

Evidence review:

An analysis of the evidence for parenting interventions for parents of vulnerable children aged up to six years



June 2013

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Disclaimer

This analysis of parenting interventions was commissioned by the Families Commission of New Zealand. It was conducted between March and May 2013. Readers are advised to consider new evidence arising post the publication of this review when selecting and implementing parenting interventions.

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EXECUTIVE SUMMARY

Overview This rapid evidence review of parenting interventions was conducted by the Parenting Research Centre for the Families Commission in New Zealand. The review was commissioned to provide background information for the Families Commission review of effective parenting programmes. Elements of this rapid review are included in the Commission's report 'Effective parenting programmes: A review of the effectiveness of parenting programmes for parents of vulnerable children' (Families Commission, 2014). This rapid review report provides an analysis of the evidence for parenting interventions, with a focus on intervention effectiveness for parents of vulnerable children aged up to 6 years, who have been maltreated or who are at risk of maltreatment. Factors to consider when implementing parenting interventions in the New Zealand context are also presented.

Methods

To identify and evaluate the evidence for parenting interventions, a Rapid Evidence Assessment (REA) methodology has been used. We also identified common characteristics and practices within and between effective interventions using a common elements analysis.

Findings

The REA identified 81 parenting interventions for parents of vulnerable children aged up to 6 years, with a particular focus on child maltreatment. Twelve of these interventions can be more confidently considered 'effective' interventions as they have demonstrated effect in at least one randomised controlled trial (RCT) and at least 6 months maintenance of effects have been reported. Only one intervention, Nurse Family Partnership (NFP), was rated as Well Supported. In the current analysis, this is the highest rating possible and is characterised by demonstrating effect in at least two RCTs, with at least 12 months maintenance of effect. In addition, the intervention needed to be included in a systematic review and meta-analysis and found to be effective. The pre and postnatal home-visiting program NFP demonstrated effect on child maltreatment and other relevant outcomes 15 years after the intervention had finished.

A further four of the effective interventions were rated Supported, and seven were rated Emerging. Twenty-two additional interventions had Insufficient Evidence for us to determine their effect and ten Failed to Demonstrate Effect. Thirty-eight interventions were rated Pending as they have yet to demonstrate maintenance of effect. We found no interventions that were rated as Concerning Practice. Only one New Zealand intervention evaluated in an RCT, Early Start, was identified in this REA. Early Start was rated Emerging. The REA located one RCT for Early Start, which showed good results on several key child, parent, and family outcomes, some of which maintained to the 9 year follow-up evaluation.

The majority of the effective interventions were programs delivered by professionals, typically in the home. The outcomes targeted most frequently were child behaviour, parent-child relationships and child development, with few interventions targeting basic child care. There is little evidence for interventions that specifically target specific groups of parents such as those with intellectual disabilities or Indigenous families.

We identified 14 common elements within the 'effective' interventions. These included the use of structured or planned sessions, assessment of the child and family and development of an individualised plan. Content was often conveyed in the form of discussion, with the nature of the

content largely focused on child behaviour and strategies to manage behaviour (in particularly positive, non-punitive approaches), parent-child interactions, emotional regulation, child health, development and safety, as well as issues of family wellbeing and life course.

Conclusions and limitations

This report provides details of effective parenting interventions for parents of young vulnerable children and can be used as a guide to the development and implementation of interventions for this population in the New Zealand context. Further evaluations are needed to determine the effectiveness of many of the reviewed interventions. These evaluations need to be rigorous and demonstrate replication and maintenance of effect in order for the interventions to be considered effective. Future evaluations conducted both in New Zealand and internationally will build on the evidence for interventions, as well as contribute to the map of common elements identified.

Although systematic in its approach, measures were taken to make this a *rapid* review and some evaluations may have been missed. Furthermore, some interventions for children in the target age group had to be excluded because they catered for a broader age-range and it was not possible to determine the impact of the intervention on children under the age of 6 years. Readers are advised to seek updated evidence before selecting and implementing interventions.

1. INTRODUCTION

1.1 Background

Parenting interventions are programs, service models or systems of care that aim to improve child outcomes by influencing parenting behaviour, knowledge or cognition. The person referred to as 'parent' may be anyone acting in the caregiving role, such as a biological or adoptive parent or a guardian.

In response to a White Paper (New Zealand Government, 2012a; 2012b) which highlighted the prevalence of maltreatment in vulnerable children in New Zealand, The Families Commission has sought evidence for parenting interventions targeting parents of vulnerable children aged up to 6 years. Information about the characteristics and practices of these interventions was also sought.

The aim of this report is to provide the Families Commission with information about parenting interventions that have been evaluated internationally and found to be effective. While acknowledging that the scope of the term 'vulnerable' is quite broad, this report focuses on the key area of vulnerability identified in the white paper, defined as child maltreatment or risk of maltreatment. In this report we draw together the common elements of interventions found to be effective in targeting children, parent or family outcomes and discuss factors to consider when implementing these interventions in the New Zealand context. We anticipate that this report will be a useful tool for shaping decisions regarding the development and implementation of parenting interventions for parents of young children exposed to or at risk of maltreatment.

Therefore, this report addresses the following questions:

- What parenting interventions for parents of children aged up to 6 years and exposed to or at risk of maltreatment have been evaluated internationally and found to be effective?
- What are the common elements contained within and between these effective interventions?
- What are the critical factors to consider when implementing a parenting intervention for this population in the New Zealand?

To achieve these objectives, we have structured this report to include definitions of key terminology (in this section), followed by a section outlining the research methodology, then the findings from our review of the evidence and common elements analysis will be presented. The report ends with implementation considerations and concluding remarks.

1.2 Definitions

1.2.1 Vulnerable

All children are vulnerable to some extent, however for the purpose of this analysis, a more specific definition is required. The White Paper on vulnerable children (New Zealand Government, 2012a) focuses on child maltreatment and defines vulnerable children as:

"...children who are at significant risk of harm to their wellbeing now and into the future as a consequence of the environment in which they are being raised and, in some cases, due to their own complex needs. Environmental factors that influence child vulnerability include not having

their basic emotional, physical, social, developmental and/or cultural needs met at home or in their wider community.” (p.6).

Based on discussions with key personnel at the Families Commission, we have defined ‘vulnerable children’ as children who have been maltreated or who are identified as being at risk of maltreatment. Maltreatment includes any form of child abuse (such as physical, sexual, emotional or psychological), child neglect or exposure to family or domestic violence.

1.2.2 Parenting interventions

To conduct this analysis, it was necessary to develop a clear definition of what would and what would not be included in our search for evaluations of parenting interventions. For this purpose, we define parenting interventions as parent or parenting interventions, programs or services in which parents, caregivers or guardians receive direct/targeted education, training or support. The overall objective of the intervention is to improve child outcomes either by increasing the parent’s knowledge, skills or capacity as a caregiver, or by improving parent-child interactions, parent outcomes such as parent wellbeing, or family outcomes such as family relationships.

The following *will not* be considered parenting interventions:

- interventions that provide direct education or training to children
- interventions that provide community-wide education where a parent may or may not receive education (i.e. parent is not the target, the community is)
- interventions that provide indirect education to parents via their children (e.g. a notice sent home with the child about the importance of reading)
- tip sheets or information pamphlets handed out to parents in isolation of other forms of intervention.

1.2.3 Parents

For the purpose of this report, we define a parent as a person performing in the role of a primary caregiver to a child. Such a person may be different from the person who is the child’s biological parent. This definition therefore may include grandparents, step-parents, foster parents or other carers.

1.2.4 Outcome

An outcome is a measurable change or benefit for someone. For example, a child and family outcome might be a decrease in substantiated reports of child abuse. Outcomes are different from outputs, which focus on *what was done* to try to achieve change in outcomes. An advantage of using outcomes rather than outputs as an indicator of change is that they can help everyone to focus on what is actually intended to change as a result of an intervention.

1.2.5 Effective interventions

The terms ‘effective’, ‘effect’ and ‘effectiveness’ are often associated with evaluations of interventions but can take on different meanings. For the purpose of this report, we use the term ‘effective’ to refer to interventions in which there is some measureable, statistically significant improvement in an outcome for the child, parent or family. In some studies, interventions are reported to be effective when changes are observed in outcomes from before the intervention to after the intervention (i.e., pre to post). For this analysis, we wanted to identify change that is less likely to be due to chance. Therefore we required interventions to demonstrate statistically significant improvements in comparison to other groups of parents/children that did not receive

the same intervention. That is, in order to be referred to as effective in this report, an intervention needed to be tested against a comparison group and to have found statistically significant improvements in at least one outcome compared to the comparison group. However, even the presence of a control group is insufficient to instil confidence that the intervention is actually 'effective' since there is wide variation in the type and quality of studies. Thus, these positive results should ideally have been tested and replicated using RCTs, the type of study with the greatest internal validity (i.e., the findings were less likely to be due to sampling or experimenter bias) and should also have demonstrated maintenance of effect at follow-up rather than simply at the end of treatment (e.g., 6 or 12 months after the end of the intervention).

2. METHODOLOGY

This section provides an overview of the methods used to conduct the review of parenting interventions for vulnerable children and to determine common characteristics and practices across effective interventions. To achieve this, we used a Rapid Evidence Assessment (REA) methodology and a common elements analysis.

While systematic reviews are essential to a true understanding of the evidence associated with effective interventions, they can be costly in terms of the time and personnel required (at least a year to identify, extract and analyse all relevant studies) (Hemingway & Brereton, 2009). Increasingly being recognised as a less rigorous but more practical form of systematic review, Rapid Evidence Assessments (REAs) are emerging as superior alternatives to traditional literature reviews when there are time and staffing limitations. REAs are reviews that use methods to accelerate or streamline traditional systematic review processes, facilitating the synthesis of evidence in an area within a short time period (Ganann, Ciliska & Thomas, 2010). Examples of methods used to make reviews rapid include placing limitations by language and date of publication, limiting the range of electronic databases searched, limiting searches in terms of geographical context and setting to ensure that evidence can be readily applied to the context of interest. Study designs, populations and intervention types can also be limited depending on the research question. REAs can provide quick summaries of what is already known about a topic or intervention, usually taking between 2 to 6 months. REAs use systematic review methods to search and evaluate the literature, but the comprehensiveness of the search may be limited. REAs are particularly useful when there is uncertainty about the effectiveness of a policy or service, or when a decision regarding evidence-based practice is required within months.

The aim of the REA conducted for this project was to determine what interventions have been found to be effective for parents of young vulnerable children, aged up to 6 years who have been exposed to or who are identified as at risk of maltreatment in the form of abuse, neglect or family violence.

2.1 Search strategy

Evaluations of parenting interventions were identified via a systematic search of the following sources:

- Electronic bibliographic databases
- Selected New Zealand websites
- Key reports identified by the Families Commission
- Citations of related studies identified during data extraction

2.1.1 Electronic bibliographic databases

Search terms were developed that were designed to identify papers reporting relevant evaluations of parenting interventions. We used various terms associated with maltreatment, children and parenting interventions. We also used search terms designed to identify studies that used a comparison or control group. The search terms used appear in Box 1.

Box 1. Search terms used in searches of electronic bibliographic databases in the analysis of effective parenting interventions for parents of vulnerable children aged up to 6 years.

(vulnerab* adj3 (infan* or child* or minor* or toddler* or baby or babies))
OR
child abuse/
OR
((intent* or unintention*) adj3 injur* adj3 (infan* or child* or minor* or toddler* or baby or babies))
OR
(at adj1 risk adj3 (infan* or child* or minor* or toddler* or baby or babies))
OR
((physical* or sexual* or emotion*) adj3 abuse* adj3 (infan* or child* or minor* or toddler* or baby* or babies))
OR
((infan* or child* or minor* or toddler* or baby* or babies) adj3 (maltreat* or neglect*))
OR
((troubled or fragile) adj3 (parent* or famil* or infan* or child* or minor* or toddler* or baby or babies)).
AND
(parent* adj3 (program* or train* or educat* or promot* or intervent* or group* or skill* or support*))
OR
(home* adj1 visit* adj3 (program* or train* or educat* or promot* or intervent* or group* or skill* or support*))
AND
(RCT or randomi* or control* trial* or control* clinical or clinical trial* or random* assign* or random* allocat* or control* group* or comparison group* or treat* group* or wait* list* or wait*-list* or control* condition* or quasi-ex* or quasiex* or (control* adj3 intervention) or (control* adj3 treat*))

Search terms were adapted to meet the individual requirements of each electronic bibliographic database. All years were included in the searches but language was limited to English. The following electronic bibliographic databases were searched: Embase and Embase Classic, PsycInfo, MEDLINE, Social Work Abstracts, CINAHL, ERIC, Applied Social Sciences Index and Abstracts (ASSIA), Sociological Abstracts, BIOSIS Citation Index, Social Sciences Citation Index Web of Science, and The Cochrane Library.

2.1.2 New Zealand websites

Selected New Zealand child welfare and government websites were also searched systematically for published and unpublished papers relating to parenting interventions and child maltreatment, abuse and neglect. All relevant documents located were searched for eligible RCTs of parenting interventions and citations of other potential interventions and RCTs. The purpose of this task was to identify additional interventions and evaluations that might add to our pool of effective interventions. A list of sites searched appears in Box 2.

Box 2. New Zealand child welfare and government websites searched for relevant evaluations of parenting interventions for parents of vulnerable children aged up to 6 years.

The Families Commission - <http://www.familiescommission.org.nz/>
The New Zealand Government - <http://newzealand.govt.nz/>
The New Zealand Ministry for Social Development - <http://www.msd.govt.nz/>
Jigsaw Child Protection Services - <http://www.jigsaw.org.nz/>
The Practice Centre for Child, Youth and Family - <http://www.practicecentre.cyf.govt.nz/>
Child Matters – Educating to prevent child abuse - <http://www.childmatters.org.nz/>
The Office of the Children’s Commissioner - <http://www.occ.org.nz/>
Family Court of New Zealand - <http://www.justice.govt.nz/courts/family-court>
Save the Children New Zealand - <http://www.savethechildren.org.nz/>
Ministry of Education - <http://www.educationcounts.govt.nz/>
Te Puni Kōkiri, the Ministry for Māori Development - <http://www.tpk.govt.nz/en/>
NZ Research - <http://nzresearch.org.nz/>
Ministry of Justice - <http://www.justice.govt.nz>
Ministry of Health- <http://www.health.govt.nz/>

2.1.3 Reports identified by the Families Commission

Reports identified by the Families Commission were searched for potential studies and interventions to be included in the REA. Reference lists of these documents were also searched. These reports were:

- Hendricks, A. K., & Balakrishnan, R. (2005). *Review of Parenting Programmes: A report by the Families Commission*, Research Report No. 2/05. Wellington, New Zealand: *Families Commission*.
- Mikton, C., & Butchart, A. (2009). Child maltreatment prevention: A systematic review of reviews. *Bull World Health Organisation*, 87, 353-361.
- New Zealand Government. (2012a). The white paper for vulnerable children: Volume I. Retrieved from <http://www.msd.govt.nz/documents/about-msd-and-our-work/work-programmes/policy-development/white-paper-vulnerable-children/white-paper-for-vulnerable-children-volume-1.pdf>
- New Zealand Government. (2012b). The white paper for vulnerable children: Volume II. Retrieved from <http://www.msd.govt.nz/documents/about-msd-and-our-work/work-programmes/policy-development/white-paper-vulnerable-children/whitepaper-volume-ii-web.pdf>

2.1.4 Citations of related studies

When extracting data from papers, we checked citations for mention of other studies related to the intervention in question. Eligible studies that were not already in the REA were included.

2.2 Paper selection

2.2.1 Abstract screening

Using our definitions of parent, parenting interventions, vulnerable and outcomes, a four-person team was trained by the Manager of Knowledge Synthesis to select papers reporting relevant evaluations. Raters were trained to a minimum of 90% agreement to screen abstracts and identify papers that met these criteria:

- Is it an **evaluation** of an intervention? (exclude commentaries, opinion pieces, editorials)
- Is the population children exposed to **maltreatment** or at risk of maltreatment (child abuse, neglect, family/domestic violence, at-risk, vulnerable)? (exclude interventions for the general population who are not identified as maltreated or at risk of maltreatment)
- Does the population include children aged **prenatal to 6 years**? (exclude studies that clearly state that the intervention is only for teens/adolescents or, for example, 8-10 year olds)
- Does the evaluation involve a **comparison group**? (exclude studies that clearly state that they have used a design that does not involve a comparison, e.g., one group pre-post, one group exploratory with no intervention)

During this screening phase, papers were sorted into one of four groups by reading the abstracts: **accept** because paper appears to be relevant, paper **maybe** relevant, **reject** because paper is not relevant, paper is **of interest** (for e.g., relevant systematic reviews).

2.2.2 Study eligibility

Full text of papers categorised as accept or maybe were then read separately by one of the four raters to determine if they were eligible for inclusion in the REA. The following eligibility criteria were used:

- Is it an **evaluation**? (exclude commentaries, opinion pieces, editorials, reviews etc.)
- Is the population of children exposed to **maltreatment** or at risk of maltreatment (child abuse, neglect, family/domestic violence)? (exclude interventions for the general population who are not identified as maltreated or at risk of maltreatment, excluded papers reporting only unintentional injury, exclude populations that may present with at-risk characteristics – such as drug abuse - but where there is no mention of maltreatment)
- Does the population include children aged **prenatal to 6 years**? (exclude studies that clearly state that the intervention is only for teens/adolescents or, for example, 8-10 year olds)
- Is it an intervention **targeting parents**? See our definition of parenting intervention. (exclude interventions that target children and see our definition for other exclusions)
- Does it use a randomised, quasi-randomised or non-randomised **contemporaneous control group**? (exclude studies without comparison groups or ones that utilize control groups from different time periods)

- Does it **measure and report effect** of the intervention on child, parent or family **outcomes?** (exclude studies that only report satisfaction, process data etc., exclude papers only reporting cortisol as an outcome)

Papers not reporting evaluations of interventions targeting parenting of vulnerable children aged up to 6 years, papers not measuring the effect of the intervention on child, parent or family outcomes and papers not using contemporaneous comparison groups were excluded. To accelerate the review process, we only included papers written in English, and theses, books and conference papers were excluded. Studies including children of a broader age range than the target of this REA (for example 2 to 10 years), were reviewed to determine if analyses adjusted or controlled for age. Those that did not were excluded as it would not be possible to determine the impact of the intervention on our target age group.

2.3 Data extraction

A four-person team was trained by the Manager of Knowledge Synthesis to extract data from eligible papers. Data extracted included: study design, country in which evaluation was conducted, intervention type (refer to definitions provided below), setting of the intervention, criteria for inclusion in and exclusion from the study, participant demographics, information about participant vulnerability, content of the intervention and the mode of delivery, person delivering the intervention, intervention dose, details of the comparison group, outcome domains targeted by the intervention (refer to outcomes framework below for further details), measures used to assess changes in outcomes and intervention effects. Data were extracted by individual members of the team using a data extraction form (see Appendix 1 for a blank data extraction form). More extensive data were extracted from interventions rated Emerging and higher (i.e., interventions with a minimum of one RCT with 6-months maintenance of effect).

2.3.1 Type of intervention

There is great variability in the nature of parenting interventions. To distinguish between types of interventions, we used a three-category system developed in a previous review (Australian Centre for Posttraumatic Mental Health and Parenting Research Centre, 2013) to classify interventions as a program, service model or system of care. These definitions can be found in Box 3.

Box 3. Definitions of different intervention types: programs, systems of care and service models (Australian Centre for Posttraumatic Mental Health and Parenting Research Centre, 2013).

Program

A program is a well-defined curriculum, set of services or interventions designed for the needs of a specific group or population. Programs are often discrete, manualised curriculums or series of actions/tasks/behaviours designed for a particular population to meet particular outcomes, which are usually measurable. Within a program, children, caregivers, guardians (i.e., group or population) receive direct targeted education, training or support or intervention to increase their knowledge, capacity, skills to improve child and family outcomes.

Service Model

A service model is a suite of approaches, programs or practices delivered to a client group by an agency, organisation or service system. Services may be delivered at home (e.g., a home visiting service) or within another setting, however home visiting programs are not always services; for instance, if they are delivered as a structured curriculum they would be considered a program.

System of Care

A system of care is a coordinated network of community-based services and supports. It is a philosophy that promotes program delivery in ways that prioritise the needs of the children, youth and families to function better in various contexts (i.e., school, home, child protection, peers).

2.3.2 Outcomes framework

In order to identify what interventions exist that target outcomes within a particular area, we have adapted an outcomes framework that we developed for a recent analysis of Australian parenting interventions (Wade, Macvean, Falkiner, Devine, & Mildon, 2012). Given the focus on child maltreatment in the current REA, we have added a domain called systems outcomes. This domain relates to outcomes relevant to child maltreatment service systems (see Box 4).

2.4 Rating of intervention effectiveness

Using the data extracted from each paper, interventions were assessed for effectiveness. We based this assessment on a scheme developed for our analysis of Australian parenting interventions (Wade et al., 2012), with modification to take into account the more rigorous study design criteria and focus on effective interventions in the current REA. There are eight categories within our effectiveness rating scheme: Well Supported, Supported and Promising require RCTs with replication and maintenance of effect. Emerging requires one RCT with maintenance of effect to 6-months. Pending requires one RCT with effect. If there were multiple RCTs for an intervention with mixed findings, for e.g., one with positive findings and one with null findings, we rated the intervention according to the RCT with positive findings. If the weight of the evidence was not favourable, such as more than one RCT with null findings, the intervention would have met the criteria for Failed to Demonstrate Effect. Figure 1 outlines the scheme used for rating intervention effectiveness.

Box 4. Outcomes framework for the analysis of effective parenting interventions for parents of vulnerable children aged up to 6 years.

Child development: normative standards for growth and development; antenatal and infant development (e.g. antenatal and parental smoking and mother's alcohol/drug use, foetal and early childhood exposure to trauma or abuse, birth weight, breastfeeding, immunisation); covers prenatal through to 6 years; overall health; temperament; language and cognitive development (e.g. early childhood brain development, pre-academic skills, approaches to learning, successful in reading, writing, literacy and numeracy, problem-solving and decision-making skills, completion of secondary education, academic achievement, school engagement, attachment and retention, truancy, absenteeism); child adaptive behaviour (e.g. self-care skills, motor skills); parent promotion of child health and development; parent knowledge of child development.

Child behaviour: includes both internalising and externalising behaviour difficulties; problem behaviour; consistent parenting; child behaviour management; positive child behaviour and pro-social behaviour; social and emotional development (e.g. mental health, identity, social competence, self-control, self-esteem, self-efficacy, emotional management and expression, trauma symptoms, coping, emotional intelligence); law-abiding behaviour and underage convictions (particularly for adolescents); risk avoidance and risky behaviour (e.g. youth pregnancy, youth suicide, youth smoking, substance use).

Safety and physical wellbeing: includes optimal physical health and healthy lifestyle (e.g. adequate nutrition, free from preventable disease, sun protection, healthy teeth and gums, healthy weight, free from asthma, adequate exercise and physical activity, healthy adult/parent lifestyle); safety (e.g. safe from injury and harm, free from abuse and neglect); stability, material wellbeing and economic security (e.g. ability to pay for essentials, adequate family housing, family income and family social capital); effects of long-term exposure to persistent poverty.

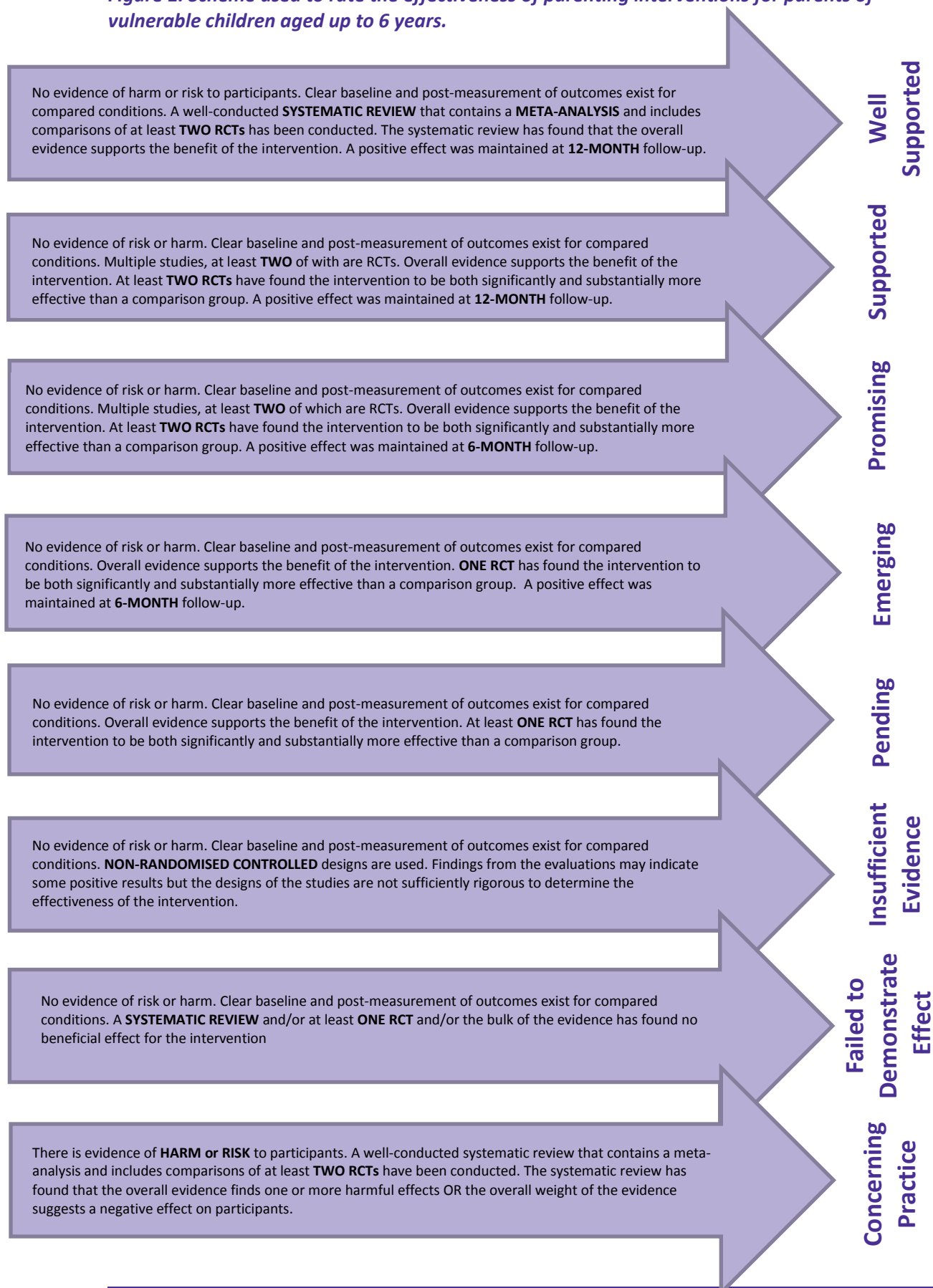
Basic child care: for example, bathing, putting baby to bed, clothing, food and nutrition, child self-care, avoidance of neglect.

Parent-child relationship: includes parent-child interactions (e.g. positive interactions between parents and children, emotional warmth and responsiveness, absence of hostility); consistency and reliability (e.g. children able to rely on supportive adults, providing guidance, providing adequate boundaries); attachment; stimulating learning and development.

Family relationships: includes the parental relationship and relationships between other family members (e.g. child free from exposure to conflict or family violence, positive family functioning, stability in relationships, connection to primary caregiver, connection to family); social relationships and social support (e.g. connection to school and friends, connection to community, connection to culture); family's community participation; community resources; good parental mental health.

Systems outcomes: notification and re-notification to agencies, maltreatment investigations and re-investigation, verified maltreatment investigations and re-investigations, referrals to agencies, presentation to emergency department, help-seeking behaviour, out-of-home care, length of stay, placement stability, maltreatment in care, placement with family, placement in community, placement with siblings, frequency, duration, and quality of parent visitation, level of restrictiveness of care, family reunification/restoration, adoption, re-entry to care, service utilisation, foster parent recruitment and retention, utilisation of kinship care

Figure 1. Scheme used to rate the effectiveness of parenting interventions for parents of vulnerable children aged up to 6 years.



2.4.1 Drawing on the work of existing systematic reviews

Unlike in high quality systematic reviews, the time limitations of this REA prevented an extensive search of the grey literature and it was not possible to contact study authors to obtain further information about their work. To complement the assessment of intervention evaluations identified through electronic bibliographic databases and New Zealand grey literature searches, we located high quality systematic reviews. To identify suitable reviews, we selected reviews that related to parenting interventions, child maltreatment and children aged up to 6 years from our search of bibliographic databases, as described above. We also conducted a targeted search of PsycInfo and MEDLINE using the maltreatment, child and parenting search terms described earlier, but without the filters for comparison or control group. Instead we added (systematic adj1 review*) or (meta-anal*) or (meta adj1 anal*) or (metaanal*) in order to filter for systematic reviews and meta-analyses.

Reviews relating to parenting interventions, maltreatment and children aged up to 6 years were then assessed to determine if they met the following criteria for being high quality systematic reviews:

- They addressed a clearly defined question;
- There was an apriori search strategy and clearly defined inclusion and exclusion criteria;
- They searched a minimum of three databases;
- Grey (unpublished) literature was specifically searched for; and
- There was more than one rater for extraction of study information;

Reviews were also checked to determine if they included meta-analyses. If these criteria were met, the systematic reviews were read to determine if any of the parenting interventions included in the REA were included in the meta-analysis. This enabled us to determine if any of the REA interventions met the criteria for being Well Supported (i.e., there are a minimum of two RCTs, intervention benefit is supported, there is a significant maintenance of effect at 12-month follow-up, and a meta-analysis has found the interventions to be effective).

2.5 Data synthesis

Data extracted from the included studies, along with the effectiveness information was compiled using narrative analysis. Findings were tabulated and described, so that a narrative picture of the interventions and their evaluations are presented (see Results section).

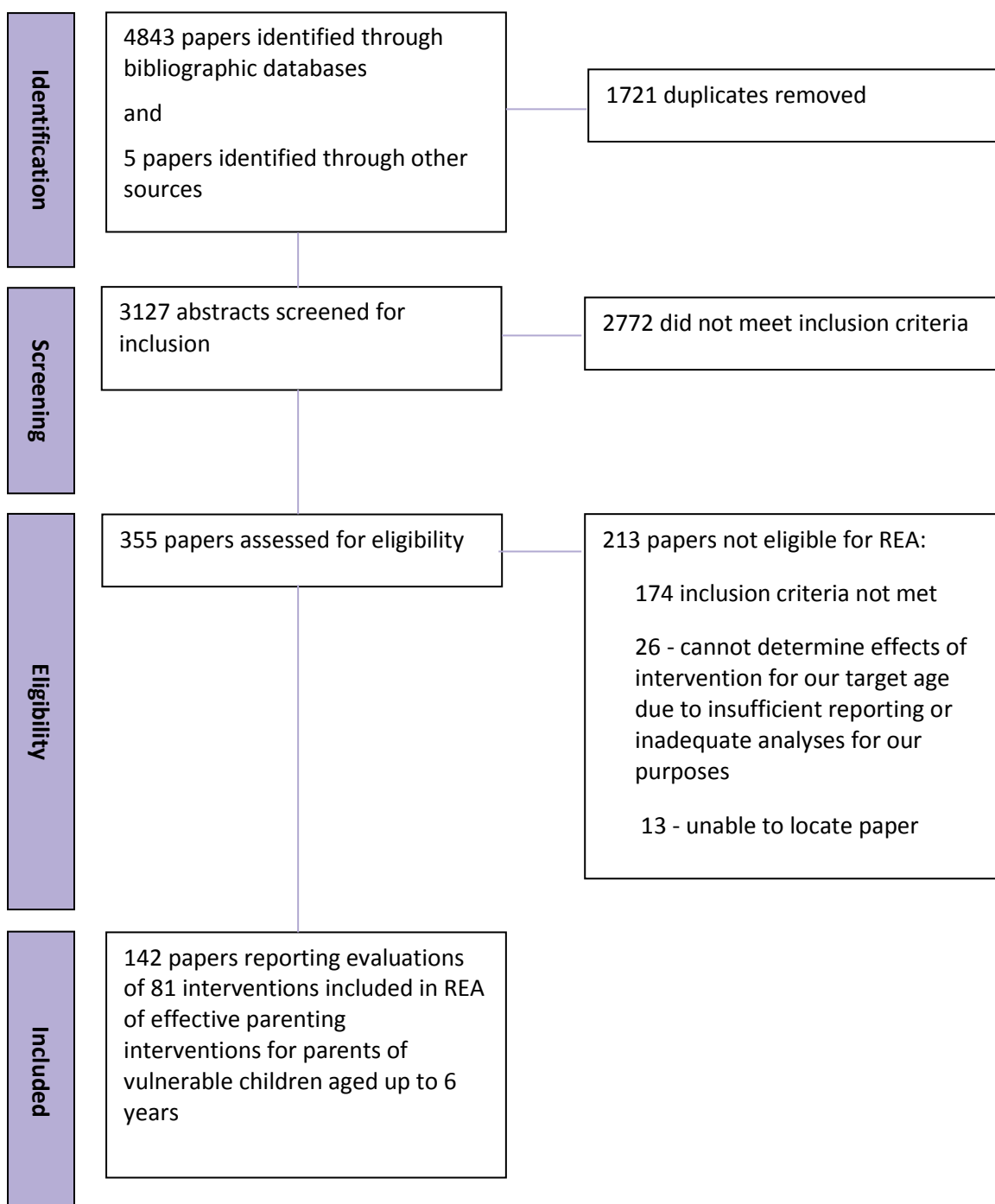
2.6 Common elements analysis

As part of the narrative analysis, we collated individual intervention components for the interventions rated Emerging or higher. These delivery and content components were analysed to determine which elements these effective interventions have in common. The final product is a list of major common elements that are potentially effective for parents and young children exposed to or at risk of maltreatment.

3. RESULTS

Using all sources searched, we identified 142 papers reporting 81 relevant parenting interventions. Figure 2 depicts a flow chart of papers identified in the REA. This section includes intervention effectiveness ratings and descriptions of the parenting interventions, with additional details provided for those rated Emerging and higher (i.e., those with at least one RCT and some maintenance of effect).

Figure 2. Flow of papers through the REA of effective parenting interventions for parents of vulnerable children aged up to 6 years.



3.1.1 Studies excluded from the REA

Twenty-six papers were excluded from the REA (see Table 1), as reliable conclusions concerning the results for children in the target age group could not be drawn. This was due to the inclusion of a broader range in the study and the lack of adequate reporting or analyses precluded any judgements being made about the impact of the intervention on the target group.

Table 1. Papers excluded from the REA because we were unable to determine the outcome on our target age group.

Papers excluded because unable to determine impact on target age
Al-Hassan, S. M., & Lansford, J. E. (2011). Evaluation of the Better Parenting Programme in Jordan. <i>Early Child Development and Care</i> , 181 (5), 587-598.
Brook, J., McDonald, T. P., & Yan, Y. Q. (2012). An analysis of the impact of the Strengthening Families Program on family reunification in child welfare. <i>Children and Youth Services Review</i> , 34, 691-695.
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Costas, M., & Landreth, G. (1999). Filial therapy with nonoffending parents of children who have been sexually abused. <i>International Journal of Play Therapy</i> , 8 (1), 43-66.
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Ducharme, J. M., Atkinson, L., & Poulton, L. (2000). Success-based, noncoercive treatment of oppositional behavior in children from violent homes. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 39(8), 995-1004.
Egan, K. J. (1983). Stress management and child management with abusive parents. <i>Journal of Clinical Child Psychology</i> , 12(3), 292-299.
Evans, W., Falconer, M. K., Khan, M., & Ferris, C. (2012). Efficacy of child abuse and neglect prevention messages in the Florida Winds of Change Campaign. <i>Journal of Health Communication</i> , 17(4), 413-431.
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Papers excluded because unable to determine impact on target age

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- Meezan, W., & O'Keefe, M. (1998a). Evaluating the effectiveness of multifamily group therapy in child abuse and neglect. *Research on Social Work Practice, 8*(3), 330-353.
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Papers excluded because unable to determine impact on target age

Wolfe, D. A. (1981). A Competency-Based Parent Training Program for Child Abusers. *Journal of Consulting and Clinical Psychology*, 49(5), 633-640.

3.2 Intervention effectiveness

3.2.1 Incorporating the findings of high quality systematic reviews

We located reviews and meta-analyses identified through our search of bibliographic databases and in the targeted systematic review and meta-analysis search of PsycInfo and MEDLINE. Twenty-six reviews were found that related to maltreatment and/or parenting and that included studies relevant to our target age (see Table 2). These were then rated against our criteria for 'systematic' as described in section 3, and checked to see if they involved meta-analyses.

Table 2. Assessment of the quality of reviews related to child maltreatment and parenting.

Review	Systematic criteria met and involved meta-analysis
Allin, H., Wathen, C. N., & MacMillian, H. (2005). Treatment of child neglect: A systematic review. <i>Canadian Journal of Psychiatry-Revue Canadienne De Psychiatrie</i> 50(8), 497-504.	NO
Barlow, J., & Coren, E. (2001). Individual and group-based parenting programmes for improving psychosocial outcomes for teenage parents and their children. <i>Cochrane Database of Systematic Reviews</i> , 3.	YES
Barlow, J., Johnston, I., Kendrick, D., Polnay, L., & Stewart-Brown, S. (2006). Individual and group-based parenting programmes for the treatment of physical child abuse and neglect. <i>Cochrane Database of Systematic Reviews</i> , 3.	NO
Bilukha, O., Hahn, R. A., Crosby, A., Fullilove, M. T., Liberman, A., Moscicki, E., Snyder, S., Tuma, F., Corso, P., Schofield, A., & Briss, P. A. (2005). The Effectiveness of Early Childhood Home Visitation in Preventing Violence: A Systematic Review. <i>American Journal of Preventive Medicine</i> , 28(2, Supp1), 11-39.	YES
Carr, A. (2009). The effectiveness of family therapy and systemic interventions for child-focused problems. <i>Journal of Family Therapy</i> , 31 (1), 3-45.	NO
Cohen, J. A., Mannarino, A. P., Murray, L. K., & Igelman, R. (2006). Psychosocial Interventions for Maltreated and Violence-Exposed Children. <i>Journal of Social Issues</i> , 62(4), 737-766.	NO
Corcoran, J., & Pillai, V. (2008). A Meta-Analysis of Parent-Involved Treatment for Child Sexual Abuse. <i>Research on Social Work Practice</i> , 18(5), 453-464.	YES

Review	Systematic criteria met and involved meta-analysis
Coren, E., Hutchfield, J., Thomae, M., & Gustafsson, C. (2010). Parent training support for intellectually disabled parents. <i>Cochrane Database of Systematic Reviews</i> , 6.	NO
Feldman, M. A. (1994). Parenting education for parents with intellectual disabilities: a review of outcome studies. <i>Research in Developmental Disabilities</i> , 15(4), 299-332.	NO
Geeraert, L., Van den Noortgate, W., Grietens, H., & Onghena, P. (2004). The Effects of Early Prevention Programs for Families With Young Children At Risk for Physical Child Abuse and Neglect: A Meta-Analysis. <i>Child Maltreatment</i> , 9(3), 277-291.	YES
Johnson, M., Stone, S., Lou, C., Ling, J., Claassen, J., & Austin, M. J. (2008). Assessing parent education programs for families involved with child welfare services: evidence and implications. <i>Journal of Evidence-Based Social Work</i> , 5(1-2), 191-236.	NO
Kendrick, D., Elkan, R., Hewitt, M., Dewey, M., Blair, M., Robinson, J., Williams, D., & Brummell, K. (2000). Does home visiting improve parenting and the quality of the home environment? A systematic review and meta analysis. <i>Archives of Disease in Childhood</i> , 82(6), 443-451.	YES
Lundahl, B. W., Nimer, J., & Parsons, B. (2006). Preventing Child Abuse: A Meta-Analysis of Parent Training Programs. <i>Research on Social Work Practice</i> , 16(3), 251-262.	NO
MacLeod, J., & Nelson, G. (2000). Programs for the promotion of family wellness and the prevention of child maltreatment: A meta-analytic review. <i>Child Abuse & Neglect</i> , 24(9), 1127-1149.	YES
MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary prevention of child physical abuse and neglect: A critical review. Part I. <i>Journal of Child Psychology and Psychiatry</i> , 35(5), 835-856.	NO
MacMillan, H. L., MacMillan, J. H., Offord, D. R., Griffith, L., & MacMillan, A. (1994). Primary prevention of child sexual abuse: A critical review. Part II. <i>Journal of Child Psychology and Psychiatry</i> , 35(5), 857-876.	NO
Niccols, A., Milligan, K., Smith, A., Sword, W., Thabane, L., & Henderson, J. (2012). Integrated programs for mothers with substance abuse issues and their children: A systematic review of studies reporting on child outcomes. <i>Child Abuse & Neglect</i> , 36(4), 308-322.	YES
Olds, D. L., & Kitzman, H. (1990). Can home visitation improve the health of women and children at environmental risk? <i>Pediatrics</i> , 86(1), 108-116.	NO
Peacock, S., Konrad, S., Watson, E., Nickel, D., & Muhajarine, N. (2013). Effectiveness of home visiting programs on child outcomes: a systematic review. <i>BMC Public Health</i> , 13.	NO

Review	Systematic criteria met and involved meta-analysis
Roberts, I., Kramer, M. S., & Suissa, S. (1996). Does home visiting prevent childhood injury? A systematic review of randomised controlled trials. <i>British Medical Journal</i> , 312(7022), 29-33.	YES
Selph, S. S., Bougatsos, C., Blazina, I., & Nelson, H. D. (2013). Behavioral Interventions and Counseling to Prevent Child Abuse and Neglect: A Systematic Review to Update the U.S. Preventive Services Task Force Recommendation. <i>Annals of Internal Medicine</i> , 158(3), 179.	NO
Shaw, E., Levitt, C., Wong, S., Kaczorowski, J., & The McMaster University Research Group. (2006). Systematic Review of the Literature on Postpartum Care: Effectiveness of Postpartum Support to Improve Maternal Parenting, Mental Health, Quality of Life, and Physical Health. <i>Birth: Issues in Perinatal Care</i> , 33(3), 210-220.	NO
Smith, T. K., Duggan, A., Bair-Merritt, M. H., & Cox, G. (2012). Systematic review of fathers' involvement in programmes for the primary prevention of child maltreatment. <i>Child Abuse Review</i> , 21(4), 237-254.	NO
Sweet, M. A., & Appelbaum, M. I. (2004). Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. <i>Child Development</i> , 75(5), 1435-1456.	YES
Turnbull, C., & Osborn, D. A. (2012). Home visits during pregnancy and after birth for women with an alcohol or drug problem. <i>Cochrane Database of Systematic Reviews</i> , 1.	YES
Wekerle, C. & Wolfe, D. A. (1993). Prevention of child physical abuse and neglect: Promising new. <i>Clinical Psychology Review</i> , 13(6), 501-540.	NO

Of the 26 reviews relating to maltreatment and parenting, 11 met our selection criteria. These 11 systematic reviews including meta-analyses were searched for evaluations of relevant interventions. This information was used to complement the results of our REA, in particular the ratings of intervention effectiveness.

3.2.2 Intervention effectiveness ratings

Data extracted from the papers and evaluations found in the systematic reviews with meta-analyses were compiled to form effectiveness ratings of the parenting interventions. Of the 81 interventions assessed (refer to Table 3), one was rated Well Supported, four were rated Supported, none were rated Promising, 7 were rated Emerging, and 38 were rated Pending. We found ten interventions that Failed to Demonstrate Effect and a further 21 interventions that presented Insufficient Evidence required in order to rate their effectiveness. No interventions were rated as a Concerning Practice. The identified interventions are described below, grouped by effectiveness rating. Where there was no clear intervention name, we have provided a brief description and indicated so. Additional information is provided for the interventions that can be considered more effective (i.e., those with effect and maintenance). For a list of all included interventions, corresponding ratings, and papers reporting these interventions, please refer to Appendix 2.

Table 3. Number of interventions rated in each effectiveness category in the analysis of effective parenting programs for parents of vulnerable children aged up to 6 years.

Effectiveness Rating	Number of Interventions
Well Supported	1
Supported	4
Promising	0
Emerging	7
Pending	38
Insufficient Evidence	21
Failed to Demonstrate Effect	10
Concerning Practice	0

3.3 Effective interventions

In order to be considered potentially 'effective' in this REA, interventions needed to demonstrate effect in at least one RCT and for the effect to maintain for least 6 months after the intervention has ceased. These criteria ensured that the interventions were tested using rigorous designs and that the effects were maintained once the participants were no longer receiving the intervention. Ideally, we would like to see results replicated in at least one more RCT, however the small pool of rigorous evaluations required some flexibility regarding what would be considered 'effective'. Interventions rated Well Supported, Supported, Promising or Emerging are considered potentially 'effective' for the purpose of this REA ($n = 12$). Summaries of the effective interventions appear in Appendix 3. In these summaries you will find: country, intervention type, population and outcomes targeted, delivery and content details and results.

3.3.1 Well Supported intervention

In order to receive a rating of Well Supported, interventions needed to have been included in a systematic review involving a minimum of two RCTs, meta-analysis and 12-month follow-up. They needed to demonstrate a significant effect over the control condition at 12-months after the intervention had ceased. Our analysis of the included systematic reviews identified one intervention that met these criteria: Nurse-Family Partnership (NFP). A tabulated summary of NFP intervention delivery, content and results appears in Appendix 3. Data extracted from NFP papers can be found in Appendix 4.

Nurse-Family Partnership (NFP)

Intervention elements

NFP is a long-running home visitation program from the USA developed by David Olds. Participation commences in the second trimester of pregnancy and is offered to vulnerable parents such as adolescents, single-parents, parents of low socio-economic status or with little education. Individual parents are visited in the home during the antenatal and postnatal period by nurses. The program is delivered in less than 10 prenatal sessions and an average of 20-25 postnatal sessions, each lasting for just over one hour. Participation ceases when the child reaches two years of age. The program targets outcomes across all seven of the outcome domains listed in our framework in Box 3. The aim of NFP is to prevent or reduce negative child outcomes, including maltreatment, by providing education to at-risk mothers during pregnancy and in their first child's early years.

In this intervention, nurses work directly with mothers. The intervention is delivered to parents by linking families to needed services, housing, income and nutritional assistance, as well as to child care and educational vocational training. Parents developed individualised service plans and the nurses help to clarify parent goals. Parents are provided with problem solving skills, praise and encouragement. Structured session guidelines are used and there are plans for each visit. Information covered in the visits includes health-related behaviour during pregnancy and the early childhood years, care parents provide to their children, and maternal personal life course development information such as family planning, education achievements and participation in the workforce.

Evaluation findings

The program has been evaluated extensively since its inception in the 1980s. This REA identified 15 USA papers, including 3 RCTs, in which the program has been compared to treatment as usual, as well as paraprofessional-delivery home visitation. See Appendix 3 for a summary of results. The longest running RCT compared prenatal home visits only (group 3), pre and postnatal home visits (group 4) and a control sample who were provided with some developmental screening and transportation assistance (groups 1 and 2 combined) (Olds, Henderson, Chambelin, & Tatelbaum, 1986; Olds, Henderdson, & Kitzman, 1994; Olds, Henderson, Kitzman, & Cole, 1995; Olds, Eckenrode, Henderson, Kitzman, Powers, Cole, Sidora, Morris, Pettitt, & Luckey, 1997; Olds, Henderson, Cole, Eckenrode, Kitzman, Luckey, Pettitt, Sidora, Morris, & Powers, 1998; Eckenrode, Ganzel, Henderson, Smith, Olds, Powers, Cole, Kitman, & Sidora, 2000; Eckenrode, Zielinski, Smith, Marcynyszyn, Henderson, Kitzman, Cole, Powers, & Olds, 2001; Zielinski, Eckenrode, & Olds, 2009). Olds and colleagues (1986) reports that at 22 months of age (i.e., near completion of the intervention for group 4), a subgroup of parents who were poor and unmarried in group 4 showed significantly less restriction and punishment of their children and had a larger number of appropriate play materials than parents in the control group. By 2 years, participants in group 4 had significantly fewer visits to the emergency room than those in the control group (Olds, et al., 1986).

Positive post program effects were also reported by Olds and colleagues (1994; 1995). When children were 46 months old, families in group 4 had significantly fewer hazards in the home and less avoidable punishment than those in the control group. When the children were aged between 25 and 60 months, group 4 had significantly better outcomes than controls for behavioural coping problems, number of visits to the emergency department and number of days in hospital. Although the program demonstrated clear benefits in these early few years, no

significant differences were found between intervention and control groups substantiated reports of maltreatment, abuse or neglect notifications, the presence of maltreatment, combinations of types of maltreatment or the extent to which children were removed from their homes (Olds et al., 1994; 1995).

However, children in this study were reassessed at 15 years and it was found that there were significantly fewer substantiated reports of child abuse and neglect in group 4 when compared to the control group (Olds et al., 1997) and there was a significant reduction in maltreatment reports in group 4 compared to the control group (Eckenrode et al., 2001). In addition, in Olds and colleagues (1997) a subgroup analysis comparing the control group with lower SES, unmarried mothers in group 4, found that the subgroup had significantly less substance use, fewer arrests, fewer convictions, fewer days in jail, fewer subsequent pregnancies and births for the mother, more months between births, and less months receiving Aid to Families with Dependent Children and food stamps.¹

Also at 15 years (Olds et al., 1998), participants in groups 3 and 4 had significantly fewer incidence of being stopped by the police than the control group, as well as significantly fewer arrests and fewer convictions. Further subgroup analyses with low SES, unmarried mothers found that this subgroup had significantly better outcomes than controls for incidence of running away (both group 3 and 4), incidence of days drinking alcohol, incidence of sex partners (group 4), and incidence of days using drugs (group 3).²

Further positive 15-year intervention effects were observed by Eckenrode and colleagues (2000), in which outcomes for group 4 and controls were compared. Group 4 participants had significantly fewer Child Protection Services (CPS) reports: involving mothers as perpetrators; involving the study child; of neglect without abuse; and of abuse without neglect. Also at 15 years, there were significantly fewer reports of maltreatment and neglect for group 4 compared to the control group (Zielinski et al., 2009). These significant differences between groups only started to show up when the children were older. Effects were not observed in the early years of the evaluation.

Two additional RCTs reporting short-term benefits of NFP were included in the REA (Kitzman, Olds, Henderson, Hanks, Cole, Tatelbaum, McConnochie, Sidora, Luckey, Shaver, Engelhardt, James, & Barnard, 1997; Olds, Robinson, O'Brien, Luckey, Pettitt, Henderson, Ng, Sheff, Korfmacher, Hiatt, & Talmi, 2002). Mothers in groups 3 and 4 were found to have significantly fewer yeast infections at 36 weeks of pregnancy and to have less hypertension at labour than those in the control group. Furthermore, at 2 years, those in group 4 compared to group 2 (transportation assistance and developmental screening), had significantly fewer healthcare visits for injuries or ingestions, less days in hospital, more attempts at breastfeeding, fewer subsequent pregnancies and births and greater mastery.

Olds and colleagues (2002) reported the findings of an RCT in which they tested the delivery of NFP with a paraprofessional, against the usual nurse-delivered method, and a control. At 6 months, children in the nurse-delivered group were significantly less likely to be vulnerable

¹ Please note: findings from subgroup analyses within RCTs and other studies do not provide the same high level external validity as hypotheses that were specifically tested as part of the evaluation design. This particular finding requires further testing as NFP continues to be evaluated over time and should be treated with cautious optimism.

² See previous footnote regarding subgroup analyses.

compared to the control (assessed using fear stimulus). At 21 months, the nurse group were significantly less likely than the controls to have language delays and by 24 months the nurse group were less likely to have delayed mental development. At 2 years, the nurse delivered group had significantly fewer pregnancies and births than the controls. This suggests that the standard nurse-delivered model of NFP is favourable to delivery by a paraprofessional.

3.3.2 Supported interventions

Supported interventions needed to be tested in a minimum of two RCTs. Effects favouring the intervention over the control needed to be observed in both RCTs and effects needed to maintain to 12-months in at least one of these RCTs. In this REA, we rated four interventions Supported: Attachment and Biobehavioral Catch-up (ABC); Parent-Child Interaction Therapy (PCIT); SafeCare; and Triple P Positive Parenting Program – Standard and Enhanced Group Behavioural Family Interventions. A tabulated summary of Supported intervention delivery, content and results appears in Appendix 3. Data extracted from Supported intervention papers can be found in Appendix 5.

Attachment and Biobehavioral Catch-up (ABC)

Intervention elements

ABC is a program for children under the age of 6 years who are at risk of maltreatment or those who have been maltreated. It is delivered to individual parent/carer-child dyads in the home or foster home and targets child development, child behaviour and the parent-child relationship. The program is delivered by a professional in 10 sessions. Refer to Appendices 3 and 5 for intervention details and evaluation results.

In ABC, participants receive written material in the form of a manual. They are videotaped during structured activities with the children and provided with performance feedback based on the videotapes. There is also discussion between the professional and the caregiver. Information conveyed during the interventions includes teaching caregivers how to reinterpret children's alienating behaviour, nurturance in response to child distress, how to manage caregiver negative reactions when the child displays negative behaviours, synchronous parent-child interactions and how to provide a predictable environment for the child.

Evaluation findings

Four RCTs that evaluated the effectiveness of ABC were identified in the current REA. All were conducted in the USA. Sprang (2009) reported immediate post-intervention benefits. Participants in the intervention had significantly less child abuse potential, child internalising and externalising behaviour problems and parental stress, when compared to the waitlist controls. In studies comparing ABC to an alternate treatment of Developmental Education for Families, one-month follow-up results suggest significant gains for the intervention but not comparison group for: child behaviour problems (Dozier, Peloso, Lindhiem, Gordon, Manni, Sepulveda, Ackerman, Bernier, & Levine, 2006); avoidance attachment behaviour (Dozier, Lindhiem, Lewis, Bick, Bernard, & Peloso, 2009); and disorganised attachment and secure attachment (Bernard, Dozier, Bick, Lewis-Morrarty, Lindhiem, & Carlson, 2012).

Longer term program effects (2 year follow-up) were reported by Lewis-Morrarty, Dozier, Bernard, Terracciano, & Moore (2012). Children in ABC had significantly higher scores of cognitive flexibility and theory of mind than the foster-care control group. Also, foster-care

controls, who did not participate in ABC, had significantly lower theory of mind than a comparison group of non-foster care children.

Parent-Child Interaction Therapy (PCIT)

Intervention elements

PCIT is a program that specifically targets the relationship between parents and children. Refer to Appendix 3 for a summary of PCIT and to Appendix 5 for data extracted from PCIT papers. Three RCTs were found in this REA in which PCIT was delivered to families with children aged up to 6 years at risk of maltreatment or with a history of maltreatment. The intervention is delivered by a professional to individual parent-child dyads in a health setting or the home. The outcome domains targeted in PCIT are child behaviour, safety and physical wellbeing and parent-child relationships. In two Australian RCTs (Thomas, & Zimmer-Gembeck, 2011; 2012) involving children at risk, an average of 14-17 sessions were delivered, whereas in an RCT conducted in the USA for children who had experienced maltreatment, parents participated in 22-24 sessions (Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, Jackson, Lensgraf, & Bonner, 2004).

PCIT involves didactic presentation to parents, as well as direct coaching of parents while they are interacting with their children. Parents are provided with praise for appropriate responses to child behaviour and there is immediate remediation for inappropriate responses to child behaviour. Treatment continues until parents achieve Mastery criteria in which they successfully and consistently demonstrate strategies learned and express a clear understanding of their own change and their role within the family system. Content delivered in PCIT relates to child behaviour management, such as the use of labelled praise, reflecting or paraphrase the children's appropriate talk, use of behavioural descriptions to describe the child's positive behaviour. Other content includes avoiding the use of commands, questions or criticism, effective instructions and commands, and following through on direct commands via labelled praise or time out.

Evaluation findings

Participants in PCIT had the following significant gains when compared to a control group at 12 weeks: reduced child externalising problems, reduced behaviour intensity, and reduced stress (Thomas & Zimmer-Beck, 2011). These benefits were also reported in Thomas and Zimmer-Beck (2012) in an RCT that compared standard PCIT to a control group as well as time-variable PCIT. At post, the standard PCIT group had significantly better results than the other groups for: child behaviour problems and intensity, child internalising and externalising behaviour, parent stress, parent verbalisations, and parental sensitivity. However, at 12 weeks, Thomas and Zimmer-Beck (2011) found no significant difference between PCIT and controls for child abuse potential.

Long term PCIT outcomes were reported by Chaffin et al. (2004). Chaffin and colleagues (2004) compared standard PCIT, a control condition, and PCIT plus individualised enhanced services and found that parents in the standard group had fewer re-reports of physical abuse than the other two conditions at 2.3 years. Both PCIT groups fared significantly better than the controls for negative parent behaviours.

SafeCare

Intervention elements

SafeCare is a service model delivered in the home by professionals to individual families. See Appendix 3 for a summary of SafeCare and to Appendix 5 for data extracted from SafeCare

papers. SafeCare targets outcomes in all of the domains in our framework, with the exception of child behaviour. The service commences with an assessment of parent skills using observations and checklists. Parenting skill deficits are taught via active skills training, verbal instructions, discussion, modelling, role-play, feedback and praise. Parents are given homework tasks and skills are taught to Mastery criteria in both simulations and in actual interactions. Content delivered in SafeCare includes information on parent-infant interactions, basic caregiving structures, parenting routines, home safety (such as assessing the home for hazards and teaching parents to remove hazards and child-proof the home) and child health care. Planned activities training is also included whereby the parents are taught time management, explaining rules to children, reinforcement, incidental teaching, preparing activities, discussing outcomes and explaining expectations to children.

Evaluation findings

Two SafeCare RCTs conducted in the USA were identified in the REA. One study targeted caregivers of children under 5 years of age presenting with risk factors such as substance abuse, mental health issues or intimate partner violence (Silovsky, Bard, Chaffin, Hecht, Burris, Owora, Beasley, Doughty, & Lutzker, 2011). These authors found significantly fewer reports of domestic violence in the intervention group compared to the control group at completion of the service.

In another US RCT (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012), SafeCare was delivered in the same mode to families with a history of maltreatment, with children aged less than 12 years. The service lasted for 6 months. Follow-up at 7 years indicated that recidivism rates for the treatment group were significantly lower than for the control group.

Triple P Positive Parenting Program – Standard and Enhanced Group Behavioural Family Interventions

Intervention elements

Triple P is a well-researched Australian-developed program that was originally designed for parents of children with behavioural problems and has since been adapted for other groups of parents. Refer to Appendix 3 for a summary of this intervention and evaluation results and to Appendix 5 for data extracted from Triple P papers. This REA located two Australian-conducted RCTs involving Standard and Enhanced Group Behavioural Family Intervention versions of Triple P. The program is delivered by a professional and targets child development, child behaviour and the parent-child relationship.

In a study by Sanders, Pidgeon, Gravestock, Connors, Brown, and Young (2004), parents with a history of maltreatment were specifically targeted and the intervention was designed to assist with anger control. The mean age of children in this study was 4 years. In this study, Standard Triple P involved four weekly group sessions delivered in the community plus four individual telephone calls. The intervention was delivered by discussion, goal setting, modelling, rehearsal, practice, feedback and developing set goals for behavioural change. Intervention content included child behaviour management with 10 strategies for promoting children's competence and seven strategies for managing misbehaviour (refer to Appendix 3 for a list of strategies). There was also planning ahead for high risk situations in relation to difficult child behaviour, which was referred to as planned activities training. Enhanced Triple P involved all of the above plus four additional group sessions in the community and cognitive re-framing in relation to negative parental attributions about child behaviour. Anger management was also covered using physical, cognitive and planning strategies.

In another study by Sanders, Markie-Dadds, Tully, & Bor (2000) and Sanders, Bor, and Morawska (2007) parent participants had a mental illness and had reported feeling concerned about their child's behaviour. Children in this study were, on average, 3 years of age. Sanders and colleagues (2000) also compared Standard to Enhanced Triple P, along with Self-Directed Triple P and a waitlist sample. Standard Triple P in this study involved an average of 10 weekly individual sessions, half of which were delivered a clinic and half at home. They provided written material in the form of a workbook, as well as verbal instructions about how to use the written material. Discussion, modelling, role-play, feedback and homework tasks were also used. As in Sanders et al. (2004), the intervention content involved 17 child behaviour management strategies and planning for high risk situations. Enhanced Triple P involved an average of 12 weekly individual sessions, half in a clinic and half at home. In addition to the delivery and content in the Standard version, delivery was individualised for each family (e.g., amount of time spent on active skills training varied across families). Partner support for couples was also provided, such as positive listening and speaking, strategies for building a caring relationship. Coping skills information for couples was provided including assistance with personal adjustment difficulties such as depression, anger, anxiety and stress. For single parents, social support was provided via a significant other such as a sister or mother.

Evaluation findings

Results of the study by Sanders et al. (2004) indicate that immediately post intervention, the Triple P Enhanced parents had significantly lower negative parental attribution when compared to Triple P Standard group however this effect did not maintain at 6-month follow-up.

In the study reported by Sanders et al. (2000), the Standard and Enhanced groups compared to the waitlist at post had significantly better outcomes for negative child behaviour, parents' perception of disruptive behaviour in the child, parents' reports of problem child behaviour, parents' reports of dysfunctional discipline style, and mothers' sense of competency. Many of these outcomes for the Enhanced and Standard groups are also significantly better than those in the Self-Directed group, and the Self-Directed group also has some significant gains over the waitlist sample. Unfortunately longer-term comparison to the waitlist sample was not possible as this group commenced participation in the program.

At 12 month follow-up, there were significantly fewer parent reports of negative child behaviour in the Enhanced group, compared to the Self-Directed group (Sanders et al., 2000). This effect was also observed for the Standard group and there was no significant difference between the Standard and Enhanced groups on this measure suggesting no benefit of the Enhanced version over the Standard version. Also at 12-months, observations of mother and child behaviour revealed a significant post to 1-year decrease in intervals of child negative behaviour for the Self-Directed group. The same was not observed for the Enhanced or Standard groups. By 3 years (Sanders et al., 2007), all three treatment groups maintained treatment gains, but there were no significant differences between the groups.

3.3.3 Promising interventions

To be rated Promising, interventions needed have been tested in a minimum of two RCTs and to demonstrate pre-post effect over the comparison condition in both of these. Effect needed to be maintained until at least 6-months post completion of the intervention in one of these RCTs. We identified no interventions in the 'Promising' category in this REA.

3.3.4 Emerging interventions

To receive a rating of Emerging, interventions needed to demonstrate a significant effect over the comparison group in at least one RCT, plus this effect needed to be maintained until at least the 6-month follow-up. Unlike the interventions rated Promising and above, the Emerging interventions demonstrated no replication of effect. While these interventions may be effective in improving child, parent or family outcomes in these single studies, benefits must be reproduced with another sample before the intervention is upgraded to promising or better. Seven Emerging interventions were identified in this REA: Child FIRST; Child-Parent Psychotherapy (CPP); Cognitive Behavioral Therapy for Sexually Abused Preschoolers (CBT-SAP); Early Intervention Foster Care Program (EIFC); Early Start; Parent training prevention model (description not name); and Parents Under Pressure (PUP). Tabulated summaries of the delivery, content and results of Emerging interventions can be found in Appendix 3. Data extracted from Emerging intervention papers can be found in Appendix 6.

Child FIRST

Intervention elements

Child FIRST is a system of care that targets children aged between 6 months and 3 years with emotional and behaviour problems where the parents are at psychosocial risk. See Appendices 3 and 6 for details. Child FIRST targets all of the outcome domains in our framework and is delivered by a professional in 24 weekly home-based sessions to individual parents. The intervention commences with a child and family assessment conducted in partnership between a clinician, a care coordinator and the parents, with other service providers involved as needed. A family plan is developed outlining supports and services for all family members and this is focused on family priorities, strengths, culture and needs. The home visiting component of the service is guided by parental need rather than a set curriculum. Families are also linked in with appropriate services, such as mental health, health and early care, early intervention, education, child protection and social and concrete services.

To meet the families' concrete needs there is observation of the child's emotional, cognitive and physical development, as well as observations of parent-child interactions. Psychoeducation is provided regarding developmental stages, expectations and the meaning of typical behaviours. Information is provided to assist parents to understand the child's feelings and the meaning of the child's unique and challenging behaviours, as well as the mother's history, feelings and experiences of the child. Alternative perspectives of child behaviour and new parental responses are presented. The use of positive reinforcement of parent and child strengths is taught as a means of promoting parental self-esteem.

Evaluation findings

A study from the USA reported effects for the intervention group over the control group at 12 month follow-up (Lowell, Carter, Godoy, Paulicin & Briggs-Gowan, 2011). The intervention group had a significantly smaller percentage of children with language, social and emotional problems and the parents had significantly fewer psychiatric symptoms and less stress.

Child-Parent Psychotherapy (CPP)

Intervention elements

CPP is a program for children aged 3 to 5 years where there is domestic, family or intimate partner violence. Refer to Appendix 3 for a summary of the program and to Appendix 6 for data extracted from CPP papers. CPP targets child development, child behaviour, safety and physical wellbeing, parent-child relationships and family relationships. Professionals deliver the intervention to individual parent-child dyads in an average of 32 sessions over 50 weeks.

Initial sessions focus on assessment, followed by the communication of assessment findings with the mother. Individualised treatment plans are developed and program content is discussed. Content includes information about parent-child relationships, safety in the environment, promoting safe behaviour and setting appropriate limits. Parents also taught about self-regulation such as developing guidance regarding how children regulate affect and emotional reactions, support and label affective experiences, support parent's skills to respond in helpful, soothing ways when the child is upset. Reciprocity in relationships is covered in the program, including, reinforcing the parent and highlight parent's and child's love and understanding of each other, supporting the expression of positive and negative feelings for important people and developing interventions to change maladaptive patterns of interactions.

In this intervention, there is also a focus on traumatic events. Parents are helped to acknowledge what their child has witnessed and remembered, and the parent and child are encouraged to understand each other's perspective on the trauma. Participants are provided with developmental guidance acknowledging response to trauma, to make linkages between past experiences and current thoughts, feelings and behaviours. Parents are also helped to understand the link between their own experiences and current feelings and parenting practices. The difference between past and present circumstances is highlighted. Parents and children are supported in creating a joint narrative. Also, behaviours that help parent and child master the trauma and gain new perspective are reinforced.

CPP content also focuses on continuity of daily living, such as fostering pro-social adaptive behaviour, fostering efforts to engage in appropriate activities, and fostering development of a daily routine.

Evaluation findings

A USA evaluation found that at post, the intervention group had significantly better results for traumatic stress disorder and avoidant behaviour when compared to the control group (Lieberman, Van Horn & Ippen, 2005). At 6-month follow-up (Lieberman, Ghosh Ippen & Van Horn, 2006; Ghosh Ippen, Harris, Van Horn & Lieberman, 2011), child behaviour scores were significantly better for the intervention group than the control group.

Cognitive Behavioral Therapy for Sexually Abused Preschoolers (CBT-SAP)

Intervention elements

CBT-SAP is a program for 3 to 6 year old children with a history of maltreatment. Appendix 3 contains a summary of CBT-SAP and Appendix 6 includes data extracted from CBT-SAP papers. The intervention targets child development, child behaviour, parent-child relationships and family relationships and is delivered in a clinical setting. Twelve sessions are delivered to individual parent-child dyads on a weekly basis by professionals. As the name suggests, this intervention involves the provision of cognitive behavioural therapy to parents and children. Delivery takes the form of cognitive reframing, thought stopping, positive imagery and

contingency reinforcement. Parenting management training is also provided, as well as problem solving, psychoeducation and supportive interventions.

Intervention content for the parents covers ambivalence about belief in the sexual abuse, ambivalence towards the perpetrator, attributions regarding the abuse, feelings that the child is damaged, the provision of appropriate emotional support to the child, management of child fear and anxiety, management of appropriate behaviours, and dealing with the parents' issues in relation to their own abuse. Intervention content for the children covers similar concerns such as attributions regarding the abuse and ambivalent feelings towards the perpetrators, but also child safety and assertiveness training, appropriate versus inappropriate touching, inappropriate behaviour and issues of fear and anxiety.

Evaluation findings

One RCT evaluating CBT-SAP in the USA was found. At post intervention (Cohen & Mannarino, 1996b), children in the intervention group had lower scores for behaviour profile and internalising behaviour problems. At 12-month follow-up (Cohen & Mannarino, 1998), children in CBT-SAP has fewer sexualised behaviours and fewer types of and lower frequency of behaviour problems compared to controls.

Early Intervention on Foster Care Program (EIFC)

Intervention elements

EIFC is a service model for children aged up to 6 years in the foster care system. See Appendix 3 for a summary of EIFC and Appendix 6 for data extracted from EIFC papers. EIFC specifically targets systems outcomes and is delivered directly to children in individual and group sessions each week for 6 to 9 months. Foster parents also receive targeted intervention in group and individual sessions. The intervention is delivered by professionals.

Unlike in most parenting interventions where training occurs when the parents and children are living together, this service model commences prior to the child's placement with the foster parents. After placement, foster parents continue to receive support from the practitioner through daily supervision and telephone contact and weekly foster parents' support groups. There is also 24-hour on-call crisis intervention. Children receive direct service with a behavioural specialist at preschool or daycare and in the home. Children also attend weekly "therapeutic" playgroup sessions.

The content of the foster parent training focuses on child behaviour management. This includes positive parenting strategies to promote child psychosocial development and behaviour regulation, such as a warm, responsive, consistent home environment. Strategies that are taught include the use of positive reinforcement, close supervision and engagement, labelling target behaviour and tracking the occurrence of these, using methods for increasing prosocial behaviour through using behaviour contracting with rewards and start charts, and using time-out and other contingent approaches to setting limits.

The individualised child treatment component of EIFC teaches prosocial skills to improve behaviour at daycare/preschool and in the home. Weekly playgroups sessions for children focus on school readiness skills such as early literacy.

Evaluation findings

The EIFC RCT was conducted in the USA (Fisher, Burraston & Pears, 2005). Follow-up occurred at 24 months after the intervention, during which the intervention group was found to have significantly fewer failed permanent placements than the control group.

Early Start

Intervention elements

Early Start is a program for children aged up to 3 months who are at risk of maltreatment. A summary of Early Start appears in Appendix 3 and data extracted from Early Start papers appears in Appendix 6. Family risk factors in Early Start include domestic, family or intimate partner violence and parental substance abuse. The program targets outcomes in all seven outcome domains. This is a professional-delivered home-based intervention. Individual families participant for up to 3 years, with the number of visits varying from a maximum of one per week to a minimum of one per month.

Authors of the Early Start documents located in this REA stated that only essential features of the program are reported as service provision is flexible and it was not possible to account for all of the work undertaken. The essential components are described here. The program commences with an assessment of family needs, issues, challenges, strengths and resources. Individualised service plans are developed. There is a focus on relationship development between the worker and the family, in which there is collaborative problem solving focused on family challenges. Families receive support, teaching, mentoring and advice to assist them to use their strengths and resources.

Content of the intervention includes information about child health and safety, such as timely medical visits, compliance with immunisation and wellbeing checklists and home safety. Parenting skills information is also provided including parental sensitivity, positive parenting and nonpunitive parenting. There is support for parental physical and mental health such as reductions of unplanned pregnancies and early detection and treatment of depression/anxiety/substance abuse. Other content includes information about family economic and material wellbeing (budgeting, employment), positive adult relationships and crisis management.

Evaluation findings

Although three publications (Fergusson, Grant, Horwood & Ridder 2005a; 2006; Fergusson, Boden & Horwood, 2013) and two reports (Fergusson, Horword, Ridder & Grant, 2005b; Fergusson, Boden & Horwood, 2012) were located for this New Zealand evaluation, these all related to the one study. Post intervention results (Fergusson et al., 2005a; 2005b) indicate that the intervention group when compared to the control group had significantly greater duration of early childhood education, greater scores for positive parenting attitudes and non-punitive attitudes and a smaller percentage of parental reports of severe physical assault. At the 9-year follow-up point (Fergusson et al., 2012; 2013), the intervention group had significantly fewer internalising or externalising behaviour problems, a higher parenting score, a smaller percentage of visits to the hospital for accident or injury, a smaller percentage of parent-reported harsh punishment, a lower score for physical punishment, better scores on the strengths and difficulties questionnaire for parents, fewer severe physical assaults by a parent, and a smaller percentage of agency contacts for abuse or neglect. With a follow-up period at 9 years, this

intervention more than met the 6 month follow-up criteria for a rating of Emerging. Had another RCT with effect been located, this program would have been rated Supported.

Parent training prevention model (description)

Intervention elements

This parent training program is for children aged 18 months to 4 years of age who are at risk of maltreatment and have parents who have a low SES status or who are disadvantaged. See Appendix 3 for a summary and Appendix 6 for data extraction forms. Child development, child behaviour, safety and physical wellbeing and parent-child relationships are targeted in this home-based intervention. Professionals deliver the program in 15 weekly sessions to individual parents, plus there are sessions for groups of parents.

The program is delivered in a nondidactic format in which there is continuous interaction between group members and group facilitator. Written materials are provided that outline the group curriculum. Group sessions start with one or more women sharing a positive experience with their child that happened over the week. There is also a review of previous week's curriculum. During sessions, Socratic dialogue is used, as well as role-play, modelling and homework tasks. Barriers to the use of the curriculum are discussed.

The main focus of the program content is on child behaviour management, such as positive parenting techniques including child-led play, distraction, "catching child being good" and effective compliance strategies, as well as the use of time out for managing difficult child behaviour. Problem solving, time management and anger management skills are also included, as well as child health and safety content.

Evaluation findings

Post intervention results in the USA evaluation indicate that the intervention group had significant improvements in problem solving ability and number of tasks during which mothers rewarded children (Peterson, Tremblay, Ewigman & Saldana, 2003). These improvements were not observed for the control group. At 9-month follow-up, the intervention group had significantly greater improvements in child elicited anger and parent self-efficacy (Peterson et al., 2003).

Parents Under Pressure (PUP)

Intervention elements

PUP is a program for parents of children aged 2 to 8 years, where parental substance abuse is an issue. Appendix 3 contains a summary of PUP and Appendix 6 includes data extracted from PUP papers. PUP targets child behaviour, safety and physical wellbeing and family relationships and is delivered to individual parents in the home by professionals in 10 weekly sessions.

PUP includes 10 modules and begins with an assessment and individualised case planning in collaboration with parents. Additional case management can occur outside of the treatment session (e.g., housing, legal advice, school intervention). The program aims to strengthen the parent's view that they are competent in their parenting role and help parents develop skills in coping with negative emotional states through the use of mindfulness skills. There is a focus on positive parenting skills including praise, rewards for good behaviour, and child-centred play skills, as well as non-punitive child management techniques such as time out. Content covers

ways of coping with lapse and relapse (to use of alcohol and drugs). Life skills training is included such as practical advice regarding diet and nutrition, budgeting, health care and exercise. The program aims to extend social networks and build relationships such as effective communication between partners.

Evaluation findings

An Australian evaluation of PUP (Dawe & Harnett, 2007) found significant benefits for the intervention group compared to the control group at 6-month follow-up for parenting stress, child abuse potential, rigid or harsh parenting beliefs and attitudes, parental methadone dose and child behaviour problems.

3.3.5 Narrative synthesis of the Effective interventions

The following section provides a narrative synthesis of the Well Supported, Supported and Emerging interventions. These interventions can more confidently be labelled as 'effective', because they have demonstrated effect in at least one RCT and effect results has been maintained for at least 6 months following the end of the intervention. This information appears in tabulated form in Appendix 3, listed separately for each of the interventions.

Intervention type

Nine of the effective interventions were programs, two were service models (SafeCare and EIFC) and one, a system of care (Child FIRST). Eight of the interventions were evaluated in the USA. One further intervention had evaluations in Australia as well as the USA (PCIT), two were evaluated only in Australia (PUP, Triple P Standard and Enhanced) and one was evaluated in New Zealand (Early Start).

Populations targeted

Only one of the effective interventions targeted both the pre and postnatal period (NFP). Eight of the interventions specifically targeted children within our target range, while PCIT, PUP and SafeCare have been tested in studies targeting only those under 6, as well as a broader age range that includes those under and above 6 years of age.

All of the Supported interventions and one of the Emerging interventions (CBT-SAP) have been tested in at least one RCT with a population identified as at risk of maltreatment or with a history of maltreatment. The remaining interventions were included in the REA because they referred to or targeted maltreatment, even though the populations were not specifically identified as maltreating families. Instead, the parents were involved in the interventions because of factors such as: parental substance abuse ($n = 3$); parents who are teens ($n = 2$); domestic or intimate partner violence ($n = 2$); parental mental illness ($n = 2$); low SES ($n = 1$); single parenthood ($n = 1$); parents at risk of dysfunction ($n = 1$); parental psychosocial risk ($n = 1$); foster care ($n = 1$); and children at medical risk ($n = 1$).

Outcomes targeted

The outcome domain most frequently targeted by the effective interventions was child behaviour ($n = 11$ each), followed closely by child development and parent-child relationships ($n = 10$ each). Safety and physical wellbeing was targeted by seven interventions, the family relationships domain was targeted by six interventions and systems outcomes were targeted by five. Only two interventions targeted basic child care.

Mode, setting, dose and intervener

All of the effective interventions were delivered by professionals, although NFP standard nurse delivery was compared to paraprofessional delivery and delivery by a paraprofessional was found to be less successful.

Ten of the effective interventions were home-based, with PCIT also delivered in health or clinical settings. One intervention was community based and one was in a health setting. All effective interventions were delivered at the individual level, such as to individual parents, families or parent-child dyads. Four interventions also involved delivery to groups. One intervention involved work with children separate from caregivers. This was in the foster care setting and the intervention was also delivered to foster parents at the individual and group level.

Five interventions were brief, delivered weekly over 8 to 15 weeks. Four interventions were moderate in length, delivered in approximately 6 to 9 months. One intervention was delivered in approximately 32 sessions over 12 months. NFP and Early Start were the longest running interventions, with NFP commencing during the prenatal period and extending until the child is 2 years old, and Early Start running for 3 years. Exact number of sessions for these long-term interventions varied depending on need.

3.3.6 Effectiveness of interventions for targeting maltreatment outcomes

There are a broad range of child, parent and family outcomes that may be targeted as part of an intervention for children exposed to or at risk of maltreatment. Box 3 outlines several of these. Given the key purpose of this analysis is to provide the Families Commission with information about effective interventions that aim to prevent or reduce maltreatment, we summarise here the findings from the interventions that, through rigorous research, have found a significant effect on maltreatment outcomes. Table 4 provides a listing of effective interventions which have shown an effect on these key outcomes, measures used to assess these effects, and when in the course of assessment these effects were observed. Further summaries on intervention findings can be found in Appendix 3.

There were immediate post intervention effects on maltreatment outcomes for ABC and Early Start, with medium term gains for PCIT and PUP. Early Start, SafeCare and NFP demonstrated the longest follow-up effects. Such long-term evaluations of the other interventions have not been reported. The long term effects observed in SafeCare and NFP, along with the physical abuse reports in PCIT (2.3 year maintenance of effect) were based on the most reliable measures. Unlike the other outcomes, these were not assessed by parental self-report or even by interviewer administration, but rather child protection and child welfare substantiated reports, therefore reducing the risk of bias.

Table 4. Effect of the Well Supported and Supported interventions on child maltreatment outcomes.

Construct	Outcome	Measures	Intervention	Study	Effect
Maltreatment	Child maltreatment reports	Child Protection Services records	NFP	Eckenrode et al. (2001) Zielinski et al. (2009)	Significant effect at 15 years
	Agency contacts for abuse or neglect	Questionnaire Interviewer completed but parental report	Early Start	Fergusson et al. (2012)	Significant at 9 years
	Avoidance of punishment	Caldwell and Bradley Home Inventory Interviewer completed but parental report	NFP	Olds et al. (1994)	Significant effect at 46 months
	Non-punitive attitudes	Items from the Child Rearing Practices Report and Adult-Adolescent Parenting Inventory Interviewer completed but parental report	Early Start	Fergusson et al. (2005)	Significant immediately post the end of the intervention period
	Harsh punishment	Medical records Obtained via parental report	Early Start	Fergusson et al. (2012; 2013)	Significant at 9 years

Construct	Outcome	Measures	Intervention	Study	Effect
	Rigid or harsh parenting beliefs or attitudes	Child Abuse Potential Scale Self-Report	PUP	Dawe and Harnett (2007)	Significant at 6 months
	Recidivism	Child Protection Services records	SafeCare	Chaffin et al. (2012)	Significant effect at 7 years
Abuse	Child abuse reports	Child Protection Services records	NFP	Olds et al. (1997) Eckenrode et al. (2000)	Significant effect at 15 years
	Child abuse potential	Child Abuse Potential Inventory Self-report	ABC	Sprang (2009)	Significant immediately post the end of the intervention period
		Child Abuse Potential Scale Self-report	PUP	Dawe and Harnett (2007)	Significant at 6 months
	Physical abuse re-reports	State-wide child welfare administration database	PCIT	Chaffin et al. (2004)	Significant effect at 2.3 years
	Physical punishment	Items from the Child Rearing Practices Report and Adult-Adolescent Parenting Inventory	Early Start	Fergusson et al. (2012; 2013)	Significant at 9 years

Construct	Outcome	Measures	Intervention	Study	Effect
		Interviewer completed but parental report			
	Severe physical assault of child by parent	Parent-Child Conflict Tactics Scale Interviewer completed but parental report	Early Start	Fergusson et al. (2012)	Significant at 9 years
Neglect	Child neglect reports	Child Protection Services records	NFP	Eckenrode et al. (2001) Olds et al. (1997) Zielinski et al. (2009)	Significant effect at 15 years

3.3.7 Common elements of the effective interventions

All of the effective interventions included in this REA were home-based, yet this does not suggest that this was a key characteristic of success. In fact, there were interventions based in the home that rated poorly in this REA.

Components essential to each of the interventions are presented in a matrix in Appendix 7.

Fourteen common elements among the effective interventions were identified in this REA and these are presented in Box 5. All of the effective interventions identified were delivered by a professional. This may be a key effective practice as in an NFP evaluation, professional delivered intervention was found to be more effective than paraprofessional delivery.

A clear common delivery element of many of the effective interventions was that structured curriculum or planned sessions were used when implementing the intervention. Many of the interventions commenced with an assessment of the family, parents and child, and then an individualised intervention or service plan was developed for/or with the family. Often, the content of the intervention was delivered using discussion.

A central common element in the content provided in the interventions was about child behaviour and strategies to manage child behaviour, with nearly all interventions teaching this to parents. Sometimes this was referred to in general terms, such as child behaviour management techniques, positive parenting techniques for increasing desired behaviour, and non-punitive measures for decreasing undesired behaviour. Specific behaviour management strategies that were common across several interventions included: providing routines and clear rules, explanations, limits and instructions; praise for target behaviours; the use of time-out for reducing unwanted behaviours; and the use of reinforcement, rewards and charts for target behaviours.

Information about and strategies to promote positive parent-child interactions, and for the regulation of parent and child emotions were also common to several interventions.

An additional content element in common across several interventions related to child wellbeing, including child health, development and safety, such as how to care for your child's health, what is typical development and how to ensure your child's safety. Lastly, several effective interventions focused on supporting parental and family wellbeing and life course such as parental mental and physical health, nutrition, budgeting, education and employment.

Box 5. Common elements of the 'effective' interventions identified in the REA.

Delivery

- 1 The intervention is delivered by a suitably qualified and trained **professional**
- 2 A **structured curriculum and planned sessions** are followed often with the use of a manual, although there may flexibility for individual circumstances
- 3 The intervention commences with an **assessment** of the family, parent and child, which may include their current needs, concerns, skills, strengths, functioning, interactions, resources and supports
- 4 An **individualised plan** is developed for each family, parent and/or child. This is typically based on the outcomes of the assessment and may be developed with input from the family
- 5 The intervention content is delivered by **discussing** the material with the family, rather than by didactic teaching

Content

- 6 **Information about child behaviour** is provided to parents, such as what constitutes typical behaviour, reasons for misbehaviour, understanding child behaviour and parental responses to behaviour
- 7 Parents are taught how to provide an environment where children know what to expect and **know what is expected of them** thereby increasing their opportunity to behave well and reducing the likelihood of misbehaviour. Specific strategies taught to parents included: providing children with **routines**; providing **clear rules** to children; explaining parents' **expectations** of the children; clearly **setting limits**; and providing **clear** instructions for children
- 8 Parents are taught strategies or techniques for **managing child behaviour**, such as ways to increased desired behaviour and ways to deal with misbehaviour
- 9 Parents are taught to use '**positive parenting**' strategies for increasing desired behaviour suggesting that behaviour is managed by fostering healthy interactions between parents and children, by focusing and building on strengths in behaviour. Specific strategies mentioned were: **praising** children, which is particularly powerful when praise is **labelled** or accompanied by a descriptor of the behaviour that is being praised (e.g., 'great job putting away your toys', instead of 'great job'); providing **reinforcement or rewards** when children display a desired behaviour. This works well when the parent has clearly described the expectations to the child and also if the child knows what the positive consequences of the good behaviour will be (the reinforcer); and the use of **charts** (such as star charts) for recording and tracking the occurrence of desired behaviours. This is often used in conjunction with praise and reinforcement
- 10 Parents are taught to use '**non-punitive**' measures for decreasing misbehaviour that involve alternate methods to deal with misbehaviour. These do not involve punishment but do involve clear and reasonable consequences. The most commonly used strategy in the effective interventions was '**time-out**', although other strategies mentioned included planned ignoring and quiet time. Time-out would be most effective when used as part of a set plan for managing behaviour in which the child is aware that time-out is the consequence of pre-identified misbehaviour, the child knows what time out entails and the parent follows through with the plan as set
- 11 Parents are provided with information about **parent-child interactions**. This includes ways to promote positive parent-child interactions, what are positive relationships, and examining current interactions and responses to each other.
- 12 Parents and children are provided with strategies to help them **regulate their emotions**, such as understanding emotions, anger management training, and preventing, detecting and dealing with depression, anxiety and fear.
- 13 Parents are provided with information about **child health, development and safety**. This includes developmental milestones, what is typical development and what is not, how to care for the health of children, information about illness, how to provide a safe home and environment, measures to protect your child from harm and abuse.
- 14 Parents are provided with information about and support for **parental and family wellbeing and life course**. This element of the intervention focuses on what the parents, households and families need in order to be cared for and provided for. It includes looking after the physical and mental health of parents, supporting their access to education and continued employment, as well as considering the nutrition, physical activity and financial/budgetary needs of the family. It involves helping parents access the services and supports they need to meet immediate needs, as well as future planning.

3.4 Interventions with initial effect

The REA identified several interventions that have not met the replication and maintenance requirements for us to say that they are effective, but they have been evaluated in RCTs and show some positive results in favour of the intervention. These have been called Pending interventions.

3.4.1 Pending interventions

Interventions rated as Pending demonstrated significant effect over the comparison condition from pre to post in one RCT but they did not meet the 6-month maintenance requirement. While these interventions appear to show some benefit for participants, further research is needed to determine if these benefits will sustain overtime or diminish in the absence of the intervention.

We identified 38 Pending interventions in the REA, none of which were evaluated in New Zealand: Adolescent prenatal home-visited group (description not name); Child and Youth Program; Child Parent Enrichment Project (CPEP); Comforting and interaction techniques (description not name); Community health nurse prenatal home visits (description not name); COPE intervention; Early home visiting based on Family Partnership Model; Early Intervention Program (EIP) delivered by Public Health Nurses (PHN) (description not name); Enhanced Healthy Start; Family Spirit; Group parent training with individualised home-based training (description not name); Healthy Families; Home-based parent training (description not name); Home visits (description not name); Home intervention for drug-abusing mothers, based on the Infant Health and Development Program (IHDP) (description not name); Home visits for prenatal prevention for out-of-home-placement (description not name); Home visits, play groups and parent groups (description not name); 1) Infant–parent psychotherapy (IPP), 2) Psychoeducational parenting intervention (PPI); In-hospital and after-care services by trained student nurses (description not name); Maltreatment prevention home visits by interdisciplinary team (description not name); Miller Early Childhood Sustained Home Visiting (MECSH); Mother and Toddlers Program; MOtherS Advocates in the Community (MOSAIC); My Baby and Me; Parent and newborn rooming-in postpartum (description not name); Parent-Child Activities Interview; Parent mentoring based on the Touchpoints approach (description not name); Period of PURPLE Crying; Prenatal and paediatric health services program (description not name); 1) Preschooler-parent psychotherapy (PPP), 2) Psychoeducational home visitation (PHV); SOS! Help for Parents; STAR Parenting Program; The Pride in Parenting Program; The Seattle Model of Paraprofessional Advocacy; Triple P - US Triple P System Population Trial; Webster-Stratton Parenting Program (an early iteration of Incredible Years); “What Do I Say Now?”; and Young Parenthood Program (YPP).

Please note that YPP almost qualified for an Emerging rating as a significant subgroup effect (for males only) was observed at 18 months for relationship with partner and nurturing parenting. However, as there was no *whole sample* effect at follow-up, this intervention was downgraded to Pending.

3.5 Interventions with no effect at this stage

3.5.1 Insufficient Evidence

The REA identified 21 interventions that had insufficient evidence. These interventions were not tested in RCTs, only in non-randomised controlled trials and none of the evaluations were conducted in New Zealand. While these interventions showed no harm and may be of some

benefit for participants, the study designs were not rigorous enough to make clear decisions about effect. Further research is needed to determine whether they are effective.

The interventions with insufficient evidence were: Systematic Training for Effective Parenting (STEP) (description not name); Centre-based therapeutic day treatment program and parent services (description not name); Crisis nursery (description not name); Children's Treatment Program (CTP); ChIME (Chinese Immigrant Mothers oral health Education) programme; Community Infant Project (CIP); Cottage Community Care Pilot Project; Family treatment drug courts (FTDCs); Full Love in the Family Protects Your Kids; Group program for sole-parent mothers run by Opportunity for Advancement (description not name); Happy Mothers, Happy Babies (HMHB); Home visiting for African American mothers (description not name); Home Visit Service for Newborns and Home Visit Project for All Infants; Keiner f"allt durchs Netz (KfDN; "Nobody Slips Through the Net"); Mother-infant clinical home visiting (description not name); Parent-baby (ad)venture (PBA); Substance abuse treatment (description not name); Teen parent education program (description not name); Teen Parents and Babies Program (TPBP); Thrive Program; and Title 1 Child-Parent Centers.

3.5.2 Failed to Demonstrate Effect

Ten interventions were found in the REA that had been tested in at least one RCT and had shown no significant benefit over a comparison condition. None of these evaluations occurred in New Zealand. Although these interventions demonstrated no harm, these interventions show no clear benefit at this stage. It is possible that further research will show some effect for these interventions.

Nine of the interventions that failed to demonstrate effect were: Adolescent parents attending school (description not name); Colorado Assessment Maternity Program (CAMP); Comprehensive Child Development Program (CCDP); Extended postpartum contact and paraprofessional home visits (description not name); Group well-child care (GWCC); Home-based intervention for maternal depression and child behaviour (description not name); Nurse home visits for family in child protection (description not name); Parent-child group education facilitated by a mentor (description not name); and Trauma-Focused CBT with Trauma Narrative.

After some consideration, we rated one further intervention as Failed to Demonstrate Effect (10 interventions in this category in total). This intervention is Healthy Start (refer to Appendix 8 for details). This intervention was tested in two RCTs. One RCT (Duggan, McFarlane, Windham, Rohde, Salkever, Fuddy, Rosenberg, Buchbinder, & Sia, 1999; El-Kamary, Higman, Fuddy, McFarlane, Sia, & Duggan, 2004; Duggan, Fuddy, Burrell, Higman, McFarlane, Windham, & Sia, 2004a; Duggan, Fuddy, McFarlane, Burrell, Windham, & Sia, 2004b; Duggan, McFarlane, Fuddy, Burrell, Higman, Windham, & Sia, 2004c; McFarlane, Burrell, Crowne, Cluxton-Keller, Fuddy, leaf, & Duggan, 2013; Bair-Meritt, Jennings, Chen, Burrell, McFarlane, Fuddy, & Duggan, 2010) demonstrated post effect and effect at 2-year follow up. However, effect was absent by the 7 -9 year mark. An additional RCT (McCurdy, 2001) found effect at post for only one outcome, satisfaction with the support of an adult other than one's partner.

Had these been the only results we found for this intervention, it would have received a rating of Supported, albeit with caution as the effects did not maintain to final follow-up. However, there were two additional RCTs (Bugental, Ellerson, Rainey, Lin, Kokotovic, and O'Hara, 2002; Bugental and Schwartz (2009) testing the effectiveness of Enhanced Healthy Start, with Healthy Start as a comparison group. While no follow-up assessments of Enhanced Healthy Start have been found, these two RCTs found a significant post effect for Enhanced Healthy Start over Healthy Start.

Therefore, the weight of the evidence is not in favour of Healthy Start and we have rated in the Failed to Demonstrate Effect category. Further research is needed to determine whether the short-term gains of the Enhanced version are maintained.

4. DISCUSSION

The purpose of this analysis was to conduct an REA to determine the effectiveness of parenting interventions for parents of vulnerable children aged up to 6 years. Specifically, we examined interventions for children at risk of maltreatment or who have been maltreated and determined the common elements within and between the interventions found to be effective. In this section, we draw the findings of this REA together, outline critical implementation considerations, describe the limitations of this analysis and provide concluding remarks.

4.1 Summary of findings

This REA identified 81 parenting interventions for the target population. Of these, only one was rated Well Supported (NFP), while a further four were rated Supported. These five interventions are ones that we can most confidently call effective because of the rigor of the evaluations, and the replication and maintenance of effect at 12 months after the completion of the intervention. We found no interventions that met the criteria for Promising (replication and maintenance to 6 months), but we found seven interventions that we rated Emerging as they showed effect in one RCT with at least 6 months maintenance. These interventions rated Emerging and above have been grouped together in this report and referred to as 'effective' because of the rigor of their evaluations and because they have demonstrated that effects have not diminished in the absence of the intervention. This is a conservative list of effective interventions which reflects the level of rigor we have utilized when rating these interventions, in particular, the use of information reported in high quality systematic reviews with meta-analyses to rate the Well Supported intervention.

We rated no interventions as a Concerning Practice. There were however 69 interventions that did not meet our criteria to be called effective. These were either not tested using designs that were rigorous enough to determine effect ($n = 21$), had shown no effect using a rigorous design ($n = 10$) or had shown effect but had not demonstrated maintenance of this effect ($n = 38$). Further research may add to the evidence for these interventions.

Nine of the 12 'effective' interventions were programs and eight were US evaluations. Several studies were excluded from review because they included children outside our target age group and we were unable to isolate the effect of the interventions on children aged up to 6 years. There were however three effective interventions found that covered a broad age range and factored age into their analyses. The remaining nine effective interventions included only children in the prenatal period or up to 6 years of age at the commencement of the study.

Five of the effective interventions specifically targeted a sample of maltreated children or those identified as at-risk of maltreatment. The remaining seven interventions did not give this criteria for intervention inclusion but referred to maltreatment as a risk associated with the target population or as an outcome of their intervention. Most often, the effective interventions targeted child behaviour, parent-child relationships and child development. Dose varied from brief interventions, through to ones lasting for several years. The effective interventions were typically delivered on an individual basis, in the home, by professionals. We found little evidence for the use of paraprofessionals in delivery of the interventions, with an NFP evaluation finding favourable results with their standard nurse delivery instead of a paraprofessional.

Fourteen common elements were identified within the effective interventions. These included the use of structured or planned sessions, assessment of the child and family and development of

an individualised plan. Content was often conveyed in the form of discussion, with the nature of content largely focused on child behaviour and strategies to manage behaviour, parent-child interactions, emotional regulation, child health, development and safety, as well as issues of family wellbeing and life course.

All of the effective interventions have demonstrated some benefit for child, parent or family outcomes over a comparison condition, including child maltreatment-specific outcomes. These benefits have been found to be long term for interventions such as NFP, SafeCare, and Early Start. In fact some intervention effects for NFP did not emerge until many years after the conclusion of the intervention. Others have found short or medium term gains that have not been assessed in the longer term.

4.2 Gaps in the evidence

We found few effective interventions that were evaluated outside the USA, with only one RCT of a New Zealand intervention identified in the REA. There are of course many relevant parenting interventions underway in countries other than the USA, including in New Zealand, and several of these will have been subject to evaluation. Despite the rigor of our search, some may have been missed, but others will not have met our criteria of testing against a comparison condition. This finding is in line with results from international evaluations across the health and human services, where there is a strong push for a greater number of comparative effectiveness studies (as opposed to testing interventions against a no treatment condition). In order to determine whether an intervention is better than receiving nothing or receiving the usual services available, evaluation against a comparison condition, preferably with randomisation, is required. Replication in an additional RCT is also ideal, as is long-term follow-up.

Some of the interventions related to maltreatment and our target age that were seen during our New Zealand grey literature search included Parents as First Teachers (PAFT), He Taonga Te Mokopuna programme and Family Start programme. No RCT evaluations were found for these interventions. PAFT was evaluated using a non-equivalent comparison group (census data) which could provide some useful initial indications of impact. However, this intervention was not included in the REA as the lack of rigor in this evaluation would not have added to the information reported here about effective interventions or common elements of same. At best, with the available information, PAFT would have been rated as Insufficient Evidence. He Taonga Te Mokopuna programme and Family Start programme used no comparison groups in the located evaluations. Again, this does not mean that these interventions are not effective. They may well be. Unfortunately, the research required to make that determination has not been conducted. Similarly, some interventions identified in our REA remain at the Pending stage of evaluation because of a lack of follow-up assessment. Findings observed at the conclusion of the intervention period, (e.g., effects in favour of the intervention or effects in favour of the control or the absence of an effect) cannot be assumed to be lasting. The relative absence in the literature of this crucial measure of effectiveness (i.e., maintenance of effect) means that the entire field of human services must pay greater attention to this shortcoming in future studies. In addition, while it is important to make sure that gains are maintained following treatment, some gains might not materialize until for a number of years (for example, some effects in NFP were not observed until long-term assessments were conducted).

This REA identified few effective service models and systems of care. The higher proportion of programs included may be representative of the proportion of programs versus service models and systems of care for this population. Alternatively it may be that there have been fewer

evaluations of these types of interventions or that the evaluations have not met our design inclusion criteria. Perhaps this may even be a reflection of the challenges or inappropriateness of evaluating a service model or system of care using an RCT. Other rigorous designs, particularly econometric designs such as Difference in Differences, Propensity Score Matching, Regression Discontinuity, and Instrumental Variable Analysis hold great promise as alternatives to RCTs.

Although we did not specifically seek interventions targeting particular populations, other than maltreatment, we did record the demographics and descriptors of populations in the interventions rated Emerging and higher. Some clear population gaps exist. Only one effective intervention was identified that included a considerable proportion of Indigenous parents (SafeCare). The paucity of interventions specifically for Indigenous families in the REA may be a reflection of the limited range of evaluations of parenting interventions in general for Indigenous parents, let alone ones that specifically target maltreated children or maltreatment outcomes. In addition, while we did find interventions for teen parents, substance abusing parents and parents with a mental illness, we identified no effective interventions in which participants were identified as parents with an intellectual disability or learning difficulties. In fact, in three interventions (ABC, PCIT, SafeCare), parents with intellectual disabilities were expressly excluded from the studies.

A final identified gap is in the type of outcomes targeted by the interventions. With notable exceptions (e.g., PCIT), not all interventions targeted outcomes in the child safety domain, such as prevention or reduction of abuse or neglect. Other outcomes, such as child behaviour, were the focus of most interventions. In all likelihood, this reflects a less developed understanding of the aetiology and lack of agreed upon, specific definitions of forms of maltreatment that extend beyond serious physical abuse. If interventions are to target specific behaviours, these must be adequately conceptualized and defined.

4.3 Implementation considerations

The report provides an analysis of the evidence for parenting interventions, with a focus on intervention effectiveness for parents of vulnerable children aged up to 6 years, who have been maltreated or who are at risk of maltreatment. Factors to consider when implementing parenting interventions in the New Zealand context are also presented. This section now addresses issues related to the quality implementation of these interventions by describing critical considerations regarding the implementation of interventions.

While the identification of effective interventions can be helpful when practitioners, agencies, and policy makers are searching for interventions in which to invest, the emphasis on identifying and cataloguing effective interventions has not been matched by a corresponding effort to systematically assess the extent to which interventions are implemented and to evaluate the impact of this on intervention outcomes (Aarons, Sommerfield & Walrath-Greene, 2009). This is despite strong evidence that the quality of the implementation of an intervention has an impact on desired outcomes.

By 'Implementation' we are referring to a set of planned and intentional activities that aim to put into practice interventions or empirically supported practices (ESPs) within real-world service settings (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Mitchell, 2011). Implementation is a process, not an event, and should be distinguished from adoption, which is defined as the formal decision to use an intervention or set of ESPs (Mitchell, 2011). Effective implementation has more traditionally referred to the full implementation of all components of an intervention or practice, as planned by the original developer(s). More recently, implementation researchers

have systematically started to examine the degree to which core components of a program can be maintained while allowing for local adaptation as a way to accommodate what may be needed at a system, policy or organizational level to facilitate effective implementation and sustainment of the intervention or ESPs (e.g., Aarons, Green, Palinkas, Self-Brown, Whitaker, Lutzker,, Silovsky, Hecht, & Chaffin, 2012)

Implementing effective interventions is complex and challenging, and many previous efforts to implement effective interventions in the family support sector have not reached their full potential due to a variety of issues inherent in both the family support service setting and the implementation process itself (Aarons, Hurlburt & Horwitz, 2011; Mildon & Shlonsky, 2011). Without addressing these organisational and individual challenges as part of a planned, purposeful and integrated implementation strategy, interventions, even effective ones, may not produce the desired effects for parents and children. Therefore, attention to **how** an intervention is implemented is as important to child, parent and family outcomes as **what** is implemented. To ensure that government spending is directed at services and programs known to be associated with positive results, and to ensure that limited dollars are invested in interventions that are more likely to make a difference to families, we must attend to both the evidence that a intervention works, and the way that intervention should be implemented to achieve good results.

Over the last 10 years, implementation researchers have increased their efforts to describe the process of implementation. These can be descriptions of the main steps involved in implementation and/or more refined conceptual frameworks based on research literature and practical experiences such as theoretical frameworks and conceptual models (Meyers, Durlak & Wandersman, 2012).

Frameworks for implementation are structures that describe the implementation process and include key attributes, facilitators, and challenges related to implementation (Flaspohler, Anderson-Butcher, & Wandersman, 2008). They provide an overview of practices that guide the implementation process and, in some instances, can provide guidance to researchers and practitioners by describing specific steps to include in the planning and/or execution of implementation efforts, as well as pitfalls or mistakes that should be avoided (Meyers et al., 2012).

While there is no agreed upon standard in the field, some efforts have been made to synthesize these approaches to implementation. For example, Meyers et al. (2012) conducted a synthesis of 25 implementation frameworks. Frameworks were sought across multiple research and practice areas as opposed to focusing on a specific field (e.g., Damschroeder et al., 2009 who focused on the health care field). Only frameworks that described the specific actions and behaviours (i.e., the “how to”) that can be utilized to promote high quality implementation were included in the synthesis. The authors argued that systematically identifying these action-oriented steps served as practical guidance for planning and/or executing implementation efforts. They found that many frameworks divided the process of implementation into several temporal phases, and within these phases, there was considerable agreement on the critical elements or activities conducted within each. Their synthesis found 14 elements that could be divided into four distinct temporal phases of implementation.

The first phase is named *Initial Considerations Regarding the Host Setting* and contains a number of elements all of which described work that focused primarily on the ecological fit between the intervention and/or practice and the host setting. Activities here commonly include assessment strategies related to organizational needs, innovation-organizational fit, capacity or readiness

assessment, exploring the need for adaptation of the program or practice and how to do it, obtaining buy in from key stakeholders and developing a supportive organizational culture, building organizational capacity, identifying or recruiting staff and conducting some pre-implementation training.

The second phase is named *Creating a Structure for Implementation*. Here the focus of the work can be categorized into two elements: developing a plan for implementation and forming an implementation team which clearly identifies who is responsible for the plan and tasks within it. The third and fourth phases incorporate the actual *doing* of the implementation (whereas, the first two phases focus on *planning* for implementation).

Phase three, *Ongoing Structure Once Implementation Begins*, incorporates three elements: technical assistance (including training, coaching and supervision), monitoring on-going implementation (process evaluation) and creating supportive feedback mechanisms to ensure all relevant players understand how the implementation process is progressing.

Finally, phase four is named *Improving Future Applications*. Here the element is identified as learning from experience, which commonly involves retrospective analysis and self-reflection including feedback from the host setting to identify particular strengths or weaknesses that occur during implementation.

The authors highlighted that many of the frameworks included in the synthesis were based upon what had been learned about implementation from practical experience and through staff feedback. There were few instances where studies empirically tested the implementation framework that had been applied and modified based on their findings. What was more common was making modifications to implementation frameworks based on: feedback received from the setting about ineffective and effective strategies, considering what others were beginning to report in the literature, and/or by critical self-reflection about one's effort.

Box 6 summarises these and other important aspects of implementation identified within implementation science literature that should be considered when selecting an effective intervention to deliver to families and when planning for the implementation of that intervention.

Services face a range of challenges when selecting and implementing effective interventions. One significant challenge is that an effective intervention may not exist for a service provider's identified needs, selected target population, and service and cultural context. Alternatively, or sometimes additionally, the monetary cost of an effective intervention may be too high, which is a difficulty community-based services often face. While the cost of *not* implementing an effective intervention should also be considered in such circumstances, it is nonetheless the case that cost is often a barrier to the quality implementation of effective interventions.

Box 6. Implementation considerations for parenting interventions (Wade et al., 2012).

Appropriateness of intervention aims and outcomes

- Is the intervention based on a clearly defined theory of change?
- Are there clear intervention aims?
- Are there clear intended outcomes of the intervention that match our desired outcomes?

Targeted participants

- Is the target population of the intervention identified and does it match our intended target population?
- What are the participant (child, parent or family) eligibility requirements (ages of caregivers or children, type of person, presenting problem, gender)?

Delivery setting

- What are the intervention delivery options (e.g. group, individual, self-administered, home-based, centre-based)?
- Is there flexibility in delivery modes that suit our service context?

Costs

- What are the costs to purchase the intervention?
- What are the costs to train staff in the intervention?
- What are the ongoing costs associated with purchasing manuals and technical assistance (e.g. coaching and supervision of staff)?
- What are the costs to implement the intervention with families (in terms of staff time, resources to deliver, travel cost to agency, travel cost to families, costs to families in terms of time off work and childcare)?
- Are cost-effectiveness studies available?

Accessibility

- Are the materials, trainers and experts available to provide technical assistance (i.e. training, coaching and supervision) to staff who will deliver the intervention?
- Is the intervention developer accessible for support during implementation of the intervention?
- Does the intervention come with adequate supporting documentation? For instance, are the content and methods of the intervention well documented (e.g. in provider training courses and user manuals); are the content and methods standardised to control quality of service delivery?
- Are the intervention content and materials suited for the professionals and parents we work with, in terms of comprehension of content (e.g. reading level of materials, amount of text to read or write, use of complex terminology)?
- Does the intervention suit our service's access policies (e.g. 'no wrong door' principles; 'soft' entry or access points; community-based access; access in remote communities)?

Technical assistance required

- What are staff training needs (frequency, duration, location, cost)?
- What amount of ongoing technical assistance is required (including top-up training, coaching or supervision)?

Fidelity

- What are the requirements around the fidelity or quality assurance of delivery of the intervention components to families? That is, how well do practitioners need to demonstrate use of the intervention either during training or while they are working with families (e.g. are there tests, checklists or observations that they need to perform during training; are there certain things they need to do to prove/show to the trainers that they are using the intervention correctly, such as video-taped sessions, diaries, checklists about their skills or use of the intervention with families)?
- Are there certain intervention components that MUST be delivered to families? That is, if they don't do X, they are not actually using the intervention as intended.
- What are the intervention dosage or quantity requirements for effective results (i.e. how often and for how long do families need to receive the intervention)? Can our service meet those requirements?

Data and measurement of effectiveness

- How is progress towards goals, milestones and outcomes tracked?
- What are the requirements for data collection (i.e. what measures are recommended, how often are they to be administered, who can administer them)?
- How accessible and relevant are the developer-recommended evaluation tools (ease of access, cost, ease of administration and scoring, relevance to New Zealand context)?

Languages

- What languages is the intervention available in and does that match our client population?
- Is the intervention relevant and accessible to particular cultural and language groups (e.g. Indigenous families)?

Another significant challenge facing services is deciding the extent to which an intervention should be adapted or not to fit the context and, if done, how it should be adapted with quality and to good effect, retaining the essential elements of the intervention that contribute to its effectiveness. In general, when working with effective interventions it is best to work towards strong adherence to the intervention as is, to ensure intervention fidelity and to avoid possible dilution of the benefits of the intervention. For example, one of the main findings of the NFP studies is that it may be inadvisable to have this intervention delivered by paraprofessionals as this form of delivery was found to be less effective than the nurse-delivered program. It is unclear whether professionals from other disciplines, adequately trained, could successfully deliver the program. Adaptation of this program to include delivery by other professionals, perhaps due to the unavailability of suitably trained and qualified staff, may not result in favourable outcomes.

Nevertheless, adaptation and local innovation are sometimes necessary in order to meet emerging needs and suit specific populations. In such cases it is important to evaluate adapted or innovative interventions to ensure that intended child and family outcomes are being met, and that harm is not being caused. Ideally, where an evaluation reveals that an adapted or innovative intervention demonstrates promise (that is, has been reasonably well evaluated and was shown to have some positive outcomes), ongoing evaluation should be performed to establish higher levels of evidence.

4.4 Limitations

Although systematic reviews remain the ideal method of assessing the effectiveness of interventions, REAs are increasingly being used in circumstances where time and/or budgetary constraints do not permit a systematic review. While REAs use methods considerably more rigorous than a standard literature review, they are not without limitations. In order to accelerate the review process (i.e., to fulfil the 'rapid' in REA), we imposed some restrictions: we only included English language papers; we only searched the *New Zealand* grey literature; we did not contact authors for further studies or to clarify information reported in publications; we did not include books, theses and conference papers; and we did not undertake an extensive search of reference lists of included studies. As a result of these necessary limits, there may have been some interventions, studies or data that were missed in this REA. This additional information may have provided us with further information about the effectiveness of an intervention, lack of effect, or even potential harm. Our search of electronic bibliographic databases was, however, exhaustive and we imposed no limits on year of publication. We are confident that this process was rigorous enough to identify the vast majority of relevant publications within our search parameters.

Another limitation of the REA process was that we were unable to extract extensive data from all studies. This means that some information of relevance to the reader may not be reported here but could be further explored if needed. Moreover, we were not as rigorous in our evaluation of the quality of the research as would be required in a high quality systematic review. For example, we do not report effect sizes or assess for bias. In addition, the data were synthesized in a narrative fashion rather than through meta-analysis. Nonetheless, the rating scheme used did require considerable design rigor, replication and maintenance in order for the interventions to be rated highly, and the inclusion of systematic review evidence to complement our rating scheme helped us to single out the most effective intervention for the Well Supported level. The use of this additional criteria, which is not imposed on interventions rated by web-based

clearinghouses such as the California Evidence-Based Clearinghouse (<http://www.cebc4cw.org/>), somewhat compensated for our inability to evaluate interventions using more rigorous, and time-consuming, methods.

An additional necessary restriction imposed on this REA was to limit the interventions to those targeting children up to the age of 6 years. Given that this was the population of interest in the review, all studies needed to involve children of this age. While we were able to identify 142 papers that clearly included this population, there were 26 that we rejected because reporting in the paper or analyses used did not allow us to reasonably determine the possible effect of the intervention for the target age group. It is possible that some of these papers reported interventions that may in fact be of benefit to the target age group, but it was just not possible to determine this from the information available.

Further interventions of interest may have been missed due to the maltreatment-specific search terms and inclusion criteria used in this REA. These terms and criteria were necessary in order to identify the most relevant interventions for the target population and to make the search and selection process manageable. There were some studies that were excluded because, although they involved populations such as substance abusing parents (in fact these probably came up in our search because of the word 'abuse'), they did not refer to child maltreatment. Furthermore, we did not specifically search for studies involving known populations at risk of maltreatment. To include the handful of interventions found that targeted populations such as substance abusing parents in the absence of the mention of maltreatment would provide an incomplete picture of these interventions since there was no specific search for further studies involving these populations. Examples of New Zealand evaluated interventions sighted during our grey literature search that may be of interest but did not specifically mention maltreatment include HIPPY New Zealand, Well Child/Tamariki Ora and New Zealand Te Aroha Noa programme. It should be noted that such interventions may in fact be useful for the prevention of child maltreatment but their analysis and inclusion was beyond the scope of the current REA.

A final limitation of this REA, and in fact of all reviews, is that the information reported here is time limited. High quality systematic reviews undergo regular updates to check for new studies. This analysis was completed in May 2013 and readers are advised that new evidence will emerge after publication of this report. We recommend that any new evidence is taken into consideration when selecting and implementing parenting interventions.

4.5 Conclusion

The relative scarcity of interventions that may be effective for vulnerable children under the age of six should be considered in context. First, the field of child welfare in high income countries has tended to focus on systems level interventions for children experiencing extreme forms of maltreatment (i.e., physical abuse with injuries; sexual abuse; severe neglect). Prevention efforts aimed at the less frequently occurring forms of maltreatment may miss the vast majority of vulnerable children exposed to less extreme but still debilitating and long-lasting forms of maltreatment. Second, this review identified thousands of studies representing hundreds of interventions, but almost all of them failed to meet objective standards of evidence needed to label them 'effective'. This finding is not uncommon in many areas of social services. A tradition of rigorous evaluation has only recently begun to emerge. Over time, more interventions will be identified that have been rigorously evaluated. Third, the lack of comparative effectiveness research, a gap found across the social services, limits our ability to ascertain whether administered programs have an effect in the presence of other reasonably effective

interventions. Thus, while we can say that many of the interventions appear to be effective when compared to nothing, we do not know how they perform in head to head comparisons with other services that can be reasonably offered. Finally, knowledge about the substantial limitations of the studies conducted in this area is, in and of itself, informative. Too often, interventions are assumed to be effective and later found to be ineffective or even harmful. The state of knowledge in this area is relatively weak and should prompt caution with respect to investment on the part of government. As decisions are made in terms of outcomes and interventions, a wise approach would be to rigorously test these choices and, in the process, build the knowledge base in this area.

Despite some limitations that are inherent in rapid reviews such as this, the current REA has been conducted with rigor and we have expected high standards of interventions in order to consider them 'effective'. The report has identified parenting interventions for parents of young children who have been maltreated or who are at risk of maltreatment, and has provided ratings of intervention effectiveness. Information about interventions, including key outcomes with effect, has been presented; effective interventions have been analysed to determine what practices and characteristics they have in common; and key factors to consider when implementing parenting interventions have been described that take the New Zealand context into account.

The information presented in this report can be used to assist in the development and testing of parenting interventions in New Zealand. A useful first step in this process might be to map the findings within the effective interventions to New Zealand epidemiological data, in terms of target populations. Next, consider what outcomes are desired or what you want to achieve for these populations, and which interventions best fit your population and outcomes. We would then recommend implementing and rigorously testing the chosen interventions. In general, most of the interventions presented here have not been subject to rigorous testing, and particularly not in New Zealand. Even for those that have been well tested, such as NFP, there remain unanswered questions such as the applicability of the program to families with a history of maltreatment and to families that are not pregnant with their first child, and whether or not the intervention can be effective if delivered by professionals that are not nurses or with paraprofessionals. Rigorous evaluation of the implementation and effectiveness of future interventions in New Zealand will add to the existing literature and can be used to further refine the work that is currently underway with vulnerable families in New Zealand. Furthermore, the common elements identified here can be used as a precursor to a more in-depth look at how these elements, and others identified in future New Zealand evaluations, can be fit together to form relevant interventions that have a good chance of working with locally or regionally identified populations.

5. References

(Includes only references cited in this report. Refer to Appendix 1 and 2 for a reference list of all papers included in the REA)

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6. List of appendices in accompanying documents

Appendix 1: Data extraction form for interventions rated Well Supported, Supported, Promising and Emerging

Appendix 2: Effectiveness ratings of parenting interventions included in the REA

Appendix 3: Summary of Well Supported, Supported and Emerging interventions: Intervention delivery, content and evaluation results

Appendix 4: Data extracted regarding the Well Supported intervention

Appendix 5: Data extracted regarding the Supported interventions

Appendix 6: Data extracted regarding the Emerging interventions

Appendix 7: Intervention component matrix for the Well Supported, Supported and Emerging interventions

Appendix 8: Information collected regarding Healthy Start

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