SYSTEMATIC REVIEW OF PARENTING AND WHOLE-FAMILY INTERVENTIONS FOR FAMILIES WITH MULTIPLE AND COMPLEX NEEDS, AND CHILDREN AND YOUNG PEOPLE AGED 11–19 YEARS

Systematic review protocol

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Summary

Parenting and whole-family interventions encompass a range of activities and services aimed at improving parent–child interactions and overall parenting quality. These interventions often involve reshaping parenting behaviours, modelling healthy parenting strategies, and addressing behavioural issues in both adults and their children. Parenting interventions may be delivered through various formats, including group sessions and individual support, and typically combine professional feedback, skill-building, therapeutic support, and role-playing exercises. While many parenting and whole-family interventions target early childhood because of the concentration of critical periods in neurodevelopment, recent reviews suggest that parent training programmes are effective across all age groups, not just in early childhood. Adolescence is now also recognised as a second critical period for neurodevelopment, with parenting practices continuing to have an influence during this stage.

The purpose of this review is to explore the evidence on the effectiveness of different types of parenting and whole-family interventions for families with multiple and complex needs and children and young people aged 11–19. This review will explore how programmes can be effectively targeted and delivered, identify what effective practice looks like, and identify barriers and enablers to successful implementation.

The research questions for this review are:

RQ1: How effective are different types of parenting interventions in promoting positive outcomes among families with multiple and complex needs with children and young people aged 11–19 years old?

RQ2: What are the different types of parenting interventions or models, how are they defined, and which models are effective for different populations of parents, carers, and their children and young people aged 11–19 years old?

RQ3: What practice elements and intervention components are associated with successful interventions with this population of parents, carers, and their children and young people?

RQ4: What are the enablers and barriers to successful implementation of effective parenting interventions for this population of parents, carers, and their children and young people?

RQ5: What are the views of parents and carers with multiple and complex needs about the acceptability and usefulness of parenting interventions?

The review adopts a combined quantitative and qualitative approach applied across two stages, consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards. We will also incorporate a focus on equity by adhering to the equity extension for PRISMA and through an adapted equity-focused assessment of the evidence. We

will firstly map the literature to identify parenting and whole-family interventions and approaches that are underpinned by a robust evidence base, and review intervention components and theory to build an understanding of these interventions and approaches and their impacts on outcomes. Risk of bias will be assessed using RoB 2, ROBINS-I, CASP Qualitative Studies Checklist, and the Mixed Methods Appraisal Tool as required. We will examine the quantitative evidence using meta-analysis, to understand what works (direction and effect size), for whom (differential effects across PROGRESS-Plus categories), how, and why (moderator analysis of practice elements and intervention components). We will review process evaluations of parenting and whole-family interventions and approaches to understand the factors which impact upon implementation and seek qualitative research about the views of children, young people, and their parents/carers on their acceptability and usefulness in the UK context.

Contents

Part 1: Background, rationale, and question formulation

Background and overview

What are parenting interventions?

Parenting and whole-family approaches cover a spectrum of behavioural interventions aimed at engaging parents, young people and wider family members. They are defined by the World Health Organization (2022) as "a set of activities or services directed at parents/caregivers, with the objective of improving parent-child interactions and the overall quality of parenting that a child receives". A whole-family approach is a family-led strategy involving both children and their parents together. These interventions often involve reshaping parenting or caring behaviours, modelling healthy parenting strategies, addressing problematic behavioural issues (in both adults and children), supporting parents through health or mental health struggles, and generally aiming for a safe and grounded family unit for young people (Asmussen et al., 2017; National Center for Parent, Family and Community Engagement, 2015). They typically aim to improve child outcomes as well as parental wellbeing.

Parenting and whole-family approaches are delivered across various formats and may include group-based approaches or individual sessions. They often involve multiple components and programme content may consist of, for example, a mix of professional feedback, skill-building sessions, therapeutic support sessions, and role-playing exercises (Bunting, 2004).

There is a substantial body of evidence which has examined the effectiveness of parenting and whole-family approaches, and this has also been synthesised across multiple systematic reviews and meta-analyses (Sanders et al., 2022). Parent and whole-family approaches are recognised as an important intervention approach by global policy advocacy groups, including the World Health Organization, and in the UK, the government has prioritised parenting programmes in both a universal and targeted selective approach to prevent and/or address problems faced by children and young people and their families with varying degrees of complex needs since the 2000s. Recent systematic reviews (Leijten et al., 2018, 2019, 2022; Costantini et al., 2023) have sought to identify how specific intervention components and practice elements may influence effectiveness. Costantini et al. (2023) for example, examined the effects of early parenting interventions on internalising and externalising problems and found that interventions which focused on the parent–child relationship and had mixed intervention targets were most effective.

Parenting support for families with children aged 11–19

Many parenting and whole-family approaches are targeted in early childhood because of the concentration of critical periods in neurodevelopment in the first few years of life (World Health Organization United Nations Children's Fund & World Bank Group, 2018). However, it has been recognised that a lifecourse approach, which supports children and their families from conception to adulthood, is needed (Sanders et al., 2022). Further, there is growing evidence in support of adolescence being a second critical period for neurodevelopment and the development of high-

order functions, including memory and self-control (Balvin & Banati, 2017; Graf et al., 2021). Research suggests that parenting practices continue to exert an influence in adolescence (Liddle et al., 1998) and that positive adolescent–parent relationships can be facilitated through authoritative parenting practices (Smetana & Rote, 2019). A recent review of 240 studies (Beelman et al., 2023), which evaluated parent training programmes for preventing and treating antisocial behaviour found that age was only a minor moderator of the impact of the programmes examined. The authors therefore concluded that the use of parent training programmes is effective across all age groups.

Rationale and question formulation

The purpose of the review is to explore the evidence on the effectiveness of different types of parenting and whole-family interventions for families with multiple and complex needs with children and young people aged 11–19 years old. The review will explore: (i) how programmes can be effectively targeted and delivered; (ii) identify what effective practice looks like; and (iii) identify barriers and enablers to successful implementation. The review will inform the development of a Practice Guide that will present the best-known evidence on parenting interventions for families with multiple and complex needs with children and young people aged 11–19 years old.

Our review approach adopts a combined meta-analytical, narrative, and qualitative approach (Petticrew et al., 2013), consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards and relevant extensions, specifically PRISMA-Equity (Welch et al., 2012). We will first map the literature for parenting interventions to identify those with strong causal evidence and review intervention components and theory to build an understanding of parenting interventions and their impacts on outcomes. Following appraisal, we will then synthesise the empirical evidence.

The research questions for this review are:

- **What works (RQ1):** How effective are different types of parenting interventions in promoting good outcomes among families with multiple and complex needs with children and young people aged 11–19 years old?
- **For whom (RQ2):** What are the different types of parenting interventions or models, how are they defined, and which models are effective for different populations of children and young people aged 11–19 years old?
- **How and why (RQ3):** What practice elements and intervention components are associated with successful interventions with this population of parents, carers, and children and young people?
- **Implementation (RQ4):** What are the enablers and barriers to successful implementation of effective parenting interventions for this population of parents, carers, and children and young people?
- **User perspectives and needs (RQ5):** What are the views of parents and carers with multiple and complex needs about the acceptability and usefulness of parenting interventions?

PICO for research questions

Population: parents/families of children and young people aged 11–19 with multiple and complex needs

We will include studies of families that meet a definition of 'high need', in that they are experiencing multiple and complex problems (and including families where there is a risk of child maltreatment) and where at least one child or young person in the family is aged 11–19 years old. Multiple and complex needs will be based on established risk factors for child maltreatment, further details of which can be found in the Study selection criteria section.

Phenomena of interest: parenting or whole-family programmes, interventions, and approaches

We will include studies of parenting and whole-family programmes, interventions, and approaches that are defined according to the World Health Organization (2022) as structured interventions directed at parents or other caregivers of the child that are designed to improve parent–child interaction and the overall quality of parenting that a child receives.

Context

We will include studies published since 2010. For RQ1-RQ3, we will include studies undertaken in any developed/high-income country. For RQ4 and RQ5, we will include studies and reports of process evaluations that have done in or across any of the four countries of the UK.

Outcomes of interest

We will include studies that report outcomes relating to: (i) parenting behaviours; (ii) outcomes for parents (e.g. parent mental health); (iii) child behaviours (e.g. externalising/behavioural problems); or (iv) other outcomes for children (e.g. wellbeing). We will also include studies that report outcomes relating to child welfare outcomes (e.g. out of home placement).

Part 2: Identifying relevant work

Different types of evidence will be relevant and useful for addressing the research questions for this review:

- To address RQ1 **what works**, we will examine the quantitative evidence available in relation to the direction and size of effects reported for parenting and whole-family interventions on the outcomes of interest.
- To address RQ2 **for whom**, with respect to which models are more or less effective for different populations of children and young people aged 11–19 years, and RQ3 *how and why*, we will examine moderating factors of intervention effectiveness through moderator analyses.

- To address RQ4 about **implementation**, we will examine factors that influence implementation through a review of process evaluations that report contextual characteristics impacting on implementation of parenting and whole-family interventions.
- To address RQ5 about **user perspectives and needs**, we will also seek user perspectives reflecting the views of children and young people and/or parents/carers about the acceptability, appropriateness, and usefulness of parenting and whole-family interventions.

Search strategy and search terms

Quantitative evidence

Our systematic search strategy will cover various parenting interventions, target populations, and outcomes relevant to the key concepts of this review. Preliminary searches will be piloted to inform the development of a final comprehensive search strategy that we will use to search the following databases:

- Medline via Ovid
- APA PsycINFO via ProQuest
- CINAHL via EBSCOhost
- Cochrane Central Register of Controlled Trials (CENTRAL)
- Web of Science.

We will also include citation tracking of existing reviews, meta-analyses, and evidence summaries which are relevant to parenting and whole-family interventions, programmes, and approaches. We will also search the following additional sources:

- Early Intervention Foundation guidebook
- Social Mobility Commission's rapid evidence assessment of family and parenting programmes
- California Evidence-Based Clearinghouse for Child Welfare
- Title IV-E Prevention Services Clearinghouse.

Following the identification of a robust evidence base, we will use forwards and backwards citation searching methods to identify related articles (e.g. study protocols and implementation and process evaluations) to inform the review of theory and review of implementation.

Example search strategy

A sensitive search strategy using both indexed (e.g. Medical Subject Headings in Medline) and free-text terms will be developed based upon the strategy outlined below. The search combines search strings of synonyms and terms that are relevant to the core concepts of the review with pre-written search strings designed to retrieve RCTs and NRSIs (based on the Cochrane Highly Sensitive Search Strategies for identifying randomised trials and University of Pittsburgh Health Sciences Library filters for other experimental and quasi-experimental study types).

	Search terms
1	Child/ or Adolescent/
2	("older child" or "older children" or "young person*" or "young people" or "young adult*" or youth or youths or youngster* or adolescen* or pre-adolescen* or preadolescen* or pre-teen* or preteen or teen or teens or teenage*).ti,ab.
3	Parenting/ or Parents/ or Parent-Child Relations/ or Father-Child Relations/ or Mother-Child Relations/
4	(family or families or parent or parents or parental or carer* or caregiver* or mother* or father* or maternal or paternal or guardian* or mum or dad).ti,ab.
5	1 or 2 or 3 or 4
6	Vulnerable Populations/
7	exp Child abuse/
8	("at risk" or at-risk or "high risk" or high-risk or "high need*" or high-need* or "multiple need*" or multi-stressed or vulnerable or vulnerability or disadvantage* or "adverse childhood experience*" or neglect* or abuse* or maltreat* or exploitat* or marginali* or violence).ti,ab.
9	(complex* adj1 (need or needs or life or lives or lived or living)).ti,ab.
10	("early help" or "social care" or "social work" or "social services" or "child protection" or "child welfare" or "welfare involved" or welfare-involved).ti,ab.
11	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 (substance or drug or drugs or methadone or opioid or opiate or heroin or cocaine or "problem drinking" or alcohol or addiction)).ti,ab.
12	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 ("mental health" or depression or "mental illness" or "mentally ill" or psychiatric or disorder)).ti,ab.
13	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 (criminal* or detention* or imprison* or incarcerat* or inmate* or jail* or penitentiar* or prison* or offender*)).ti,ab.
14	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 ("intellectual* disabl*" or "learning disabl*" or "learning difficult*" or "cognitive

	disabl*" or "cognitive impair*" or "mental disabl*" or "mental impair*" or "mental* deficie*")).ti,ab.
15	6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	((parent* or family) adj2 (program* or intervent* or approach* or group* or train* or educat* or therap* or psychotherap* or support* or promot* or skill* or coach* or practice* or service*)).ti,ab.
17	Randomized Controlled Trial/ or Controlled Clinical Trial/ or "Controlled Before-After Studies"/
18	("randomized controlled trial" or "controlled clinical trial" or "comparative study").pt.
19	(randomized or randomised or randomly or non-randomised or non-randomized or nonrandomised or nonrandomized or quasiexperimental or quasi-experimental).ti,ab.
20	(((post or pre) adj test) or pretest or posttest).ti,ab.
21	((pretest or (pre adj5 (intervention or posttest or test))) and (posttest or (post adj5 (intervention or test))) or (pretest adj5 posttest)).ti,ab.
22	(trial or RCT or intervention).ti.
23	17 or 18 or 19 or 20 or 21 or 22
24	5 and 15 and 16 and 23
25	limit 24 to yr="2010 -Current"

Qualitative evidence

We will adapt and re-run the searches with pre-written search strings to identify qualitative research. We will prioritise the inclusion of UK qualitative research about any type of parenting or whole-family intervention. However, we will also seek qualitative research done in countries outside of the UK that is about the parenting and whole-family programmes for which we have identified a robust evidence base.

Example search strategy

A sensitive search strategy using both indexed (e.g. Medical Subject Headings in Medline) and free-text terms will be developed based upon the strategy outlined below. The search combines search

strings of synonyms and terms that are relevant to the core concepts of the review with pre-written search strings designed to retrieve qualitative studies (based on the University of Pittsburgh Health Sciences Library filters for qualitative studies).

	Search terms
1	Child/ or Adolescent/
2	("older child" or "older children" or "young person*" or "young people" or "young adult*" or youth or youths or youngster* or adolescen* or pre-adolescen* or preadolescen* or pre-teen* or preteen or teen or teens or teenage*).ti,ab.
3	Parenting/ or Parents/ or Parent-Child Relations/ or Father-Child Relations/ or Mother-Child Relations/
4	(family or families or parent or parents or parental or carer* or caregiver* or mother* or father* or maternal or paternal or guardian* or mum or dad).ti,ab.
5	1 or 2 or 3 or 4
6	Vulnerable Populations/
7	exp Child abuse/
8	("at risk" or at-risk or "high risk" or high-risk or "high need*" or high-need* or "multiple need*" or multi-stressed or vulnerable or vulnerability or disadvantage* or "adverse childhood experience*" or neglect* or abuse* or maltreat* or exploitat* or marginali* or violence).ti,ab.
9	(complex* adj1 (need or needs or life or lives or lived or living)).ti,ab.
10	("early help" or "social care" or "social work" or "social services" or "child protection" or "child welfare" or "welfare involved" or welfare-involved).ti,ab.
11	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 (substance or drug or drugs or methadone or opioid or opiate or heroin or cocaine or "problem drinking" or alcohol or addiction)).ti,ab.
12	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 ("mental health" or depression or "mental illness" or "mentally ill" or psychiatric or disorder)).ti,ab.

	Search terms
13	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 (criminal* or detention* or imprison* or incarcerat* or inmate* or jail* or penitentiar* or prison* or offender*)).ti,ab.
14	((family or families or parent or parents or parental or mother* or father* or maternal or paternal) adj2 ("intellectual* disabl*" or "learning disabl*" or "learning difficult*" or "cognitive disabl*" or "cognitive impair*" or "mental disabl*" or "mental impair*" or "mental* deficie*")).ti,ab.
15	6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	((parent* or family) adj2 (program* or intervent* or approach* or group* or train* or educat* or therap* or psychotherap* or support* or promot* or skill* or coach* or practice* or service*)).ti,ab.
17	"Document Analysis"/ or focus groups/ or interviews as topic/ or narration/ or qualitative research/
18	((depth or face or group or guided or indepth or informal or semistructured or structured or unstructured) adj4 (discussion or discussions or interview or interviewed or interviews or questionnaire or questionnaires)).ti,ab.
19	(ethnographic or ethnography or (field adj1 work) or fieldwork or (focus adj1 (group or groups)) or (groups adj2 interviewed) or (key adj1 (informant or informants)) or (qualitative adj2 (research or studies or studies or synthesis))).ti,ab.
20	17 or 18 or 19
21	5 and 15 and 16 and 20
22	Limit 24 to yr="2010 -Current"

Study selection criteria

Inclusion criteria

Population

The population focus for this review is parents or whole-family units with at least one child between the ages of 11–19. To be eligible for inclusion in the review, the families involved in the study must be considered to have multiple complex needs and either there is a risk of maltreatment

occurring within the family, the family is eligible for early help, or the family is otherwise involved with child social services.

We will include studies of families identified to have multiple and complex needs based on the following established risk factors for child maltreatment: parental substance abuse, parental mental health, teenage parenthood, parental intellectual disability, parental incarceration, the presence of intimate partner or domestic violence, parental experience of adverse childhood experiences, traveller/refugee/asylum seeker or undocumented migrant status, socioeconomic disadvantage, and the presence of serious child conduct problems.

PROGRESS-Plus populations: Our review will include studies undertaken with families, parents, and children and young people who may face inequalities in engagement with the care system (Bywaters and the Child Welfare Inequalities Project Team, 2020). We will therefore apply an equity lens along the dimensions of identity defined by the PROGRESS-Plus framework (place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, social capital, socioeconomic position, age, disability, sexual orientation, other vulnerable groups). Our review will draw upon the social model for protecting children and recognise the social determinants of harm (Featherstone et al., 2018). The model acknowledges that specific groups of children and young people may be at an increased risk of becoming engaged with the care system because of structural and systemic inequalities in society (Bywaters et al., 2016; Bywaters and the Child Welfare Inequalities Project Team, 2020), rather than individualised risk factors. Relevant groups include, for example, children and young people with traveller/refugee/asylum seeker or undocumented migrant status (Allen & Hamnett, 2022; Children's Commissioner, 2023).

Intervention/Comparator

Studies of parenting or whole-family interventions will be eligible. For inclusion in RQ1 ('what works') studies will need to include a comparator, either reported as "no practice/no intervention" (i.e. business as usual) or a comparable intervention.

We will require that at least 50% of the intervention content is directed at or requires engagement from either the parents and/or the whole family. Further, as the target for the intervention is related to concerns about complex and multiple problems within the family, we are interested in intervention intensity, and how they are embedded within a wider system of care and/or form part of a comprehensive package of support (Asmussen et al., 2022). We will exclude studies of parenting interventions that fall under the category of 'universal' need (i.e. offered to all families, regardless of risk). Studies falling under the category of 'targeted-selective' or 'targeted-indicated' need will be eligible for inclusion.

Outcomes

Within the included studies, outcome measures will be eligible if they draw on: (i) dichotomous or continuous variables; and/or (ii) self-report or observational data. We will include studies that address any of the following outcomes:

- Child maltreatment (including harsh parenting)

- Negative parenting
- Positive parenting skills
- Parental mental health
- Parenting stress
- Child and young person externalising/behavioural problems
- Child and young person internalising problems
- Child and young person wellbeing
- Number of out of home placements
- Placement permanency (for looked-after-children)
- Reunification rates
- Educational attendance
- Care entry and duration of time in care
- Educational attainment.

Study design

RQ1-RQ3: Randomised, non-randomised, or partially randomised or non-randomised pre/post controlled intervention studies.

RQ4-RQ5: Qualitative, quantitative, or mixed method implementation and process evaluations.

Context

High-income countries (as per World Bank classification).

Language

We will include studies published in the English language.

Study records

Title and abstracts and potentially relevant full text articles will be screened independently by two reviewers in full against the PICOT. If the number of full-text articles of potentially relevant studies is high (e.g. >250) then a minimum 20% of studies will be screened independently by two reviewers and the remaining studies will be screened by one reviewer. Covidence will be used to manage the review screening processes. Disagreements will be resolved through discussion and a third reviewer will be used to resolve any uncertainties. Following screening, a coding framework will be developed to guide the categorisation of the literature according to the PICOT and based on the study design, sample size, and demographics (sex/gender, race/ethnicity, age) of the study population. Two reviewers will independently pilot the extraction form and coding framework on a sample of three included studies. Following refinement of the extraction form and coding framework, data from the remaining studies will be extracted and coded by one reviewer and checked for accuracy by a second reviewer. At the full-text screening stage, we will use a coding framework to organise the studies according to the following categories:

- Population focus (as defined under the study selection criteria)
- Type of evaluation research design (randomised controlled trial or quasi-experimental design)
- Other key characteristics related to the review topic including intervention theory (see below) and outcomes under the categories described under the study selection criteria.

Part 3: Risk of bias assessment

Quantitative evidence

All studies contributing to the synthesis of quantitative evidence will be assessed for risk of bias (RoB). RoB assessment will involve the assessment of the internal validity of the individual studies that answer review questions RQ1-RQ3, and assessing the risk that the results may be skewed by bias in study design or execution. We will avoid making assumptions about the trustworthiness of the evidence based on the type of study design.

Studies will be assessed with the Cochrane RoB 2 tool for randomised trials (Sterne et al., 2019) and the ROBINS-I tool for non-randomised studies of interventions (Sterne et al., 2016). The RoB 2 tool is structured into five domains of bias, focusing on bias: (i) arising from the randomisation process; (ii) due to deviations from intended interventions; (iii) due to missing outcome data; (iv) in measurement of the outcome; and (v) in selection of the reported result. The ROBINS-I tool evaluates the RoB in the results of non-randomised studies of the effects of interventions. The tool covers seven domains, including bias: (i) due to confounding; (ii) in the selection of participants into the study; (iii) in the classification of interventions; (iv) due to deviations from intended interventions; (v) due to missing data; (vi) in measurement of outcomes; and (vii) in selection of the reported result.

RoB assessment will be done independently by two reviewers on a sample of studies (minimum 20%) and judgements discussed to ensure consistency and accuracy in how the criteria are applied and to explore and resolve disagreements. Following this process, the remaining assessments will be done independently by one reviewer. We will use the signalling questions/tool algorithms to reach domain-level judgements and an overall judgement on RoB. The RoB assessment will be used to inform the synthesis of the studies' findings and integrated into the overall assessment of the certainty of the body of evidence.

Qualitative and mixed method evidence

We will use the CASP Qualitative Studies Checklist to assess the methodological strengths and limitations of included qualitative studies and we will use the Mixed Methods Appraisal Tool (MMAT), to appraise the methodological quality of any mixed method implementation and process evaluations.

The CASP and MMAT assessments will be done independently by two reviewers on a sample of studies (minimum 20%) and judgements discussed to ensure consistency and accuracy in how the

criteria are applied and to explore and resolve disagreements. Following this process, the remaining assessments will be done independently by one reviewer. The quality assessment will be used to inform the synthesis of the studies' findings across the body of evidence identified within the process evaluations.

Part 4: Summarising the evidence

Review of intervention components and theory

Parenting and whole-family interventions are often complex and may involve the delivery of multiple, interacting components. We will therefore summarise the theory (or theories) of change for the included parenting and whole-family interventions with a robust evidence base. This will describe the theoretical causal chains that lead from the intervention components to their intended final outcomes (via activities, outputs, and intermediate outcomes).

As a first step, we will use forwards and backwards citation searching methods to identify related articles (e.g. study protocols) that further detail the design, development, implementation, or evaluation of the included parenting and whole-family interventions. We will develop a coding template, and one reviewer will extract detailed intervention descriptions and information about the intended recipients, key theoretical constructs, mechanisms of change, and outcomes from the methods and other descriptions of the intervention. We will draw on the Template for Intervention Description and Replication (TIDieR) checklist for this process as it supports the detailed description of interventions including the extraction of information about underpinning theories and contextual elements (e.g. who delivers the intervention, how and where the intervention is delivered) (Hoffmann et al., 2014). We will also use the iCAT_SR tool (Lewin et al., 2016) to assess the complexity of the interventions.

Following extraction, we will use adapted qualitative synthesis methods to guide within-study coding and analysis. We will map out the intended theory of change for the different models of parenting and whole-family interventions identified in the literature. Common features and differences in practice and programme elements will be assessed and mapped across the included interventions and models to inform RQ3.

To ensure an equity-focus we will also explore, describe, and map assumptions about the mechanism(s) by which parenting and whole-family interventions are assumed to have an impact on equity across relevant PROGRESS-Plus categories.

Quantitative evidence (RQ1-RQ3)

What works? (RQ1)

We will consider the use of standard meta-analytical methods (based on random effects) on an outcome-by-outcome basis to address whether an overall effect exists across the body of evidence identified, and to explore the effects of different parenting and whole-family intervention types (see RQ2). We will ensure that the use of meta-analysis is meaningful by first considering whether the

group (or groups) of studies we have included are sufficiently homogeneous in terms of the population, intervention, and outcomes. We will use sensitivity analyses to assess the robustness of the results. Issues suitable to be explored in a sensitivity analysis will be identified during the review process.

Heterogeneity will be explored statistically using the I^2 statistic and Chi^2 test. If there is substantial variation (i.e. over 60% on the I^2 statistic) and inconsistency in the direction of the intervention effect (confirmed through visual inspection of the forest plot) then as per the Cochrane Handbook (Deeks et al., 2024), we will consider whether it is misleading to quote an average value for the intervention effect. We may, for example, present the forest plot without the summary effect. We will also explore whether heterogeneity is due to the presence of one or more outlying studies as part of a sensitivity analysis, for example by repeating the meta-analysis both with and without outlying studies. Potential moderators of the intervention effect will be explored as part of RQ2 and are pre-specified below.

If meta-analysis is not feasible for a particular outcome, a narrative synthesis will be provided, informed by Guidance on the Conduct of Narrative Synthesis in Systematic Reviews (Popay et al., 2006) and the Synthesis Without Meta-analysis (SWiM) in systematic reviews reporting guideline (Campbell et al., 2020). Effect direction plots (Boon & Thomson, 2021) will be used where feasible to support with the narrative synthesis and visualisation of effect direction data.

For whom? (RQ2)

To address RQ2 *for whom,* with respect to which models are more or less effective for different populations of children and young people aged 11–19 years, and RQ3 *how and why*, we will examine moderating factors of intervention effectiveness through moderator analyses. For RQ2, this will involve an overarching PROGRESS-Plus evidence synthesis approach. If meta-analysis is feasible, we may carry out subgroup analyses or meta-regression analyses to examine evidence of differential effects across different populations based on the following PROGRESS-Plus categories (gender/sex; race/ethnicity; parental or maternal/paternal characteristics; child welfare involvement) and based on study quality (e.g. RCT vs NSRI). However, both these methods can suffer from poor statistical power and imprecision if the number of included studies is small. In addition to (or in place of) the use of meta-analytic methods, narrative methods will be used to synthesise the findings from subgroup, interaction or moderation analyses reported by the included studies to explore differential effects across groups.

How and why? (RQ3)

To address RQ3, we will explore if and how different practice elements and intervention components are related to effectiveness. These analyses will be pre-specified following the review of intervention components and theory. If subgroup or meta-regression analyses are not feasible, we will follow a structured narrative moderator analysis approach, which involves the systematic and structured tabulation of study-level data on effect sizes and direction against practice elements and intervention components.

Implementation (RQ4)

Framework synthesis methods will be used to guide within-study coding and analysis of the factors influencing implementation. A coding framework will be developed based on the Context and Implementation of Complex Interventions (CICI) framework (Pfadenhauer et al. 2017) and informed by our analysis of intervention complexity with the iCAT_SR tool (Lewin et al., 2016).

User perspectives and needs (RQ5)

Thematic synthesis methods (Thomas & Harden, 2008) will be used to guide study coding and analysis. GRADE-CERQual will be used to formulate an overall assessment of confidence in the synthesised qualitative finding (Lewin et al., 2018).

Equality, diversity, inclusion, and equity

Consideration of equality, diversity, inclusion, and equity (EDIE) is crucial in this systematic review as the focus is parenting and whole-family interventions targeted towards vulnerable groups, and children, young people, and their families who are at risk of or are involved with the care system. We recognise that poorly designed interventions can both exclude the people who need them most and increase inequalities. We will systematically map and describe the EDIE characteristics of the studies included in the review using PROGRESS-Plus and examine how they have been considered in the research design, methods, analysis, and interpretation of the findings.

Using an adapted equity-focused assessment (Kerns et al., 2024), the following EDIE-related questions will be addressed in the coding and categorisation phase:

1. Do any of the primary research questions directly relate to equity?
2. Does the paper state or is there clear evidence that participants were recruited in ways that were likely to include representative members of the population of focus?
3. Do the study authors report subgroup, interaction, or moderation analyses? Do any of the analyses relate to PROGRESS-Plus categories?
4. Do the study authors describe any limitations associated with equity-related considerations?

Through our review of theory and intervention components we would also build an understanding of how factors associated with the PROGRESS-Plus categories might interact with the mechanisms through which a parenting or whole-family intervention is thought to bring about its effects.

Patient and public involvement and engagement

We recognise the importance of patient and public involvement and engagement (PPIE) in systematic reviews to ensure relevance, timeliness, accountability, acceptability, and accessibility. Our approach to PPIE will adhere to the UK Standards for Public Involvement.

A PPIE panel of six members will be established for the review, consisting of young people and parents/carers with experience of living in a family with complex needs. We will meet with the

panel on three occasions, but exactly how, when and where consultations with the panel take place will be determined in consultation with the members, adopting methods which are most suited to their needs. Panel members will be reimbursed with vouchers for their time, in line with NIHR INVOLVE rates (£25 per meeting) and we have included funds to reimburse their travel and other out-of-pocket expenses. We recognise the diversity of individuals with experience of living in a family with complex needs (both in terms of familial experiences and sociodemographic characteristics) and will seek to ensure our PPIE panel reflects this. As such, we will spend dedicated time actively seeking members from a diverse range of backgrounds and experiences.

Registration

This systematic review protocol will be registered with the Open Science Framework (OSF).

Personnel

Lisa Jones (Reader in Public Health, Faculty of Health, LJMU) – Principal Investigator and primary project lead for the review; responsible for line managing the research assistants.

Dr Jane Harris (Research Fellow, School of Public and Allied Health, Faculty of Health, LJMU) – Project co-lead, overseeing the day-to-day activities of the project including utilising technical expertise for review design, synthesis, and PPIE.

Ellie McCoy (Senior Research Fellow, Applied Health and Wellbeing Team, School of Nursing and Advanced Practice, Faculty of Health, LJMU) – Project co-investigator and lead for the planning and delivery of PPIE.

Emma Ashworth (Senior Lecturer in Psychology, School of Psychology, Faculty of Health, LJMU) – Project co-investigator, will contribute subject expertise of risk and resilience among children and young people, and assist with the delivery of PPIE.

Professor Zara Quigg (Professor in Behavioural Epidemiology, School of Public and Allied Health, Faculty of Health, LJMU) – Project co-investigator, will contribute subject expertise in system-wide approaches to preventing ACEs and trauma.

Alice Booth-Rosamond (Research Support Assistant, Faculty of Health, LJMU) – Research Assistant, contributing to the day-to-day delivery of project milestones.

Menna Abdelgawad (Research Support Assistant, Faculty of Health, LJMU) – Research Assistant, contributing to the day-to-day delivery of project milestones.

Timeline

Dates	Activity	Staff responsible/ Leading
Oct 2024 –Jan 2025	Finalisation of Protocol and publication in OSF	Lisa Jones
Jan–Feb 2025	Searches and screening	Lisa Jones, Alice Booth-Rosamond, Menna Abdelgawad
Feb–Apr 2025	Mapping and coding	Lisa Jones, Alice Booth-Rosamond, Menna Abdelgawad
Mar–Apr 2025	Review of intervention theory and components	Lisa Jones, Jane Harris, Alice Booth-Rosamond, Menna Abdelgawad
May-Jul 2025	Synthesis of empirical evidence	Lisa Jones, Jane Harris, Alice Booth-Rosamond, Menna Abdelgawad
Jul 2025	Early findings for Advisory Group	Lisa Jones, Jane Harris
Jun–Sep 2025	Report writing	All
Aug 2025	First draft sent out for peer review	Lisa Jones
Sep 2025	Draft report finalised	Lisa Jones, Jane Harris
Oct 2025	Systematic review published	

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