Uncontrolled before and after study	249	MD -0.54 (-0.29 to -0.79)	Very serious ²	N/A	Serious ³	Not Serious	Very low
<p>1. Calculated using percentages reported in study</p> <p>2. Downgrade 2 levels for very serious risk of bias: Participants were only matched for gender, age, and type of abuse. However, there are several other relevant factors e.g. behaviour, special education needs, and mental health problems; Unclear if intervention had already begun at the start of observation period. Children still in advocate system may be those with more stable placements. Therefore, starting observation midway through the treatment may ignore those who received treatment with worse outcomes; Unclear how often advocates met with youth, or the placement types of those youth. Treatment children received double the amount of counselling, possibly as a direct result of the intervention but this is not clear; Unclear level of interaction youth had with the advocate. Only assignment of treatment tested. Unclear if deviations from intended intervention, however, drop out was high; By year 2, there was a 10-15% loss to follow up. Also, there was substantial missing data which was >50% in some cases. Unclear reasons for missing data and how reasons differed between groups; Interviewers were the advocates (the treatment givers) in the intervention group. Therefore, different personnel were used to carry out interviews for different comparison groups. "Not all measures were administered to all children" but no further information provided.</p> <p>3. Downgrade 1 level for serious indirectness since study was based in Australia</p>								

Qualitative evidence

Experience of foster carers regarding paired reading (Forsman 2017)

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
Getting carers involved in the intervention – a question of attitude? - active involvement of foster carers - One rationale for using paired reading with children in out-of-home care is that the method actively involves foster parents in the reading process. As indicated by the	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
<p>case descriptions, carers embraced this task differently. Some carers talked about reading in general as something important. Children in their care were encouraged to read and they had a positive attitude towards the project. Carers, like Linda (Sufficient, but problematic reading), were already actively involved in the education of the children in their care. They expressed an awareness of foster children's academic vulnerability and tried to prevent school failure. Such attitudes were linked to carers committing to the programme and following through – despite experiencing problems. Previous studies indicate that low expectations and lack of support from key adults are two main reasons for foster children's educational underperformance, but as one carer stated: "These children should have the same opportunities to succeed in school as other children have. We should have the same expectations on them. They are able and we should not pity them or think any less of them, but this might not come natural for everyone. I think that a project like this could be helpful in that respect." (Sufficient reading)</p>						
<p>Being a part of the project meant that carers could become aware of the importance of foster children's school performance - Knowing that good literacy skills are crucial for managing school became a motivational factor to get engaged. Carers, who had not previously been involved in their child's education and reading, were provided with a tool to become active supporters: "I guess you could say that we were aware of him having problems in school, and we were happy that we had been chosen to be a part of the project. Without it we would probably not have sat down to read with him. (Sufficient, but problematic reading) When practicing paired reading, carers would learn more about their children's needs. Receiving feedback on the literacy tests the children did as a part of the pre/post-evaluation had a similar effect. As in the case of foster mother Julia</p>	1	<p>Mild concerns Study was moderate risk of bias. No apparent validation of methods.</p>	No concerns	<p>Serious concerns Only one study contributed to this theme.</p>	<p>No concerns Study was not UK-based</p>	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
(Sufficient reading), further insights about the children's abilities and needs could enhance the engagement. Some had continued to use paired reading or wanted to try it with other children.						
Opportunity to spend more time with the child - Another reason for carers to get involved was linked to seeing an opportunity to spend more time with the child, as in the case of foster mother Anita (Dropout). For these carers the intervention meant that they could spend 'quality time' together. This relational aspect seemed to be a motivational factor for carers in all participant groups. According to some carers, the intervention had improved their relations with the child.	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
Barriers - not needed, beyond the area of responsibility, feeling forced, - There were also examples of carers who had a more or less explicitly negative attitude towards the intervention. As with the case of foster father Martin (Insufficient reading), this could be due to not experiencing that the child was in need of any reading training. Additionally, some carers felt as if the intervention went beyond their area of responsibility: "I feel like we already have a pretty, ehm, foster children have a lot to deal with and then this becomes another liability for us . . . Perhaps it could be something that they can do in school or something that the libraries could take responsibility for." (Insufficient reading) Although participation was said to be voluntarily, one carer even felt as if she was forced. She talked about the intervention in negative terms, and felt a big relief when it ended. It is possible that a negative attitude could come from carers' own school experiences and reading habits. Not all carers seemed to regard reading as something important. This could potentially make it more difficult to get involved. Either way, a negative attitude was clearly associated with reduced programme compliance, compared with those who saw relational benefits or talked about the importance of reading or succeeding in school.	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	Mild concerns There were several barriers listed which may not have been reflected across all participants, or were not related.	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
Integrating the reading training in the everyday life – motivating and prioritizing - The carers who participated in the project took on the task of reading with their foster children on a regular weekly basis. Although the majority complied with the programme, the interviews showed that it could be difficult to integrate the reading training in the everyday life. The key to success seemed to be working with the child's motivation and prioritizing the reading sessions. Some carers meant that having many children to care for made it difficult to find the time: "We already have a tight schedule and since we're so many, there are so many things that need to work out. Our everyday life is planned in detail with meals, dropping off and picking the children up, school work and so on." (Insufficient reading) Others had the same situation but managed anyway, as in the case of foster mother Julia (Sufficient reading). Carers who were used to reading with or helping children with homework were more successful in finding the time. For them, engaging in this intervention was not radically different from what they already did in their daily life with the children. Moreover, their positive attitude towards the project made them prioritize the reading. But the intervention also had to fit within the children's everyday life. As indicated by the case descriptions, carers meant that the reading sessions competed with activities such as sports, watching TV and hanging out with friends: "Other activities were more appealing. You have to motivate them, but it's not always that easy. They did not want to read, and you can't force them into doing this." (Sufficient, but problematic reading)	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
Overcoming reluctance - Some children were reluctant to read, and the carer above makes a point about motivating the children. A period of 16 weeks was described as long, and it turned out to be difficult to keep up the motivation throughout the whole project. Some carers thought that it could have been easier motivating the	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
children had the intervention lasted a shorter time. Others meant that children do not have to enjoy it at all times. When it comes to homework or attending school, children will sometimes resist, and the same goes for paired reading. The responsibility to making it work lies on the carers: "It's on us as adults to make sure that this goes well . . . I think that it's beneficial if the adult is positive, because your attitude will be reflected on the children. Perseverance does it! I think that it's on us to communicate this to the children." (Sufficient reading)						
Use of rewards to motivate, but better motivation was using books that children were excited to read - At times, giving stickers or using bribes could be facilitating. As in the case of foster mother Linda and her boy Yusef (Sufficient, but problematic reading), children could be motivated to read more when they themselves noticed progress. However, the actual key in motivating the child and making the intervention work seemed to be making the reading session into an enjoyable activity. If the children got to read books or other reading material that excited them, it could be something to long for: "It was not like they thought it was bothersome to read – quite the opposite! They longed for it. They chose their own books, books they found exciting, so they wanted to know how the plot would unfold." (Sufficient reading) Carers like Julia (Sufficient reading) would try to make the reading sessions cosy. Having the one to one time could be important for both children and carers: "He thought that this way of reading was so nice and wanted me to read with him at all times. I think that it was special for him to get close to me, to spend time with me and to get my full attention." (Sufficient reading).	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
Challenge of choosing appropriate reading material - However, choosing appropriate reading material could be rather challenging. As in the case of foster father Martin (Insufficient reading), choosing	1	Mild concerns Study was moderate risk of bias. No	No concerns	Serious concerns	No concerns	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
wrong books made it difficult to motivate the child. Another carer who had experienced difficulties motivating her children explained that the releasing point for them was when they dropped the books and instead read the IKEA catalogue.		apparent validation of methods.		Only one study contributed to this theme.	Study was not UK-based	
Flexible approach - Making the reading training enjoyable also involved being sensitive to the child and adapt a flexible approach when delivering the intervention. If a child at one time did not want to read the full 20 min, carers could make them read less and try to catch up at another time. Having a rigid approach made it even more difficult to motivate children who were not used to read in their everyday life. At times of carer/child conflicts, a flexible approach could also involve having someone else reading with the child. Having more than one person reading with the child could make both siblings and the extended family involved in a positive way.	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
Practicing the paired reading method - a great or disturbing way of reading? - According to interviewees' responses, this was a new and unfamiliar way of reading. Some were enthusiastic about the method, thinking it was great, and noticing its positive effect on their child's reading. In contrast, others found it disturbing. In the weekly monitoring sheets, reading aloud together and/or correcting the child were described as frustrating factors that affected the reading in a negative sense. During the interviews, this sentiment was echoed repeatedly and further explained through statements such as: "I think that reading aloud together, it was not okay. It ruins the concentration, so I can understand that she didn't like it either . . . She got really irritated when I corrected her. The first couple of times it was okay, but when I continued she said 'Stop it! You're spoiling my reading'." (Insufficient reading)	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	Minor concerns Some contradiction as to whether the paired reading method was helpful or detrimental in every case.	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
temporary difficulties - For some the difficulties were temporary. Once they got a hold of it, carers could see benefits with this particular way of reading. As mentioned before, sitting next to each	1	Mild concerns Study was moderate risk of bias. No	No concerns	Serious concerns	No concerns	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
other and having the full focus on the child's reading could lead to new insights about their abilities and needs. Carers also experienced how paired reading, in particular reading aloud together, enabled them to model competent reading: "It was a bit tricky at first because you're not used to reading like this. But it was fun once you got a hold of it and it brought a sense of togetherness. I could actually notice a difference in his reading. He adapted to my reading speed, learned that you should make a pause at punctuation, and heard how words that he didn't know were pronounced." (Sufficient, but problematic reading)		apparent validation of methods.		Only one study contributed to this theme.	Study was not UK-based	
Difficulties that remain - However, difficulties could remain. Carers had different approaches in trying to handle this. Some were inflexible in their approach and practiced the method in a manual-based way, which made the reading problematic. Insisting on reading in a way that did not suit the child would make the reading training less enjoyable and often lead to conflicts. As in the case of foster mother Anita (Dropout), this could ultimately lead to a dropout. With help from the special education pedagogue, foster mother Linda (Sufficient, but problematic reading), on the other hand, adapted the method to the child's preferences, and thus made the reading training more enjoyable. Having a flexible approach and adapting the day-to-day delivery of the intervention was in some cases essential in order for the reading training to work at all. One carer succinctly stated: "She was the one doing all the reading. We just followed along and only intervened if it was 'going to pot'. You have to adapt to her conditions and the situation we had with her otherwise she gets annoyed and the reading will fail." (Sufficient reading)	1	Mild concerns Study was moderate risk of bias. No apparent validation of methods.	No concerns	Serious concerns Only one study contributed to this theme.	No concerns Study was not UK-based	Very Low
Independent reading, following not leading - According to the carers, some children wanted to read alone all the time. For others it could take weeks before the child became confident enough to	1	Mild concerns Study was moderate risk of bias. No	No concerns	Serious concerns	No concerns	Very Low

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
take on the independent reading. This could be frustrating. One carer told how she was advised not to push the child despite this. She let the child be in charge of the reading and afterwards she thought that this was a key factor for the improved self-confidence that she later on noticed in the boy's reading. One can assume that some children might need encouragement to read by themselves. Either way, judging from the carers' experiences, it looks as if it is better to adopt a strategy of following and not leading the child.		apparent validation of methods.		Only one study contributed to this theme.	Study was not UK-based	

Experience of looked after children and foster carers regarding the Letterbox intervention (Griffiths 2012)

Theme	Studies	Methodological limitations	Coherence	Adequacy	Relevance	Confidence
Encouragement to learn: "many carers and children did feel that receiving the materials had provided important additional support and encouragement to learn. For example, the carer of a boy aged 8 wrote, "The parcels have played a big part in Hamza becoming more enthusiastic about reading. Even made him keen to bring home school books". "Mr Quinn [my teacher] done a test on us today and I got twenty out of twenty on it. Because I answered all twenty of them right, because I've been playing the maths games and it's helped me with my adding up".	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Receiving personalised packages created the sense of being important and that someone was interested in them: "It may not seem a lot, but when you've not had much attention in your life, it is." Children clearly felt they could make decisions themselves about what to do with the materials, and were usually keen to share them: "Jake felt rather special as he loved the postman delivering the parcel for himself each month. He enjoyed getting everyone together and playing with his games and reading his books". The bright envelope was important to many: "Brandon watches the post and can immediately identify 'his' package." Many children told us they kept each envelope, "because it has my name on".	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Enthusiasm maintained for the parcels: Children who had been in Letterbox Club before were still very enthusiastic when they were members again. One carer said that her foster daughter had had the Red parcels eighteen months before, and when her first Green parcel came she "just ripped it straight open. Excited and straight into it!" Her foster daughter said, "It's a great thing and it makes you feel a bit happier ... To get the parcels, it'll take a lot of money to put together for people, but it makes people happy".	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low

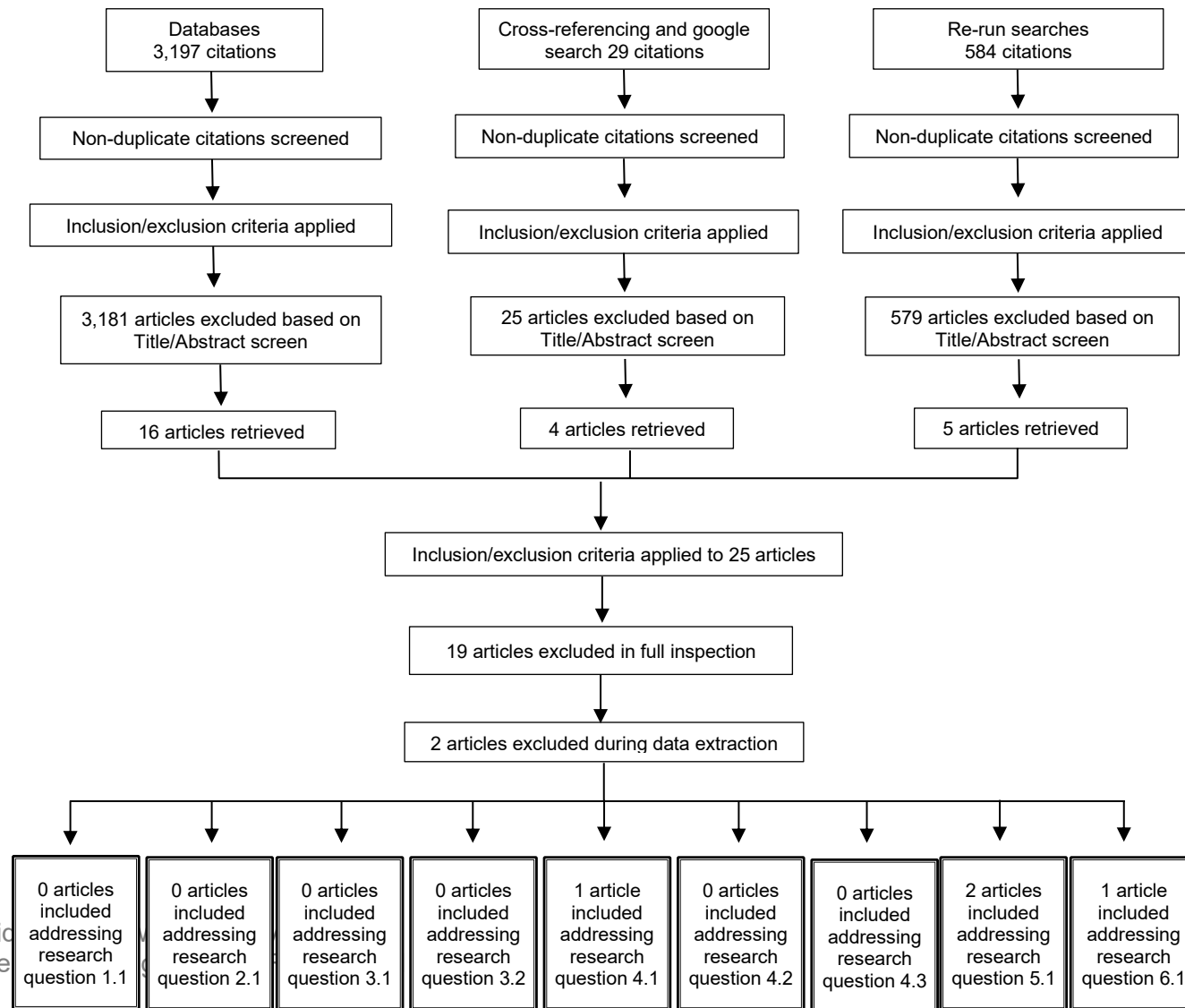
Source of continuity: The fact that the parcels followed placements was important: The fact that the parcel is delivered to the child's home address was particularly important to children who had moved recently or frequently. One boy (aged 9) in the earlier pilot had expressed this very poignantly: "So somebody knows where I live?" The foster mother of a girl aged 10 who had moved three times in a year, said, "The Letterbox Club was the continuity, something that stayed the same when she moved from A to B. She'd had so many ups and downs and I think something like that, that stays the same, is quite important to children and it was very important to Kelly." A carer with two foster daughters aged 11 confirmed this: "They love just getting the parcels and that was important to them, especially when they hadn't been here very long, it was like 'somebody from the outside knows I'm here'."	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Useful for under resourced foster homes: Some foster homes had comparatively few books suitable for the children they cared for, so the Letterbox Club parcels were a valuable resource.	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Something to call their own: Even where foster families were already well-provided, many carers commented that a critical element in gaining children's interest was that the Letterbox books were their own. For example, the carer of a boy aged 9 said, "We've got a cupboard absolutely full of books, but he never paid them any attention at all, so it was nice that these came just for him." Similarly, Katie's foster mother wrote: "The books she has received we've often got already, being a 'bookish' house, but none the less she enjoys the parcels and it gets her to read old favourites again".	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low

<p>Being part of a club: Lewis, aged 8, told us: “It was good fun because I've never been in a club before”. The aspect of being a member of a club seemed to have encouraged many children to tell their teacher at school about the books and games they had received. Perhaps “I'm a member of a club” provides a simpler, less problematic explanation than the more emotional “I'm getting books and games because I'm in care”. Elements in the parcels that emphasised ‘being in a club’ (all marked with a Letterbox Club logo) were consistently popular, including personalised sticky labels with “This book belongs to...” and the child's name printed on them.</p>	1	<p>Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>	No concerns	<p>Serious concerns Only one study contributed to this theme</p>	<p>No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010</p>	Very Low
<p>Children liked the element of surprise, not knowing what books they might get, and carers, too, commented that this broadened the range of books their children used. Many foster carers said that they looked forward to the parcels arriving as much as the children. For example, the foster mother of Janie, aged 8, wrote, “Everything in the parcels was excellent, but the Diary of a Killer Cat was superb and the CD is used in the car all the time – I love it, too!! Hope we can have more parcels one day.”</p>	1	<p>Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>	No concerns	<p>Serious concerns Only one study contributed to this theme</p>	<p>No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010</p>	Very Low
<p>Relationship building aspect of Letterbox: Children enjoyed Where's Wally? (published as Where's Waldo? in North America) for its social qualities – one carer of a girl aged 8 wrote, “We all had a go at Where's Wally? – even the teenagers wanted to have a go.” There were many reports of children reading to each other, and asking others (both adults and children) to read to them. For example, Kyle, aged 12, told us he read excerpts from the Guinness Book of World Records to his younger brother: “I'd show him stuff that was a bit weird and stuff. Like the dog with the longest tongue”. The majority of carers (over 80%) indicated that the parcels had helped them do more with the child. Many foster carers commented on the value of the materials in helping them make better attachments with their children. The carer of Marley, aged 10, wrote, “Found it a great way to bond with my daughter”, and the</p>	1	<p>Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.</p>	No concerns	<p>Serious concerns Only one study contributed to this theme</p>	<p>No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010</p>	Very Low

carer of Danny, aged 9, said, “He has had fun, and we have spent a lot of time together because of Letterbox Club.” Cadey was 11, and his foster carer wrote, “He is still a reluctant reader, but the books give us an opportunity to spend time together”. The carer of another 11 year old said, “It’s nice to have something to do with Jamie, where he doesn’t feel I’m forcing my attentions on him. He finds it very hard to be close to anyone, but he’s been keen to be read to and to play the games he’s made. It’s made me feel more comfortable with him”.						
New ways of reading (audio): At least one parcel in each age range included a story on CD with its accompanying book. Many carers commented that they had not previously thought of using audio stories with their foster child, but said they were often used at bedtime or on car journeys. The carer of Damon (aged 11) said, “He’s of an age where he wouldn’t appreciate a bedtime story from me, but he listened to the CD at bedtime” and another, with a foster son aged 8, wrote, “Best gift ever... He never seems to get enough of it”.	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Variety in the packages was helpful: Foster carers commented favourably on every genre of books in the parcels – one foster father said, “Poetry, I’d never have thought of that, but it’s great!” Non-fiction was similarly praised by foster carers: “I’ve learnt such a lot”. Classic books, where many foster carers would already know the story, were welcomed: for example, when Danny, aged 10, received The Silver Sword, he said, “my [foster] dad knows this story, he read it when he was at school”.	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or how thematic analysis was performed. No apparent validation of findings.	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely that qualitative data was collected prior to 2010	Very Low
Encouraging education in a non-threatening way: providing educational support in a nonthreatening and enjoyable way could contribute to improving the stability of foster care placements. Certainly, the parcels raised the profile of educational activity amongst children and adults in many of the participating families,	1	Moderate concerns Study was high risk of bias. It was unclear how participants were selected. Unclear interview methods or	No concerns	Serious concerns Only one study contributed to this theme	No concerns Study was UK-based however, it was likely	Very Low

<p>and for some children it seemed to have begun a 'virtuous circle' of improved engagement at school and improved feelings of well-being in the child, with consequent feelings of relief and positive engagement for the foster carer. As Kezia (aged 12) said, "When you come home [from school], you're not expected to read or write, are you! Cause it's sort of your spare time. But because I got the Letterbox Club, I did sometimes read or write at home, and it helped me at school because I was prepared to do it at school." Her foster mother's pleasure at the improvement in Kezia's attitude to school was evident when she was interviewed.</p>		<p>how thematic analysis was performed. No apparent validation of findings.</p>			<p>that qualitative data was collected prior to 2010</p>	
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Appendix G – Economic evidence study selection



NICE looked-after children and young people (update): evidence to support learning needs for school-aged looked-after children (2021)

Appendix H – Economic evidence tables

No economic evidence was identified for this review question.

Appendix I – Health economic model

No economic modelling was undertaken for this review question.

Appendix J – Excluded studies

Effectiveness studies

Study	Code [Reason]
(2010) Sharing Data between Child Welfare and Education to Improve Outcomes for Children and Youth in the Foster Care System. Policy Brief. Center for the Future of Teaching and Learning: 1-4	- Not a peer-reviewed publication
Bastiaanssen, Inge L. W, Delsing, Marc J. M. H, Geijssen, Luuk et al. (2014) Observations of group care worker-child interaction in residential youth care: Pedagogical interventions and child behavior.. Child & Youth Care Forum 43(2): 227-241	- Study does not contain a relevant intervention
Bean, Pamela, White, Ladd, Neagle, Lee et al. (2005) Is residential care an effective approach for treating adolescents with co-occurring substance abuse and mental health diagnoses?. Best Practices in Mental Health: An International Journal 1(2): 50-60	No indication that this population is looked after
Berridge, David (2017) The education of children in care: Agency and resilience.. Children and Youth Services Review 77: 86-93	To be considered for inclusion under a different review question: - RQ4.4
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	No indication that this population is looked after
Clemens, Elysia V, Klopfenstein, Kristin, Lalonde, Trent L et al. (2018) The effects of placement and school stability on academic growth trajectories of students in foster care.. Children and Youth Services Review 87: 86-94	- Not an investigation of an intervention

Study	Code [Reason]
Crosby, Shantel D, Somers, Cheryl L, Day, Angelique G et al. (2017) Examining school attachment, social support, and trauma symptomatology among court-involved, female students.. Journal of Child and Family Studies 26(9): 2539-2546	- Not an investigation of an intervention
Denecheau B. (2011) Children in residential care and school engagement or school 'dropout': What makes the difference in terms of policies and practices in England and France?. Emotional and Behavioural Difficulties 16(3): 277-287	-To be considered for inclusion under a different review question: - RQ4.4
Dickinson, Janet and Miller, Mandy (2002) Complex Learning Difficulties and EBD. Emotional and Behavioural Difficulties 7(4): 197-206	- Intervention description/practice report
Durbeej, Natalie and Hellner, Clara (2017) Improving school performance among Swedish foster children: A quasi-experimental study exploring outcomes of the Skolfam model.. Children and Youth Services Review 82: 466-476	-Intervention describes the use of an education plan with a multidisciplinary team (covered by statutory care but check with committee) -Not included under this question since uncontrolled before and after study Also, to be considered for inclusion under a different review question: - RQ2.1 - RQ3.2
Dymoke, Sue and Griffiths, Rose (2010) The Letterbox Club: The impact on looked-after children and their carers of a national project aimed at raising achievements in literacy for children aged 7 to 11 in foster care.. Journal of Research in Special Educational Needs 10(1): 52-60	-To be considered for inclusion under a different review question: - RQ4.4

Study	Code [Reason]
Ennis, Robin Parks, Jolivette, Kristine, Boden, Lauren J et al. (2013) STOP and DARE: Self-regulated strategy development for persuasive writing with elementary students with E/BD in a residential facility.. Education & Treatment of Children 36(3): 81-99	-No indication that this population is looked after
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, checked for relevant citations
Feuerstein R., Rand Y., Hoffman M. et al. (2004) Cognitive modifiability in retarded adolescents: Effects of Instrumental Enrichment. Pediatric Rehabilitation 7(1): 20-29	-Unclear that adolescents are looked after (study refers to their parents and number of children per family) - Non-UK setting (Israel)
Finn, Jerry and Kerman, Ben (2004) Internet Risks for Foster Families Online.. Journal of Technology in Human Services 22(4): 21-38	- Study does not contain a relevant intervention (Ruled out by committee as not being an intervention of interest: providing internet access to foster families) - Non-UK setting
Finn, Jerry, Kerman, Ben, LeCornec, Juliette et al. (2005) Reducing the Digital Divide for Children in Foster Care: First-Year Evaluation of the Building Skills-Building Futures Program.. Research on Social Work Practice 15(6): 470-480	- Study does not contain a relevant intervention (Ruled out by committee as not being an intervention of interest: providing internet access to foster families) - Non-UK setting
FLETCHER-CAMPBELL Felicity (2001) Issues of inclusion. Emotional and Behavioural Difficulties 6(2): 69-89	- Qualitative study published prior to 2010

Study	Code [Reason]
	(original qualitative data collected and published prior to 2000; also no methods described)
Fox, Paul and Avramidis, Elias (2003) An evaluation of an outdoor education programme for students with emotional and behavioural difficulties.. Emotional & Behavioural Difficulties 8(4): 267-283	-To be considered for inclusion under a different review question: - RQ4.4
Francis, Yvonne J, Bennion, Kim, Humrich, Sarah et al. (2017) Evaluating the outcomes of a school based Theraplay project for looked after children.. Educational Psychology in Practice 33(3): 308-322	-To be considered for inclusion under a different review question
Gairal-Casado, Regina, Garcia-Yeste, Carme, Novo-Molinero, Maria Teresa et al. (2019) Out of school learning scientific workshops: Stimulating institutionalized Adolescents' educational aspirations. Children and Youth Services Review 103: 116-126	- non-UK qualitative study
Griffiths, Rose (2012) The Letterbox Club: An account of a postal club to raise the achievement of children aged 7 to 13 in foster care.. Children and Youth Services Review 34(6): 1101-1106	- Quantitative data incomplete (no measure of spread or statistical significance of difference) -To be considered for inclusion under a different review question: - RQ4.4
Hooper, S R, Murphy, J, Devaney, A et al. (2000) Ecological outcomes of adolescents in a psychoeducational residential treatment facility.. The American journal of orthopsychiatry 70(4): 491-500	- Unclear that population are LACYP
HOPKINS Graham (2003) It all clicks into place. Community Care 61103: 42-43	- Not a peer-reviewed publication

Study	Code [Reason]
HOPKINS Graham (2003) Small steps, giant leaps. Community Care 131103: 42-43	- Not a peer-reviewed publication
Horwitz, S M; Owens, P; Simms, M D (2000) Specialized assessments for children in foster care.. Pediatrics 106(1pt1): 59-66	-To be considered for inclusion under a different review question: - RQ3.1
ICF Consulting Services; Arad Research; Cardiff University (2019) Evaluation of the implementation of the Pupil Development Grant for Looked after Children: final report (Welsh Government social research no 1/2019).: 154	- Not an intervention of interest (Descriptive study of grant and its spending on various interventions)
ISRCTN19090228 (2017) Confidence in Care Evaluation. Http://www.who.int/trialsearch/trial2.aspx?Trialid=isrctn19090228	- RCT protocol
JAY Matthew, A. and McGRATH-LONE, Louise (2019) Educational outcomes of children in contact with social care in England: a systematic review. Systematic reviews 8(155)	- Systematic review
Johnson, Sara B; Pryce, Julia M; Martinovich, Zoran (2011) The role of therapeutic mentoring in enhancing outcomes for youth in foster care.. Child welfare 90(5): 51-69	-No outcomes of interest to this review question
Kim, Hyoun K and Leve, Leslie D (2011) Substance use and delinquency among middle school girls in foster care: a three-year follow-up of a randomized controlled trial.. Journal of consulting and clinical psychology 79(6): 740-50	-No outcomes of interest to this review question
LARZELERE Robert E. and et al (2001) Outcomes of residential treatment: a study of the adolescent clients of girls and boys town. Child and Youth Care Forum 30(3): 175-185	-No outcomes of interest to this review question

Study	Code [Reason]
Larzelere, Robert E, Daly, Daniel L, Davis, Jerry L et al. (2004) Outcome Evaluation of Girls and Boys Town's Family Home Program.. Education and Treatment of Children 27(2): 130-149	- Data not reported in an extractable format
Lee, Kyunghye (2016) Head Start's impact on cognitive outcomes for children in foster care.. Child Abuse Review 25(2): 128-141	-No outcomes of interest to this review question
LEWIS Helen (2000) Improving health care and health education: for looked after young people. Childrens Residential Care Unit Newsletter 13: 5-6	-No outcomes of interest to this review question
Liabo, Kristin; Gray, Kerry; Mulcahy, David (2013) A systematic review of interventions to support looked-after children in school, IN Child and Family Social Work, Vol 18 No 3 Aug 2013.	-Systematic review, considered for relevant references
Lin, Ching-Hsuan (2014) Evaluating services for kinship care families: A systematic review.. Children and Youth Services Review 36: 32-41	-Systematic review, considered for relevant references
Littlewood, Kerry A, Strozier, Anne L, Whittington, Danielle et al. (2014) Kin as Teachers: An early childhood education and support intervention for kinship families.. Children and Youth Services Review 38: 1-9	- No outcome of interest reported <i>[Surrogate outcomes: e.g. parents knowledge of development and home environment]</i>
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
McMillen J.C., Narendorf S.C., Robinson D. et al. (2015) Development and piloting of a treatment foster care program for older youth with psychiatric problems. Child and Adolescent Psychiatry and Mental Health 9(1): 23	-No outcomes of interest to this review question

Study	Code [Reason]
Melius, Patience, Swoszowski, Nicole Cain, Siders, Jim et al. (2015) Developing peer led check-in/check-out: A peer-mentoring program for children in residential care.. Residential Treatment for Children & Youth 32(1): 58-79	-No outcomes of interest to this review question
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
NCT00056303 (2003) Mental Health Services for Foster and Adopted Children. https://clinicaltrials.gov/show/nct00056303	- RCT protocol
NCT00239837 (2005) Prevention Program for Problem Behaviors in Girls in Foster Care. https://clinicaltrials.gov/show/nct00239837	- RCT protocol
NCT00701194 (2008) Early Intervention Foster Care: a Prevention Trial. https://clinicaltrials.gov/show/nct00701194	- RCT protocol
NCT00810056 (2008) Fostering Healthy Futures Efficacy Trial for Preadolescent Youth in Foster Care. https://clinicaltrials.gov/show/nct00810056	- RCT protocol
NCT02037750 (2014) Foster Teens' Risk During Transition. https://clinicaltrials.gov/show/nct02037750	- RCT protocol
NCT02113085 (2012) My Life: evaluation of Self-determination Enhancement for Adolescents in Foster Care. https://clinicaltrials.gov/show/nct02113085	- RCT protocol
NCT02217072 (2014) Educational Support Interventions for Children in Care. https://clinicaltrials.gov/show/nct02217072	- RCT protocol

Study	Code [Reason]
NCT04027257 (2019) Sit Together and Read (STAR): a Pilot Study of Children and Their Kinship Caregivers. https://clinicaltrials.gov/show/NCT04027257	- RCT trial registry
NELSON Justine G.; GIBSON Priscilla A.; BAUER Jean W. (2010) Kinship care and "child-only" welfare grants: low participation despite potential benefits. <i>Journal of Family Social Work</i> 13(1): 3-24	- Not an investigation of an intervention
Nilsen, Wendy (2007) Fostering futures: a preventive intervention program for school-age children in foster care.. <i>Clinical child psychology and psychiatry</i> 12(1): 45-63	-No outcomes of interest to this review question
Noam G.G. and Hermann C.A. (2002) Where education and mental health meet: Developmental prevention and early intervention in schools. <i>Development and Psychopathology</i> 14(4): 861-875	- Intervention description/practice report
O'Higgins, Aoife; Ott, Eleanor Marie; Shea, Michael William (2018) What is the Impact of Placement Type on Educational and Health Outcomes of Unaccompanied Refugee Minors? A Systematic Review of the Evidence.. <i>Clinical child and family psychology review</i> 21(3): 354-365	-Systematic review, considered for relevant references
Osei, Gershon K, Gorey, Kevin M, Hernandez Jozefowicz, Debra M et al. (2016) Delinquency and crime prevention: Overview of research comparing treatment foster care and group care.. <i>Child & Youth Care Forum</i> 45(1): 33-46	-Systematic review, considered for relevant references
Pandya, Samta P (2018) Spirituality for wellbeing of bereaved children in residential care: Insights for spiritually sensitive child-centred social work across country contexts.. <i>Child & Adolescent Social Work Journal</i> 35(2): 181-195	- Non-OECD country <i>[Some participants from US and Canada but majority from non-OECD and results not stratified]</i>

Study	Code [Reason]
Panerai, Simonetta, Zingale, Marinella, Trubia, Grazia et al. (2009) Special education versus inclusive education: the role of the TEACCH program.. Journal of autism and developmental disorders 39(6): 874-82	- Unclear that population are LACYP - Unclear that population are LACYP
Parker, Elisabeth (2017) An actor-network theory reading of change for children in public care.. British Educational Research Journal 43(1): 151-167	-No outcomes of interest to this review question
Petit Zeman S (2000) Healing the scars of war. TIMES EDUCATIONAL SUPPLEMENT: 26-27	- Not a relevant study design <i>[magazine article]</i>
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 to this review question
Preyde, M., Frensch, K., Cameron, G. et al. (2011) Long-Term Outcomes of Children and Youth Accessing Residential or Intensive Home-Based Treatment: Three Year Follow up. Journal of Child and Family Studies 20(5): 660-668	- Unclear that population are LACYP <i>[No subgroup analysis for LACYP]</i>
Preyde, Michele, Adams, Gerald, Cameron, Gary et al. (2009) Outcomes of Children Participating in Mental Health Residential and Intensive Family Services: Preliminary Findings. Residential Treatment for Children & Youth 26(1): 1-20	- Unclear that population are LACYP <i>[No subgroup analysis for children in care]</i>
Riitano D. and Pearson A. (2014) The effectiveness of interventions designed to improve academic outcomes in children and adolescents in out-of-home care: A systematic review protocol. JBI Database of Systematic Reviews and Implementation Reports 12(1): 13-22	- Not a relevant study design

Study	Code [Reason]
Ringle, Jay L, Thompson, Ronald W, Way, Mona et al. (2015) Reunifying families after an out-of-home residential stay: Evaluation of a blended intervention.. Journal of Child and Family Studies 24(7): 2079-2087	-No outcomes of interest to this review question
Roberts, Jennifer, Winter, Karen, Connolly, Paul et al. (2017) The Letterbox Club book gifting intervention: Findings from a qualitative evaluation accompanying a randomised controlled trial.. Children and Youth Services Review 73: 467-473	-No outcomes of interest to this review question
Rogers, Anita and Henkin, Nancy (2000) School-based interventions for children in kinship care.. Grandparents raising grandchildren: Theoretical, empirical, and clinical perspectives.: 221-238	- Data not reported in an extractable format <i>[No evaluation data provided]</i>
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”
Shoham, Edna and Shiloah, Neomi (2001) The project for the education of Israeli children in the kibbutz movement.. Child & Youth Services 22(12): 37-53	- no methods described
Sloan, Frank A, Gifford, Elizabeth J, Eldred, Lindsey M et al. (2013) Do specialty courts achieve better outcomes for children in foster care than general courts?.. Evaluation review 37(1): 3-34	-No outcomes of interest to this review question
Soenen, Bram, Goethals, Ilse, Spriet, Eline et al. (2009) Effects of the combination of life space crisis interventions and a level system at the therapeutic treatment centre 'Heynsdaele'-A special school and home for youth with behavioural and emotional problems.. Therapeutic Communities 30(2): 200-216	- Unclear that population are LACYP

Study	Code [Reason]
Soenen, Bram, Volckaert, Annelies, D'Oosterlinck, Franky et al. (2014) The implementation of life space crisis intervention in residential care and special education for children and adolescents with EBD: an effect study.. The Psychiatric quarterly 85(3): 267-84	<ul style="list-style-type: none"> - Unclear that these were looked after children (focus on emotional and behavioural disorders) - Non-UK, interrupted time series study. --No outcomes of interest to this review question
STATHART Chloe (2011) Read all about it. Community Care 130111: 20-21	<ul style="list-style-type: none"> - Not a relevant study design <p><i>[editorial (not a research paper)]</i></p>
Strozier, Anne L, Elrod, Brent, Beiler, Pam et al. (2004) Developing a network of support for relative caregivers.. Children and Youth Services Review 26(7): 641-656	<ul style="list-style-type: none"> -No outcomes of interest to this review question
Taussig, Heather N and Culhane, Sara E (2010) Impact of a mentoring and skills group program on mental health outcomes for maltreated children in foster care.. Archives of pediatrics & adolescent medicine 164(8): 739-46	<ul style="list-style-type: none"> -No outcomes of interest to this review question
Taussig, Heather N, Culhane, Sara E, Garrido, Edward et al. (2013) Does severity of physical neglect moderate the impact of an efficacious preventive intervention for maltreated children in foster care?.. Child maltreatment 18(1): 56-64	<ul style="list-style-type: none"> - Data not reported in an extractable format <p><i>[Analysis to find a moderating effect of a subgroup not listed in the protocol on intervention effects. No raw data presented.]</i></p>
Taussig, Heather N; Culhane, Sara E; Hettleman, Daniel (2007) Fostering healthy futures: an innovative preventive intervention for preadolescent youth in out-of-home care.. Child welfare 86(5): 113-31	<ul style="list-style-type: none"> - Not a relevant study design <p><i>[RCT protocol]</i></p>

Study	Code [Reason]
Taussig, Heather N, Culhane, Sara E, Raviv, Tali et al. (2010) Mentoring Children in Foster Care: Impact on Graduate Student Mentors.. Educational horizons 89(1): 17-32	- No outcome of interest reported <i>[Not foster children related outcomes]</i>
Taussig, Heather, Weiler, Lindsey, Rhodes, Tara et al. (2015) Fostering healthy futures for teens: Adaptation of an evidence-based program.. Journal of the Society for Social Work and Research 6(4): 617-642	- No outcome of interest reported <i>[Acceptability outcomes]</i> - Survey extracted views (not true qualitative)
TIDEMAN Eva and et al (2011) Improving foster children's school achievements - promising results from a Swedish intensive study. Adoption and Fostering 35(1): 44-56	Excluded under this review question as non-UK uncontrolled before-and-after study and comparative evidence was available --No outcomes of interest to this review question
TORDON Rikard; VINNERLJUNG Bo; AXELSSON Ulla (2014) Improving foster children's school performance: a replication of the Helsingborg study. Adoption and Fostering 38(1): 37-48	Excluded under this review question as non-UK uncontrolled before-and-after study and comparative evidence was available
Tordon, Rikard, Bladh, Marie, Sydsjo, Gunilla et al. (2020) Improved Intelligence, Literacy and Mathematic Skills Following School-Based Intervention for Children in Foster Care. Frontiers in psychology 11: 718	- non-UK qualitative before and after study
Trout, Alexandra L, Lambert, Matthew C, Epstein, Michael H et al. (2013) Comparison of On the Way Home aftercare supports to traditional care following discharge from a residential setting: a pilot randomized controlled trial.. Child welfare 92(3): 27-45	-No outcomes of interest to this review question

Study	Code [Reason]
Tyler, Patrick M, Thompson, Ronald W, Trout, Alexandra L et al. (2017) Important elements of aftercare services for youth departing group homes.. Journal of Child and Family Studies 26(6): 1603-1613	- Survey extracted views (not true qualitative study)
Tyre, Ashli D (2012) Educational supports for middle school youths involved in the foster care system.. Children & Schools 34(4): 231-238	<ul style="list-style-type: none"> - Non-UK setting -Unclear that all students were looked after at the time of intervention - Excluded under this review question as non-UK uncontrolled before-and-after study and better-quality evidence was available
Tyrer, Rebecca A and Fazel, Mina (2014) School and community-based interventions for refugee and asylum seeking children: a systematic review.. PloS one 9(2): e89359	-Systematic review, checked for relevant citations
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
VINNERLJUNG Bo and et al (2014) Paired Reading for foster children: results from a Swedish replication of an English literacy intervention. Adoption and Fostering 38(4): 361-373	<ul style="list-style-type: none"> - Not a relevant study design [Excluded under review question 4.2 since this was a non-UK-based uncontrolled before-and-after study, and comparative evidence was available]
WASHINGTON Gregory and et al (2007) African-American boys in relative care and a culturally centered group mentoring approach. Social Work with Groups 30(1): 45-69	- No outcome of interest reported

Study	Code [Reason]
WEINBERG Lois A.; OSHIRO Michael; SHEA Nancy M. (2014) Education liaisons work to improve educational outcomes of foster youth: A mixed methods case study. <i>Children and Youth Services Review</i> 41: 45-52	<ul style="list-style-type: none"> - Study does not contain a relevant intervention [Excluded under review question 4.2 and 4.4 since educational liaisons are not an intervention of interest - and are statutory in the UK] - Non-UK setting, uncontrolled study
Weis, Robert; Wilson, Nicole L; Whitemarsh, Savannah M (2005) Evaluation of a voluntary, military-style residential treatment program for adolescents with academic and conduct problems.. <i>Journal of clinical child and adolescent psychology : the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53</i> 34(4): 692-705	looked after children appear to be a subset of this study with no subgroup analysis for this group
WEYTS Arabella (2004) The educational achievements of looked after children: do welfare systems make a difference to outcomes?. <i>Adoption and Fostering</i> 28(3): 7-19	<ul style="list-style-type: none"> - Not an intervention of interest [impact of welfare systems and comparison of foster and residential care]
Williams, Sarah C, Fanolis, Verba, Schamess, Gerald et al. (2001) Adapting the Pynoos school based group therapy model for use with foster children: Theoretical and process considerations.. <i>Journal of Child & Adolescent Group Therapy</i> 11(23): 57-76	--No outcomes of interest to this review question
Zetlin, Andrea G; Weinberg, Lois A; Kimm, Christina (2005) Helping social workers address the educational needs of foster children.. <i>Child abuse & neglect</i> 29(7): 811-23	<ul style="list-style-type: none"> - Not an intervention of interest [Training for social workers and access to an educational liaison - education liaisons are statutory in the UK (e.g. designated teachers and virtual school heads)] - Non-UK setting - Not LACYP specific outcomes

Study	Code [Reason]
Zetlin, Andrea, Weinberg, Lois, Kimm, Christina et al. (2004) Improving Education Outcomes for Children in Foster Care: Intervention by an Education Liaison.. Journal of Education for Students Placed at Risk 9(4): 421-429	<ul style="list-style-type: none"> - Study does not contain a relevant intervention [Advocacy by education liaison from the school system: already a statutory requirement] - Non-UK setting

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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Exclude - population not specific to LACYP

Study	Reason for exclusion
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

What is the effectiveness and cost-effectiveness of therapeutic interventions for improving learning outcomes and school attendance and reducing exclusion in educational settings?

Why this is important

Educational outcomes for looked-after children are in need of improvement. In 2017, 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. The education of looked after children can be complex as a result of the high prevalence of mental health disorders (45% in looked after children, 72% in residential care) and special educational needs (56.3%). Therapeutic strategies could be useful for improving school outcomes in such children, however there is little available evidence for therapeutic interventions reporting educational outcomes in looked after children and young people.

Rationale for research recommendation

Importance to 'patients' or the population	Looked after children are known to have poorer educational outcomes compared to those who are not looked after. This is of some concern to looked-after children and their guardians since educational outcomes are likely to impact long-term success and wellbeing.
Relevance to NICE guidance	Therapeutic interventions to improve learning outcomes have been considered in this guideline. These may be effective for some outcomes (e.g. behaviour at school), however, no evidence has shown improvements in terms of UK-relevant educational outcomes.
Relevance to the NHS, public health, social care and voluntary sectors	Looked after children are currently eligible for the government funded pupil premium. However, evidence is needed to show the most effective ways to spend this resource in order to

NICE looked-after children and young people (update): evidence reviews for interventions to support learning needs for school-aged looked-after children and young people DRAFT (April 2021)

	improve educational outcomes for looked after children and young people.
National Priorities	High: this research question is relevant to national statutory policy documents such as Promoting the education of looked-after children and previously looked-after children from the Department of Education.
Current evidence base	Two non-UK, non-randomised controlled studies were identified looking at the use of animal-assisted psychotherapy vs residential care as usual for school outcomes in looked after children with mental health problems.
Equality considerations	Looked after children with mental health problems were identified by the guideline committee as being a group of special interest in need of additional support in order to achieve educational success.

Modified PICO table

Population	Looked after children and young people (wherever they are looked after).
Intervention	Therapeutic interventions for improving learning outcomes and school attendance and exclusion in educational settings? For example, art therapy, play therapy, occupational therapy, music therapy, psychotherapy, animal-assisted psychotherapy, DDP didactic developmental psychotherapy, or therapeutic foster carer training.
Comparator	Usual care, waiting list, or another commonly used intervention designed to support readiness for school.

Outcome	UK-recognised and age-specific academic outcomes (e.g. achieving appropriate Key Stage level) Other UK-relevant educational outcomes such as homework completion and school attendance. Adverse events such as school absence, school exclusion, or suspension.
Study design	Randomised controlled trial or controlled prospective experimental study.
Timeframe	Results should include moderate-term outcomes (e.g. 6-month or middle of school term outcomes) and long-term outcomes (1-2 year follow up).
Additional information	None

Appendix L – References

Other references

None

Appendix M – Other appendix

No additional information for this review question.