

Exploring the barriers and facilitators of implementing family-focused child development programmes in real-world settings: a scoping review

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ABSTRACT

Background Services and supports for early childhood development can enhance overall caregiver well-being, reduce stress and increase caregiver confidence in parenting a child with disabilities or developmental differences. Numerous programmes have been developed that provide access to child development supports and services for young children and their families. Despite their proven efficacy, implementing these as programmes beyond a research setting remains challenging. The objective of this scoping review was to explore factors that influence the real-world implementation of family-focused programmes designed to support early childhood development.

Methods This scoping review followed Arksey and O'Malley's (2005) six-step process. Eight electronic databases were searched using keywords and controlled vocabulary based on the sample, phenomenon of interest and design. To be included in this review, articles must have clearly described, defined or categorised barriers/facilitators to implementation of a family-focused programme designed to support early childhood development (0–8 years). Barriers and facilitators were mapped to the Consolidated Framework for Implementation Research (CFIR).

Results 20 521 citations were retrieved, 12 151 were screened for titles/abstracts after removing duplicates. A total of 129 full-text articles were screened, yielding 31 included articles. 26 programmes were identified across the included articles. A cumulative total of 204 barriers and 183 facilitators were identified and mapped onto the CFIR. *Opportunity* among programme recipients, stemming from the individual characteristics domain (n=22), was identified as the construct representing the greatest barriers. *Design* from the innovation characteristics domain (n=22) was identified as the greatest facilitator.

Conclusions Findings highlight the importance of early and ongoing assessment of contextual factors, particularly those influencing families' opportunity to engage. By examining barriers and facilitators reported in existing implementation science and practice literature, this manuscript sheds light on important multi-level implementation determinants for researchers, healthcare organisations and policymakers to tailor and improve implementation efforts of child development programmes in their respective contexts.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Early childhood (between 0 and 8 years old) is a critical time, as differences in developmental trajectories between peers may become evident, and supports or services at this time have the potential to significantly impact future outcomes beyond childhood. Child development supports and services exist; however, there is a lesser focus on the reporting of these as programmes in real-world settings.

WHAT THIS STUDY ADDS

⇒ The findings of this scoping review highlight key factors that influence the successful implementation of family-focused programmes that support early childhood development. The greatest barrier identified was programme recipients' *opportunity* (individual characteristics domain); the greatest facilitator identified was *design* (innovation characteristics domain).

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Programme developers may wish to design for programme implementation with the identified barriers and facilitators in mind, dependent on their respective context(s).

INTRODUCTION

Throughout early childhood, children undergo physical, cognitive, emotional and social changes that shape their ability to learn, communicate and interact with the world around them.¹ Child development is a dynamic and complex process, forming the foundation for a child's well-being and future.² As of 2016, developmental delays were identified in 52.9 million children globally.³ Research has shown that access to timely and appropriate child development supports or services can mitigate the effects of developmental delays and improve long-term outcomes.^{4–10} Timely access to supports



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and services can enhance caregiver well-being,¹¹ reduce stress¹² and increase caregiver confidence in parenting a child with disabilities.¹³ Thus, understanding how to effectively implement programmes that provide appropriate developmental supports/services for young children and their families is an important part of supporting child development and family well-being.⁹

Family-focused programmes are structured programmes designed to strengthen family functioning, relationships and environments that support child development and overall family health.¹⁴ With the worldwide recognition of the importance of early child development, numerous evidence-based family-focused programmes have been developed to support young children and their families.^{15 16} Despite their proven efficacy, implementing these programmes beyond a research setting remains challenging.⁹ Moreover, many successful family-focused programmes in early child development have reported on their clinical effectiveness, but not necessarily on aspects of their implementation. The Reach Up and Learn Early Childhood Parenting Programme, and Care for Child Development are two extensively researched examples of evidence-based programmes in early child development that have been implemented in real-world settings.^{17–19} Both of these programmes guide caregivers in observing and engaging children through interactive activities to foster motor, cognitive-language and social-emotional skills. The Reach Up and Learn Early Childhood Parenting Programme, developed through the Caribbean Institute for Health Research and based on the Jamaica Home Visit intervention, has shown positive impacts on education, mental health and reduced child aggressive behaviour. Care for Child Development, developed by the WHO and UNICEF,⁶ employs behaviour change counselling to empower caregivers through home visits, clinic consultations or group sessions.^{18 19} The effectiveness of these programmes in real-world settings has hinged on their adaptability, scalability and the identification of factors critical to their effective delivery outside research contexts in the real world.^{17 20 21}

Understanding the barriers and facilitators to real-world implementation of such programmes, in the community or healthcare context, can provide important insights that may enhance programme success and positive participant outcomes. Leveraging principles from implementation science can enhance the uptake, scalability and sustainability of these programmes.^{22–24} The Consolidated Framework for Implementation Research (CFIR), introduced in 2009²⁵ and updated in 2022,²⁶ provides a structured approach to explore multi-level factors that influence implementation. The CFIR encompasses 48 constructs and 19 subconstructs, across five domains—innovation, outer setting, inner setting, individuals, implementation process—that can guide planning and analysis. It has been applied to inform implementation across various healthcare settings and conditions.^{27–29}

The objective of this scoping review was to explore the barriers and facilitators to real-world implementation of

family-focused programmes that are designed to support early childhood development. By examining barriers and facilitators as reported within the implementation science and practice literature, this work aimed to highlight the factors that influence successful implementation of family-focused child development programmes, that may be useful for researchers, healthcare organisations and policymakers to consider in their respective contexts.

METHODS

This scoping review followed Arksey and O'Malley's (2005) six-step process, including:

(1) identification of a research question; (2) identification of relevant studies; (3) study selection, (4) data charting; (5) collating, summarising and reporting results; and (6) partner consultation.³⁰

Identification of research question

The primary research question of this review asked: 'What is known from the existing literature about barriers and facilitators to implementation of family-focused programmes that support early childhood development?'. The SPIDER (Sample, Phenomenon of interest, Design, Evaluation and Research type) framework was used to guide expansion of the research question and to inform the search strategy.³¹ The 'sample' is described as the population, followed by the 'phenomenon of interest'. The 'design', 'evaluation' and 'research type' were considered in the search strategy and the development of the inclusion and exclusion criteria. All study designs and methodologies were eligible for inclusion. The evaluation component corresponds with the requirement of studies having to report implementation barriers and facilitators; and the research type refers to including studies of programme implementation in a real-world setting.

Population

Programmes had to be family-focused, with an aim to support early childhood development (0–8 years) of children with or without disabilities or a diagnosed condition. The programme was to be delivered to a caregiver, with a primary focus on child development, and could involve components of caregiver and other family member health/well-being. The age range of 0–8 years was selected to align with the definition of 'early childhood' used by several prominent organisations (ie, UNICEF, WHO, UNESCO)³² and in other literature reviews of early childhood interventions.³³ Of note, while the CFIR is currently recommended for use with implementation team members (including implementation partners, other key informants) and not with programme participants,²⁶ we have opted to include studies which gathered data from programme participants, provided the study's aim was to evaluate barriers and facilitators to implementation. Thus, participants could include researchers, programme participants/family members,

Table 1 Domains of development based on WHO³⁴

Developmental domain	Explanation of the domain	Examples of milestones
Language/communication (includes literacy/numeracy)	The ability to understand and/or produce language: ► The 'receptive' capacity: child can understand what is said to them ► The 'expressive' capacity: child can communicate using purposeful sounds, speech, body language and gestures	► Points to things in a book ► Says their name, age or sex ► Converses using two or three sentences
Movement/physical	Large or 'gross-motor' movement: uses large muscles or the whole body, including the trunk/torso and limbs Small or 'fine-motor' movement: uses the hand and fingers	► Kicks a ball ► Walks downstairs one foot at a time ► Holds on to objects ► Copies a line using a crayon
Cognitive (includes learning)	Intellectual or mental abilities: learning, thinking, problem-solving, reasoning, paying attention and remembering	► Completes rhymes ► Sorts shapes and colours ► Follows instructions with two or more steps
Social/emotional	Feelings and emotions, social interactions with others, attachment (bonds with others), self-esteem	► Plays beside other children ► Engages in make-believe play

healthcare providers, programme facilitators, policy makers, managers, administrators, or other implementation team members and key informants as defined by the authors.

Phenomenon of interest

This review focused on facilitator-led programmes with a specific number of sessions or weeks. One-time interventions were not included in this review, nor were specific therapies designed to target child behaviour challenges. Childhood development was conceptualised based on the WHO's domains of development³⁴ categorised as follows for the purpose of this review: (1) language/communication, (2) movement/physical, (3) cognitive, (4) social/emotional (see [table 1](#)). This review focused on programmes designed for the family (ie, parent, caregiver, sibling, child, etc) and centred on child development for children aged 0–8 years. While many programmes focused on specific disabilities or conditions associated with childhood, we took a broad view of child development (ie, non-diagnostic approach), where the overall purpose of the programme could be mapped to at least one of four child development domains, as described in [table 1](#).

Identification of relevant studies

A comprehensive search strategy was developed by a health sciences librarian with input from authors. The strategy was reviewed by a second librarian using the Peer Review of Electronic Search Strategies instrument.³⁵ On 22 January 2024, eight electronic databases were searched from inception (Medline, Embase, PsycINFO, CINAHL, Social Work Abstracts, ERIC, Web of Science and Scopus) using keywords and controlled vocabulary based on the sample (population), phenomenon of interest and design/evaluative component. An additional search (within the same databases) was conducted on 14

January 2025, to capture any articles that were published since the last search. The reference lists of all included studies were hand-searched to identify any additional articles not captured in the database searches. Online supplemental file 1 provides the syntax for Medline; all other database searches can be provided on request.

Inclusion and exclusion criteria

Eligibility criteria were set to include studies internationally, with recognition that while political, social and cultural context may differ, the implementation insights will be useful and important to learn from. All included studies reported on the implementation of programmes that had been delivered in a real-life context; barriers and facilitators were not based on anticipated implementation. Articles must have clearly described, defined or categorised barriers/facilitators to implementation. See [table 2](#) for the finalised eligibility criteria.

Study selection

Title and abstract screening

Covidence,³⁶ a web-based collaboration software platform for literature reviews, was used for removing duplicates, screening of titles/abstracts, and reviewing full-text articles. The first four authors completed the title and abstract screening. After a calibration exercise of 25% of titles and abstracts, the remaining were equally distributed so that all articles were reviewed independently by at least two screeners. Percent agreements ranged from 95% to 99% (calculated via Covidence) across pairs among the four screeners. Through biweekly meetings, disagreements were resolved collaboratively and by consensus, with questions discussed among the four screeners.

Full-text screening

Similarly, the first four authors completed full-text screening. Prior to screening, a calibration exercise was

Table 2 Eligibility criteria

Inclusion criteria	Exclusion criteria
► Implementation studies (qualitative, quantitative and mixed-methods) that reported on barriers and facilitators ► Family-focused programmes, with or without child involvement ► Programmes implemented in a healthcare organisation or community setting ► Examined the implementation of a programme in a single setting or across multiple settings ► Sample focused on early childhood (0–8 years; >80% of age sample must be in this range) ► Programmes focused on children with disabilities or developmental delay OR programmes where the intervention was focused on child development more broadly ► Facilitator-led programmes (eg, coach, healthcare provider, other) ► Virtual, in-person or hybrid delivery options	► Reviews, commentaries, dissertations, grey literature, protocols, effectiveness studies ► Non-English language publication ► Solely child-focused programmes (eg, improving the child's speech in a one-on-one therapy appointment with the child) ► Programmes that do not have a focus on childhood disability/development ► Interventions delivered within a single session ► Programmes that are in the development stage and/or studies in which multiple programmes are being compared

completed. All four authors independently reviewed 10 articles randomly selected by the first author and provided their assessment of eligibility. During the calibration exercise, it was identified that screening criteria needed to be clarified; thus, group screening was completed a second time with an additional 10 articles after screening clarifications were made, on which >80% agreement was met. Subsequently, full-text articles were equally distributed so that all articles were reviewed independently by at least two screeners. Disagreements were resolved by consensus with the full team of reviewers. Reasons for exclusion were documented for full-text articles and provided in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart (see [figure 1](#)).

Data charting and extraction

Data extraction was completed by the first four authors, and all data were verified by a second author. The first and second authors extracted and coded all barriers and facilitators to the CFIR domains. The third and fourth authors extracted relevant articles and programme information.

Article information

General article information was extracted from each article/study, including author(s), year, country, research question, study design, type of data, data collection method and study sample.

Programme information

Additional information was extracted about the programme of focus within each article/study. The following information was obtained: programme name and description, programme population focus (eg, child age and condition/descriptors), frequency of programme (weekly/monthly), length of programme/duration (eg, 5 weeks), delivery of the programme (eg, one-on-one vs group setting), previous research on the

programme (yes, no, not reported), programme delivery modality used (ie, in-person or virtual), description of the programme facilitator (eg, training required or professional role if identified) and involvement of persons with lived experience (yes, no, not reported).

Programme implementation information

Implementation-specific data extracted included theoretical underpinnings (ie, implementation science framework(s) used to guide implementation and/or evaluation), setting (eg, health context, community, other), programme funding and sustainability plan.

Barriers and facilitators

The research team listed the barriers and facilitators to implementation of a child development programme as reported in the articles, along with any examples provided.

Data analysis

Collating, summarising and reporting results

General information about each study (eg, author, year, country, etc) was summarised descriptively. A separate table was created for implementation-related information. The authors compared and contrasted information across studies, summarised trends and highlighted differences across articles.

Barrier and facilitator mapping

Barriers and facilitators were mapped to the CFIR domain constructs and subconstructs. The domains are as follows: (1) innovation, (2) outer setting, (3) inner setting, (4) individuals (characteristics and roles), (5) implementation process. Each domain has a set of constructs and sub-constructs to further understand barriers and facilitators.²⁶ Barriers and facilitators were coded using the domain and construct/subconstruct definitions provided by CFIR, supplemented with author

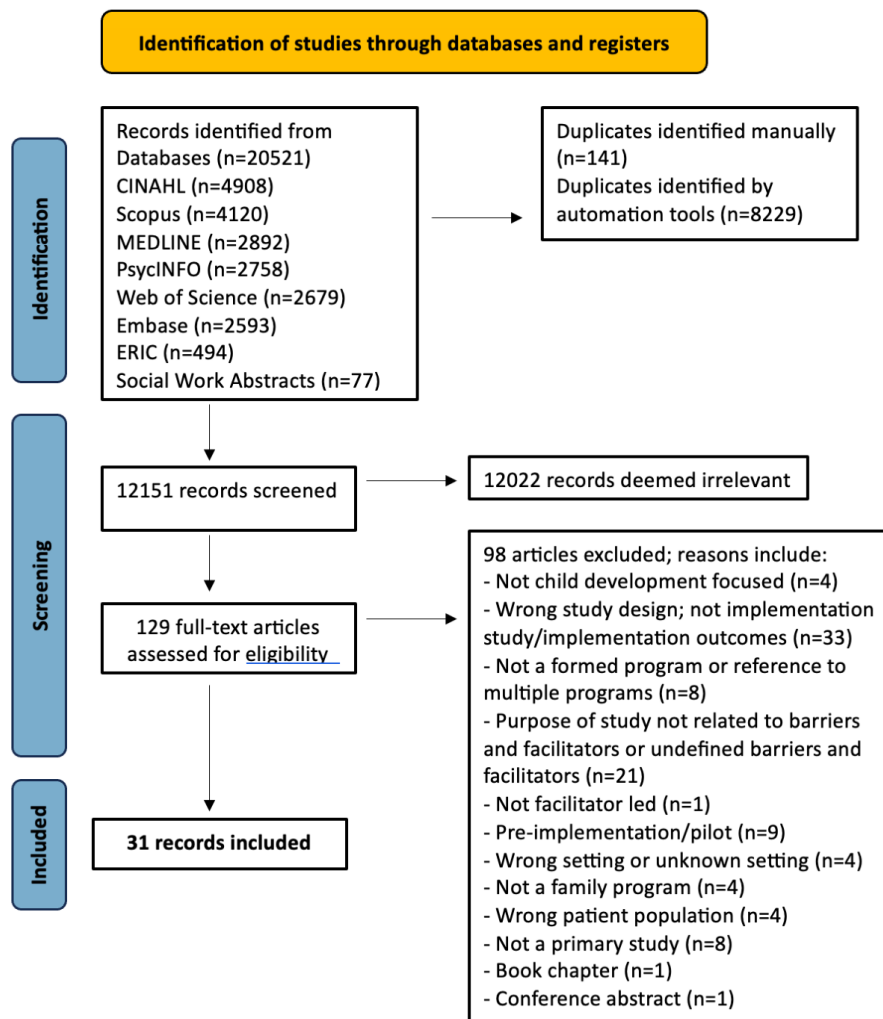


Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart.

consensus-based definitions specific to this review, as recommended within CFIR Framework Guidance.^{26 37} The authors prioritised coding one domain/construct/subconstruct per barrier or facilitator; however, more complex or nuanced examples were mapped to multiple domains/constructs/subconstructs as deemed necessary.³⁷ The number of barriers or facilitators coded to each domain/construct/subconstruct was tallied (cumulative counts) for reporting purposes. Constructs that had data from five or more studies were considered for further analysis (ie, in-depth summary/exploration) and were reported on in more detail. The first two authors mapped one article together and then divided the articles equally to map data to the CFIR independently. Both reviewers have experience working with the CFIR. They reviewed each other's coding and articles and met throughout the review process to discuss questions, resolve coding discrepancies and develop a description of how the CFIR domain was represented in the articles overall. A summary of themes with data excerpts was shared with members of the author team for review and feedback.

Patient and public involvement

The research team involved people with lived or living experience (PWLE) from the onset and throughout this project. Those engaged were family partners with experience as research collaborators on the development and implementation of a Canadian virtual parent coaching programme.³⁸ PWLEs contributed to the scoping review protocol, identified variables for extraction, met with the research team regularly, provided feedback on initial barriers and facilitators and CFIR mapping (facilitated by a presentation led by the first author, followed by group discussion and feedback), reviewed the manuscript draft and co-developed the conceptualisation of the discussion.

RESULTS

Overall article findings

20521 citations were retrieved across eight electronic databases, of which 12151 were screened for titles and abstract after removing duplicates. A total of 129 full-text articles were screened, yielding 31 included articles (see

figure 1). A list of all 31 included study names, authors, year and country can be found in online supplemental file 2.

Year and country

Article publication dates ranged from 2015 to 2025, with 26 articles from 2020 to 2025, and five articles from 2015 to 2019. Publications originated from 19 countries, within North America (n=11), South America (n=6), Africa (n=6), Europe (n=6) and Asia (n=4). Multisite implementation included the following countries: India and Pakistan; Brazil and Zimbabwe; Jamaica, Brazil and Ecuador.

Research approaches

16 articles applied a mixed method approach, and 15 articles solely used qualitative approaches. 10 articles gathered implementation data solely from implementation team members/partners (ie, no data from programme participants), 4 solely from programme participants (eg, family members/caregivers) and 17 gathered data from both implementation team members and programme participants. Online supplemental file 2 reports the study design, data collection methods and study sample.

Frameworks applied

Nine articles did not report using any theory, models, frameworks or approaches (TMFA) to guide their work^{18 39–46} and three^{47–49} reported using a TMFA for purposes other than implementation. In contrast, 19 articles described incorporating a theoretical underpinning/framework to support implementation.

Among the articles that described the use of a TMFA, 13 articles used one that supported the overall implementation of a programme^{9 20 50–60} including (1) the Reach, Effectiveness, Adoption, Implementation and Maintenance planning and evaluating framework,⁶¹ (2) the Integrated model of programme implementation,⁶² (3) the CFIR,²⁵ (4) Consolidated Advice for Reporting ECD implementation research,⁶³ (5) Proctor and colleagues' implementation framework,⁶⁴ (6) National Implementation Research Network's Stages of Implementation and Active Implementation Formula,⁶⁵ (7) the Integrated Implementation Model⁶⁶ and (8) Peters *et al*⁶⁷ Implementation Guidelines.⁶⁷ Additionally, programmes in two articles^{68 69} were grounded in a theory or model that focuses on a specific aspect of implementation. Singla and Kumbakumba⁶⁸ used Bellg *et al*'s framework⁷⁰ to evaluate treatment fidelity. In the article by Beasley *et al*⁶⁹ the Integrated Theory of Parent Involvement⁷¹ and Halgunseth's model of family engagement⁷² were used for engagement, which includes factors related to the parent, provider, programme, and ecological characteristics. Finally, four articles^{73–76} used frameworks that are applicable to implementation but focused on evaluation. These included the Medical Research Council Frameworks,^{77 78} Measurement for Change⁷⁹ framework and a process evaluation framework developed by the

authors.⁷⁶ One article⁵⁹ used an implementation guide⁶⁷ and a Theory of Change.⁸⁰

Overall summary of individual programmes

26 child development programmes were identified across the 31 included articles. Three articles focused on the Reach Up programme. Modified versions of the Early Start Denver Model were implemented in five articles from different research teams.

Of all the programmes included in this review, 23 had previously been evaluated or pilot tested, including 17 through a randomised controlled trial. Online supplemental file 3 provides a detailed description of individual programmes.

Barriers and facilitators to implementation

A cumulative total of 204 barriers and 183 facilitators were identified and mapped onto the five CFIR domains and their 48 constructs and 19 subconstructs.²⁶ The construct with the greatest number of barriers was *opportunity* from the individual characteristics domain (n=22). These barriers stemmed from programme recipients (ie, families, parents/caregivers). In contrast, *design* from the innovation characteristics domain (n=22) was identified as the greatest facilitator.

Barriers and facilitators identified at least five times across articles are reported in the following section, where 'n' values refer to the number of times a given barrier or facilitator was identified across the articles. Online supplemental file 4 provides an exhaustive list of barriers and facilitator counts, by CFIR construct/subconstruct.

Innovation domain

This CFIR domain relates to components of the evidence-based innovation being implemented, which in this case is the family-focused programme in early child development.

Innovation characteristics barriers

The programme *design* construct was identified as the main programme barrier (n=11). Barriers related to programme design were described as the length/duration of the programme (ie, too short or too long); repetitive, excessive or unenjoyable activities (eg, role play); and the lack of in-person contact among virtual programmes.

Innovation characteristics facilitators

Programme facilitators stemming from the innovation characteristics domain included the programme's *design* (n=22), *relative advantage* (n=18) and *adaptability* (n=13). Aspects of programmes' designs that were found to be a facilitator to implementation included programme resources (eg, toys, books, handouts and manuals), activities and structure (ie, individual or group-based delivery). *Relative advantage* included well-established benefits of the programme (ie, better than others or current practice), positive experiences of families and/or that the programme addresses gaps in current child development programming. Programme *adaptability* pertained to

programme flexibility to meet the needs of families and address contextual factors during implementation, such as adaptable delivery format (ie, virtual vs in person), programme materials and timing/scheduling.

Outer setting domain

This domain constitutes the settings and systems in which the inner setting/site exists. There can be more than one outer setting; for example, a hospital system within a province of a country could describe three outer settings.

Outer setting barriers

Outer setting barriers identified across articles included *local conditions* (n=13), *local attitudes* (n=8), *partnerships and connections* (n=6), *financing* (n=6) and *policies and laws* (n=5). *Local conditions* were described as the country's political and economic instability and opposing political party priorities and views related to the programme (eg, municipal vs federal). *Local attitudes* included negative societal perceptions of disability and associated stigma. *Local conditions* and *local attitudes* were most often described as barriers by programmes outside of North America or Europe. *Partnership and connection* barriers included fragmented and disconnected cross-sector collaborations, and a lack of community-level collaborations/partnerships. Examples of *financing* barriers included inadequate funding structures in place to support long-term programme success. Barriers categorised under *policies and laws* included unstable political environments, that child development was not always prioritised by policymakers, and inconsistencies in policy prioritisation at federal versus municipal levels.

Outer setting facilitator

The only facilitator that met the threshold for further exploration within the outer setting domain was *partnerships and connections* (n=6). This construct was described as a facilitator through beneficial cross-sector collaborations, connections with external groups/organisations and relationships with leadership/government bodies that facilitated implementation and scale-up initiatives of a programme. For example, Buccini *et al* established cross-sector relationships to extend the reach of the Criança Feliz Programme visits, moving beyond schools and primary healthcare units.⁵¹ An extended partnership allowed for a multisectoral approach to implementation, involving partnerships with non-profits, churches and neighbourhood organisations.

Inner setting

This CFIR domain comprises factors within the setting/site where the programme is being implemented. Like the outer setting domain, there can be multiple inner settings.

Inner setting barriers

The two prominent barriers that stemmed from this domain were lack of *available resources* (n=21) and *structural characteristics*—work infrastructure (n=7). *Available*

resources that were lacking were categorised into the sub-constructs where appropriate, and included space, funding, materials and equipment (programme-related resources). Some articles reported gaps in transportation and childcare support opportunities for family participants, limited programme funding, challenges with securing space to conduct programmes and minimal access to technological devices related to programme implementation (eg, phone, computer). High staff turnover and lack of personnel support also impeded programme implementation.

Inner setting facilitators

Constructs that were identified as facilitators within the inner setting domain included *access to knowledge and information* (n=14), *available resources* (n=8), *relational connections* (n=5) and *incentive systems* (n=5). *Access to knowledge and information* included access to programme training, implementation materials and mentorship opportunities (eg, peer mentorship, supervision). *Available resources* in an organisation such as space, materials and resources, as well as having childcare available for families, support programme implementation. *Relational connections* involved supportive, strong and trusting relationships between staff and leadership, and incentives such as gifts, meals and monetary compensation encouraged families to participate in a programme.

Individuals domain: roles and characteristics

Barriers and facilitators were identified at the individual level, including (1) people delivering and supporting implementation of the programme (eg, coaches, programme facilitators, interventionists) and (2) people receiving the programme (eg, families, parents/caregivers). Characteristics are summarised and reported accordingly. *Opportunity*, *capability* and *motivation* were frequently coded to constructs across the individuals domain. *Opportunity* refers to the availability, scope and power that an individual holds related to their role; *capability* refers to an individual's personal competence, knowledge and skills; *motivation* refers to an individual's commitment in relation to fulfilling their role.^{26 37}

Individuals (deliverers/supporters): roles and characteristics barriers

From the perspective of those supporting implementation, barriers identified aligned with the following constructs: *opportunity* (n=18), *capability* (n=12) and *motivation* (n=8). Programme deliverers experienced *opportunity*-related challenges to implementation due to competing work demands, lack of time, inability to access transportation for home visits and setting/site space limitations to deliver the programme. Related to *capability*, they reported a lack of knowledge, skills and experience implementing the programme. Programme deliverers also expressed a lack of *motivation* due to perceptions of programme misalignment with their job role/tasks, resistance to the programme (ie, personal

values) or feeling overwhelmed by competing work demands.

Individuals (deliverers): roles and characteristics facilitators

The programme deliverer/facilitator role was considered to be a facilitator to programme implementation by multiple programmes (n=11). These individuals supported/facilitated and guided families throughout the programme via various strategies and approaches.

Individuals (recipients): roles and characteristics barriers

From the perspective of programme recipients (ie, families), individual-level barriers included *opportunity* (n=22), *motivation* (n=16) and *capability* (n=8). *Opportunity*-related barriers related to a lack of time for programme participation due to competing demands (eg, work, family, life), difficulties accessing transportation, at-home distractions for virtual programmes and difficulties managing a child's health needs while participating. *Motivation* was reported as a barrier when there were beliefs that the programme offered little benefit, discomfort with coaching format, and/or a perception among some families that their child could learn related skills on their own without the programme. Examples of *capacity*-related barriers included families' lack of knowledge and awareness of the programme and its goals, not knowing how to apply programme learnings and minimal use of programme resources.

Individuals (recipients): roles and characteristics facilitators

Motivation among programme recipients (ie, families) was also identified as a facilitator (n=6). In these cases, there was reported interest and motivation in participating in the programme related to an awareness of its benefits, a good relationship with the facilitator and appreciation of the programme's structure, design and/or participatory nature.

Implementation process

This CFIR domain entails key activities and steps throughout the implementation process that were considered as barriers and/or facilitators.

Implementation process barriers

The most frequently identified construct that was identified as an implementation process barrier was *assessing needs* among programme recipients (n=5). Among these articles, there were reported challenges with a lack of assessing family needs prior to implementation. In some cases, the process of understanding family needs highlighted important implementation process barriers.

Implementation process facilitators

Constructs identified as implementation process facilitators included *tailoring strategies* (n=15) and *engaging recipients* (eg, families, parents/caregivers; n=7). Tailoring strategies involved adapting the programme components and/or *tailoring strategies* to address individual and contextual needs that emerged throughout the implementation

process. Examples of this included incorporating and adding new training materials (ie, building on existing core components), incorporating meeting/activity reminders, monitoring systems, technological platforms (eg, WhatsApp) and refining the methods used by the facilitator (eg, using modelling strategies, practice and feedback) to encourage learning. *Engaging recipients* (ie, families) occurred throughout programme implementation or on completing the programme to gain participant implementation/quality improvement feedback (eg, programme components that were beneficial, required adapting) and to build relationships.

DISCUSSION

This review identified 31 articles that described barriers and facilitators of implementing family-focused programmes in early child development in the real-world. 26 different programmes were identified, which were implemented across five continents. The CFIR construct to which the highest number of implementation barriers was coded was *opportunity* of programme participants (individuals domain; roles and characteristics) (n=22), while the construct to which implementation facilitators were most frequently coded was the *design* of the programme (innovation characteristics domain) (n=22). Taken together and placed in the context of other highly reported barriers and facilitators, it becomes clear that a well-designed programme that offers a relative advantage to existing services, along with a detailed understanding of local needs and context, are important ingredients for effective programme implementation.

Part of pre-implementation work should include identification of a programme's core components that should be retained during tailoring/adaptation and implementation to maintain fidelity.⁸¹ This is typically done through preliminary programme trials and evaluations. Identification of core components allows for planning of adaptations in non-core areas based on implementation context, as it is implemented in a real-world setting.^{82 83} The 'Baby Ubuntu' programme is an excellent example of a programme that underwent a feasibility trial and was subsequently adapted for use in an additional setting. Findings from the Nanyunja *et al*⁴⁹ feasibility trial of Baby Ubuntu, included in this review, identified core programme elements and guided necessary adaptations to become 'Encompass', which was implemented in the UK.⁸⁴ The adaptation process included retaining essential elements such as parent-led peer support and community-based delivery, while modifying components related to delivery structure, resource use and training to fit the UK health and social care context. This transition from *Baby Ubuntu* to *Encompass* exemplifies how robust pre-implementation evaluation can inform tailored implementation strategies, ensuring both fidelity to evidence-based principles and responsiveness to local systems, participant needs and resource environments.

The identification of barriers and facilitators to programme implementation can be impactful for an understanding of programme implementation and supporting continued success. Pairing this with a relevant implementation TMFA can also help prevent or overcome implementation issues.⁸⁵ Within this review, nine articles did not reference any theory, model, framework or approach. TMFAs can ground the work in relation to (1) models that describe a process (eg, Knowledge to Action⁸⁶), (2) theories that show a mechanism of change (eg, Capability Opportunity, Motivation, Behaviour (COM-B) model of behavior),⁸⁷ (3) frameworks that outline factors that affect aspects of implementation (eg, CFIR)²⁶ and (4) approaches, action-oriented and designed to support the application or sustainability of implementation (eg, The Programme Sustainability Assessment Tool).⁸⁸ Conveniently, tools also exist to help implementation researchers/practitioners select the TMFA that may best suit their needs.^{89 90} A study conducted by Westgard and Fleming used the Theory Model Framework Comparison and Selection Tool and selected the Active Implementation Framework for the design, implementation and monitoring of a community-based mental health intervention for children in the Amazon.^{91 92} A standardised approach to selecting and applying appropriate TMFAs can provide further support for effective programme implementation.

Interestingly, when evaluating implementation initiatives, it is generally accepted that implementation outcomes such as *cost* are crucial to consider, as indicated in Proctor's framework.⁹³ The construct of *innovation cost* (innovation domain), however, was rarely mentioned in the articles, and constructs such as *funding* (inner setting domain) and *financing* (outer setting) were generally poorly described. However, the impact of the costs of implementing an innovation may have been embedded in other highly coded constructs, such as *available resources* and *opportunity* (for both programme deliverers and receivers). Limited explicit attention to implementation costs thus has the potential to impact initial implementation/service delivery and contribute to poor sustainability.^{94 95} This issue should improve going forward, with recent recommendations for costing analysis and reporting in implementation trials,⁹⁶ the availability of tools such as the Standards for Reporting Implementation Research⁹⁷ and Cost of Implementing New Strategies,⁹⁸ and recommendations for financing strategies for evidence-based programme implementation.⁹⁹

Strengths and limitations

The use of scoping review methodology allowed for a broad examination of the literature related to barriers and facilitators to implementation of family-focused programmes that support early childhood development, allowing our team to highlight key trends and gaps in the field. A notable strength of this review is the diversity of the literature included, covering 26 programmes, with publications originating from 19 different countries across

five continents and several studies examining multi-site implementation across countries. This geographic diversity provides an insight into implementation in a wide range of cultural and income settings, providing a diverse understanding of implementation in various contexts.

Two independent reviewers were used at each step of the process, with a third and fourth reviewer helping to resolve any discrepancies. Importantly, the use of the CFIR strengthens the analysis by providing a structured approach to understanding implementation, positive and negative influencers.²⁶ Since it is a widely used determinant framework, learnings may be applied or built on by future researchers and implementation practitioners implementing family-focused programmes in early child development, for example, by leveraging CFIR tools and connecting them to these findings (eg, to develop interview guides, to use with the CFIR-ERIC Matching Tool for implementation strategy development). Partnering with PWLE throughout the process added valuable insights and enhanced the relevance of the findings.¹⁰⁰ For instance, when sharing updates on CFIR mapping and preliminary findings, PWLE posed important questions to consider during mapping and provided input on the interpretation of findings. Although a specific framework was not used to identify the level of engagement of PWLE, the activities and influence of PWLE through the various stages of this work align well with the International Association for Public Participation framework levels of 'involve' and 'collaborate'.¹⁰¹

Nonetheless, this review is not without limitations. First, we excluded grey literature, dissertations and non-English publications, possibly omitting important sources. Implementation initiatives may be reported on and shared through non-peer reviewed/limited access outputs, such as organisational reports or presentations. Further, not all family-focused programmes in early child development have examined or reported their implementation efforts and learnings. As a result, our study may present a limited perspective on the existing programmes, along with the barriers and facilitators to their implementation. Second, we recognise that while understanding barriers and facilitators is an important step in implementation, it is only one step. We did not assess or thoroughly report on programme tailoring/adaptation, or the selection or effectiveness of implementation strategies, which are other key steps of implementation.⁸⁶ A description of the implementation process used by the programmes was beyond the scope of this study. Third, the variety of TMFAs used across studies limited our ability to draw direct comparisons between studies or to make recommendations regarding the same. Fourth, the complex nature of these programmes further complicates the ability to compare findings effectively across different contexts. Fifth, we recognise that we have deviated from the original CFIR recommendations by including the perspectives of recipients in understanding implementation determinants. In guidance documents for CFIR application in research,^{26 37} authors note that

recipient perspectives should not be included unless they understand the inner setting, or are involved in the implementation team. We contend that families have a unique and essential understanding of inner setting factors that advance equitable implementation. This aligns with recommendations that (1) recipient perspectives be included in CFIR-related data collection, (2) on implementation teams and (3) the movement and celebration of patient and family experiences in informing and co-leading implementation practice and research activities.³⁷ Notably, the findings summarised within individuals (recipients): roles and characteristics align well with the barriers and facilitators across other CFIR domains and provide additional insight and granularity that can help with implementation strategy development or refinement.

While use of CFIR is a strength, given it is an evidence-based, theory-informed and widely used framework in the field of implementation science, there are some important limitations. The CFIR does not adequately capture important implementation determinants related to relational processes (eg, trust building) or social structures and environments, and is very dependent on how the person/team are interpreting these barriers and facilitators in relation to the CFIR. Taking a constructivist approach to analyses may also improve the understanding of implementation influencers.¹⁰² Finally, we did not analyse and compare determinants by implementation stage (ie, initial implementation, scaling or sustaining) or between prospective and retrospective identification of determinants. This is an important limitation as barriers and facilitators may vary depending on the (1) stage of implementation and (2) speculated versus experienced influencing factors. Since this is the first review to explore this topic, we aimed for a broader understanding of barriers and facilitators. Future research may consider delving deeper into the stage of implementation and differences among prospective and retrospective determinants.

CONCLUSION

The findings of this scoping review highlight key factors that influence the successful implementation of family-focused programmes in early child development, with relevance for researchers, healthcare organisations and policy makers. For researchers, the findings highlight the importance of early and ongoing assessment of contextual factors, particularly those influencing families' opportunity to engage, considering opportunity-related barriers were frequently reported. Explicit use of TMFAs can support this by systematically guiding the identification of determinants and selection of implementation strategies. For healthcare organisations (clinicians and programme deliverers), the findings underscore the importance of flexibility and adaptability in programme implementation. Practical strategies such as flexible scheduling, hybrid or virtual delivery options,

and support that reduces participation burden may help address opportunity-related barriers faced by families. For policymakers, funding and sustainability are important gaps. Inadequate financing, limited resources and weak cross-sector partnerships were commonly reported barriers, suggesting that policy efforts should prioritise stable funding mechanisms, workforce support and coordination across health, social and community sectors. Equally critical is the inclusion of participant perspectives to ensure that programmes remain relevant and responsive to families' experiences. Leveraging facilitators and addressing gaps and barriers has the potential to strengthen the implementation process, ensuring that family-focused programmes in early child development are successful in their designated context.

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