





The Evidence Portal Technical Specifications

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The Evidence Portal Technical Specifications has been endorsed and approved by:

Jessica Stewart Craig Layton

Analysis and Research

Approved: 30/4/21

Executive Director, FACS Insights, Executive Director, Child & Family

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Prepared by:

Evelyn Tan, PhD Advisor, Centre for Evidence and Implementation

Kathleen Blair, PhD

Senior Project Officer, Targeted Earlier Intervention Program, Policy Strategy and Commissioning, New South Wales Department of Communities and Justice

Samantha Adams, PhD

Manager, Targeted Earlier Intervention Program, Policy Strategy and Commissioning, New South Wales Department of Communities and Justice

Vanessa Rose, PhD Director, Centre for Evidence and Implementation

Aron Shlonsky, PhD Professor and Head, Social Work, School of Primary and Allied Health Care, Monash University

Jessica Hateley-Browne, PhD Senior Advisor, Centre for Evidence and Implementation

Rebecca Featherston Research Fellow, Social Work, School of Primary and Allied Health Care, MonashUniversity

Matthew Burn Advisor, Centre for Evidence and Implementation

Abbreviations and Acronyms

CEI Centre for Evidence and Implementation

DCJ Department of Communities and Justice

TEI Targeted Early Intervention

PICOS Patient/Program, Intervention, Comparison Group, Outcome, Studydesign

PRISMA Preferred Reporting Items for Systematic Reviews and Meta-Analyses

QEDs Quasi-experimental Designs

RCTs Randomised Controlled Trials

SR Systematic Review

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1 Introduction

The Department of Communities and Justice (DCJ) has developed an <u>Evidence Portal</u> (<u>https://evidenceportal.dcj.nsw.gov.au/</u>) – a publicly-available interactive website with information about 'what works'.

In 2020, DCJ commissioned the Centre for Evidence and Implementation (CEI) to develop technical specifications for evidence reviews undertaken to populate the Evidence Portal. These technical specifications will ensure the process DCJ follows to commission and conduct evidence reviews is transparent, systematic, and rigorous. They will also ensure the portal is populated with high-quality, relevant research evidence that can be easily understood and implemented by practitioners.

1.1 The Evidence Portal

The Evidence Portal is a publicly available interactive website. It enables DCJ staff and DCJ-commissioned services to access high-quality and easy-to-understand research evidence relevant to client needs.

The Evidence Portal provides key information about effective programs and interventions and core components and flexible activities. It includes a number of interactive search functions. For example, users can search for research evidence by client group, needs or risk factors. It will also include:

- a 'best practice' hub with useful resources and guides for using evidence
- relevant news and events
- a forum for showcasing promising programs, new research projects and evaluations.

At present, the Evidence Portal includes information primarily for the Targeted Earlier Intervention (TEI) sector. Over time, we hope to expand the evidence portal so the information it contains is also relevant to other DCJ program areas (e.g. Housing) and other NSW government departments (e.g. Health, Education).

1.1.1 Why do we need an Evidence Portal?

In mid-2020, DCJ staff and TEI service providers completed a survey on how they currently access and use research evidence. The survey results show that the most common challenges DCJ staff and service providers faced when trying to find and use evidence in their work are:

- don't have enough time to find research
- don't have enough time to apply research to their work
- don't know how to determine if the research is high-quality.

Further, a majority of respondents said they only *sometimes* find research evidence that is easy to understand, easy to apply, relevant to their work and high-quality.

Respondents also indicated that to use research more effectively in their work, they needed access to short and simple summaries of relevant research.

The Evidence Portal seeks to address these challenges and provide DCJ staff and service providers with the research they need. It will enable service providers and DCJ staff to quickly find and access evidence that is easy to understand and apply to their service context. This will support evidence-informed decision-making, particularly in a time-poor environment where the primary focus is on front-line service delivery.

The Evidence Portal will also help us identify gaps in the human services evidence base. This will enable us to build the evidence-base in areas we need it most.

1.1.2 What information does the Evidence Portal include?

The Evidence Portal contains the following research evidence:

- 1. Evidence reviews capturing rigorously evaluated programs and services, conducted using the Technical Specifications.
- 2. Evidence-informed programs identified in the evidence reviews programs that have been rigorously evaluated in a controlled setting and demonstrated effectiveness with specific population.
- 3. Core components and flexible activities drawn from evidence-informed programs.
- 4. Other research evidence to explore evidence and fill gaps which is not captured by the high threshold of evidence required by the Technical Specifications.

Over time, the Portal will also include additional evidence reviews to identify emerging research evidence and evaluations of emerging service models and programs.

The Technical Specifications detail how evidence-informed programs and core components and flexible activities are identified and evaluated.

In short, programs relevant to the evidence review are identified in the current literature and evaluated for their effectiveness. The Evidence Portal has a stringent criteria for the type of studies that can be included in an evidence review. All reviews will only include the following:

- systematic reviews (with or without meta-analyses)
- randomized controlled trials (RCTs)
- quasi-experimental designs (QEDs)
- · dismantling studies.

The gold standard for synthesising the effectiveness of interventions on outcomes is through a rigorous systematic review and meta-analysis (SR). This is because a high-quality systematic review assesses the overall effectiveness of an intervention across all of the available evidence, comparing multiple studies using robust statistical techniques.

For individual trials, RCTs are considered the strongest type of evidence to answer questions of effectiveness. However, there are many programs and interventions where it may not be realistic to conduct an RCT or where RCTs have not yet been conducted. As such, limiting evidence to RCTs would have been restrictive. There are a number of highly controlled, QEDs that, in certain circumstances, can approximate an RCT for measuring effectiveness.

The programs from studies that meet the inclusion criteria and that were found to have a positive effect on at least one client outcome are identified as evidence-informed programs. Core components and flexible activities are then identified from these programs.

1.1.3 Adopting a core components approach

Core components are the fixed elements or functions of a program. They are the common activities that make up evidence-informed programs. Flexible activities are the variable aspects within core components. They can take on different forms according to local context, which achieve the same objective.

Adopting a core components approach enables us to provide a common evidenceinformed framework that DCJ-funded providers can use to develop and implement their services.

A challenge we often face in human services is the lack of high-quality evidence for 'what works' with specific target groups and to achieve specific outcomes. Too often, programs that have an international evidence base are implemented in Aboriginal communities, for example, and these programs are often ineffective in that specific context.

Adopting a standardised but flexible core components approach will better enable us to:

- design and implement programs that are effective and culturally safe.
- understand how to adapt and tailor support to local community needs.
- build the evidence around what components work best for which client groups and in what circumstances.
- understand how multiple services and supports can work together to improve outcomes for children, families and communities.
- evaluate programs and compare similar services.

1.2 The purpose of the Technical Specifications

The purpose of this document is to describe the method researchers must follow to conduct an evidence review for the Evidence Portal. It provides guidance, explanations and examples to ensure the process is applied consistently.

These Technical Specifications will ensure:

- research questions are clear, relevant and practicable
- search methods are systematic, transparent and replicable
- studies are assessed using a rigorous and consistent process
- identified programs are evaluated using the same evidence rating scale
- core components and flexible activities are identified using a consistent process
- summaries of programs and activities are clear, simple and easy to apply.

The following principles guided the development of the Technical Specifications:

- Rigorous informed by high quality standards for the assessment of evidence, programs and practices.
- Usable detail clear practices and activities that are easy to understand and implement.
- Replicable external stakeholders should be able to replicate any of the processes and procedures described.
- Transparent explicit guidelines for data collection and decision making are described so any user of the Evidence Portal can understand how it was populated.

1.3 Overview of the Technical Specifications

The process for searching published literature and assessing and identifying evidence-informed programs and core components is outlined below.

Table 1. Overview of the Technical Specifications

Step	Description	Outputs
Step 1: Define research question and scope	This section outlines the process for defining the research question and what will be in and out of scope.	Research question document
Step 2: Search for evidence	This section outlines the search strategy that will be used to identify literature within electronic databases. It also describes the data management processes that must be established.	 Search strategy form Overview of database search
Step 3: Screen studies	This section outlines how studies identified by the search strategy will be further filtered based on scope, study design and study quality	 Reference library PRISMA flow chart Data Extraction template
Step 4: Assess for risk of bias	This section outlines the assessment of risk of bias in the included studies.	 Risk of bias assessments for RCTs/QEDs Risk of bias assessments for systematic reviews
Step 5: Extract data	This section outlines the data to be extracted from the included studies.	 Data Extraction template Risk of bias Assessment for each study
Step 6: Rate the evidence for programs	This section outlines how evidence- informed programs will be identified. The Evidence Rating Scale will be used to rate the evidence supporting a program.	 List of evidence- informed programs Data extraction template

Step 7. Identify core components and flexible activities	This section outlines how to summarise information about the core components and flexible activities. It also discusses stakeholder engagement that needs to occur.	 Data extraction template List of core components and flexible activities Stakeholder engagement plan
Step 8. Summarise evidence review findings	This section outlines how the key findings from the evidence review will be summarised and communicated to key stakeholders.	 Program summaries Core component summaries Flexible Activity summaries Evidence review summary

All findings from this process will be reported in four primary outputs:

- Program Summaries: description of each program found in the evidence review.
- **Core Components Summaries**: description of the set of core components and each core component.
- Flexible Activity Summaries: description of each flexible activity.
- Evidence Review Summary: 4-6 page document that summaries the overall findings of the evidence review.

Important note:

The Technical Specifications identify the fundamental activities needed to conduct a high-quality evidence review. It is expected that any evidence review commissioned for the Evidence Portal will adhere to the process outlined in this document. However, changes to the method may be necessary.

When this happens, it is essential that decisions and changes are documented to ensure the integrity of the Evidence Portal. Researchers must use <u>Appendix A:</u>

<u>Evidence Portal Decision Form</u> to document and track any necessary changes to the method. Decisions must be discussed with key stakeholders, including the Evidence Portal custodians.

1.4 Outputs of the Technical Specifications

Applying these Technical Specifications will result in a number of outputs that will illustrate the processes undertaken, providing greater transparency (see Table 2).

These outputs should be delivered to the commissioners of the evidence review throughout the project to ensure these Technical Specifications are adhered to.

Table 2. Outputs of conducting an evidence review

Outputs	Description
Appendix A. Evidence Portal Decision Form	 Documents: key decisions made throughout the project changes that are made to the method in these Technical Specifications. Ensures transparency of the process followed to undertake the evidence review.
Appendix B. Research Question document	 Documents the research question, inclusion and exclusion criteria and databases to be searched. Ensures researchers and commissioners of the evidence review agree on and understand the project scope.
Appendix D. Evidence Review Search Strategy	 Documents the search strategy that will be undertaken for the review. Ensures transparency and repeatability. Enables cross checking between searches over time.
Appendix F. Overview of Database Search	 Documents the search that was conducted, including dates and number of citations. Ensures transparency and repeatability. Allows cross checking between searches over time.
Reference library	 Format should be agreed upon by the researchers and commissioners of the evidence review. Ensures screening transparency. Allows for updating of search over time.

Outputs	Description
Appendix H. PRISMA flow chart	 Provides an overarching summary of the results of the search strategy and screening process. To be completed at various stages throughout the project.
Appendix J. Risk of bias assessment for systematic review	 To be completed in Data Extraction template. Ensures data review transparency.
Appendix K. Risk of bias assessment for RCTs and QEDs	 To be completed in Data Extraction template. Ensures data review transparency.
Appendix L. Data Extraction Template	 Excel spreadsheet that documents risk of bias assessments, data extracted from individual studies and program ratings. Ensures transparency and consistency.
List of programs	Final list of programs identified in the evidence review.
Core components and flexible activities coding template	 To be completed in the Data Extraction template (Appendix L). Documents the process taken to identify core components and flexible activities.
Stakeholder engagement	 Ensures core components and flexible activities are meaningful to key stakeholders. Documents who was engaged, what was found and what changes were made.
List of core components and flexible activities	Final list of core components and flexible activities identified in the evidence review.
Appendix M. Program Summaries Appendix N & O. Core Component Summaries Appendix P. Flexible Activity Summaries	Summarises information that will be presented on the Evidence Portal, including evidence-informed programs, core components and flexible activities. Summaries of programs for which evidence fails to demonstrate effect or demonstrates adverse effects are also done but are not included on the portal.
Appendix Q. Evidence to Action Note	4-6 page document that summaries the findings of the evidence review.

1.5 Expertise required to use the Technical Specifications

A broad range of technical skills, competencies and experience are required to use these Technical Specifications (see Table 3).

A research librarian will be needed to apply and modify search strategies as required. Technical staff will be needed to screen studies, extract data and critically appraise studies. Subject-matter experts will be needed to identify core components and flexible activities and to test these with relevant stakeholders. Additionally, it is expected that project management support will be needed.

Table 3. Expertise required to use the Technical Specifications

Step	Activities	Staff Capabilities
1	Define research question	Subject matter expertise on topic of evidence review
3-6	 Apply search strategy across databases, modifying syntax as necessary Combine and export citations into referencing software for screening Undertake screening, data extraction and critical appraisal Identify and assess outcomes Apply the Impact Evidence Rating Scale 	 Access to electronic databases Skills and experience in: Searching databases of published literature Applying and modifying complex search strategies Skills and experience in: Conducting evidence reviews, preferably systematic reviews Data extraction, analysis (quantitative and qualitative) and synthesis Research methods: statistics and study design Data management/systematic review software
7	 Identify core components and flexible activities Test core components with key stakeholders 	 Subject matter expertise on topic of evidence review Stakeholder engagement
8	Summarise information for programs, core components and flexible activities	Skills and experience in synthesising findings of evidence reviews into clear and concise plain English summaries

1.6 Important considerations for researchers and commissioners of evidence reviews

A rough approximation of the time taken for each step of an evidence review is provided below. This must be taken into consideration for any evidence review that is conducted. Researchers commissioned to undertake an evidence review must ensure they allocate enough time to complete each step.

Contracts should allow for two rounds of feedback on program summaries, core components and flexible activity summaries and the evidence to action note. Approximately two weeks should be allocated for commissioners to review each round of outputs.

Step	Estimated Duration	Staff Involved	Minimum no. of Staff	Checks
1. Define research question and scope	Variable	Commissioner of review & researchers	Variable	
2. Search for evidence	3 hours per database searched	Researchers	1	Commissioner to check search terms
3. Screen studies Title & abstract Full-text	400 studies per day 40 studies per day	Researchers	2	
4. Assess for risk of bias	10 studies per day	Researchers	2	2 nd staff member to check
5. Extract data	5 studies per day	Researchers	2	2 nd staff member to check
6. Rate the evidence for programs	30 studies per day	Researchers	2	Commissioner to check ratings

Step	Estimated Duration	Staff Involved	Minimum no. of Staff	Checks
7. Identify core components and flexible activities	4 days to identify core components and flexible activities for approx. 40 programs	Subject-matter experts	2	Test with key stakeholders
8. Summarise evidence review	2 programs per day 2 days per set of core components 5 flexible activities per day 1-2 days evidence action note	Subject-matter experts	Variables	Commissioner to check summaries Test with key stakeholders

2 Steps to complete evidence review

2.1 Define research question and scope

Activities in this step	Resources and tools
Define research question and scope	Appendix B: Research Question document
	Appendix C: Research Question document - Example

Defining the research question and scope of the review should be done in collaboration with the commissioners of the evidence review.

Use the steps below as a guide to define the research question and scope:

- a) Identify the broad topic area for the review and potential research questions.
- b) Conduct a workshop with key stakeholders to narrow the topic and refine and prioritise research questions. Discuss with stakeholders what evidence they need and what existing research gaps need to be addressed. Stakeholders could include:
 - DCJ staff from relevant program areas and Districts
 - Representatives from other NSW Government departments (e.g. Health, Education)
 - Sector representatives from peak bodies and funded service providers
 - Subject-matter experts.
- c) Use the PICOS (Patient/Problem, Intervention, Comparison group, Outcome, Study design) strategy to define the research question (see Table 4) (Sackett et al., 1997).
- d) Confirm the research question with key stakeholders.
- e) Complete <u>Appendix B: Research Question document</u> and seek confirmation from the commissioners of the evidence review. This document should include:
 - The overarching research question (and sub-questions where appropriate)
 - Definitions of each key term and concept in the research question
 - Inclusion and exclusion criteria (see Section on <u>Study Scope</u> and <u>Study</u> <u>Design for more details</u>)
 - Databases to be searched (see Step 2A for recommended databases).

See <u>Appendix C</u> for a completed example of the Research Question document. It was completed for an evidence review on preventing child maltreatment.

Table 4. PICOS strategy to define research question.

Table 4. PICOS strategy to define research question. PICOS Details			
PICOS			
Population/	How is the problem/condition defined?		
participants	 What are the most important characteristics that describe the target population/participants? 		
	Are there any relevant demographic factors (e.g., age, sex, ethnicity)?		
	What is the setting (e.g., hospital, community, etc.)?		
	Who should identify the problem (e.g., self-report, service records, medical records)?		
	 Are there other types of people who should be excluded from the review (because they are likely to react to the intervention in a different way) (e.g., parents with comorbidities of substance abuse issues, personality disorders)? If yes, who? 		
	How will studies involving only a subset of relevant participants be handled?		
Intervention	Type of intervention: Behavioural intervention, support group, psychoeducation, bibliotherapy, etc.		
	Provider of intervention: Qualified practitioner, community worker, paraprofessional, volunteer, etc.		
Comparison	Comparing to:		
group/	Other presumably effective interventions?		
counterfactual	Other presumably ineffective interventions?		
	Treatment as usual?		
	No treatment?		
	Studies comparing to other presumably effective interventions (e.g., comparing cognitive behaviour therapy against family therapy) should be considered separately to studies comparing other types of counterfactuals (e.g., studies comparing cognitive behaviour therapy against the provision of psychoeducation material, treatment-as-usual or no treatment). It is not advised to group these studies together when rating the evidence for programs in Step 6.		

PICOS	Details
Outcomes	What client outcomes will the evidence review focus on?
	 What are the conceptual and operational definitions of those outcomes?
	Outcomes must be specified to ensure both the commissioners of the review and the researchers agree what information will be extracted from studies.
	Outcomes defined here will impact the data extraction and as a result, the evidence rating of programs. For example, if the focus of the review is on child maltreatment prevention, parent-centred outcomes such as parent's child abuse potential will be included. However, child-centred outcomes such as child's internalizing and externalizing behaviours will not.
	It is likely that additional client outcomes will be identified through the data extraction process (Step 5). These should beconfirmed with the commissioners of the review as needed.
Study design	All reviews will only include the following: systematic reviews (with or without meta-analyses), RCTs, QEDs, dismantling studies. See section on Study Design for more details.

2.1.1 Study scope

When completing the <u>Research Question document</u>, researchers much outline the study scope – the inclusion and exclusion criteria that will be applied to studies identified during the search for evidence.

There is a mandatory inclusion and exclusion criteria for all evidence reviews. See Table 5. Studies that do not meet these criteria will be excluded.

Other inclusion and exclusion criteria can be established (e.g. specific age ranges). This must be discussed with the commissioners of the evidence review.

Any changes to these criteria must be discussed with the commissioners of the evidence review.

All inclusion and exclusion criteria should be documented in Appendix B: Research Question document.

Table 5. Study scope: Mandatory inclusion and exclusion criteria

Inclusion	Exclusion
Studies that include a valid counterfactual (e.g., RCTs, QEDs), systematic reviews (with or without meta-analyses) and dismantling studies	Studies that do not include a valid counterfactual (e.g., case studies, pre/post-tests)
Studies that test the effectiveness of a relevant program/practice	Studies that do not test the effectiveness of a relevant program/practice
English language studies	Foreign language studies not indexed and translated to English
Studies evaluating interventions with samples in high-income countries (e.g., international or local)	Studies evaluating interventions with samples in low- and middle-income countries

Other inclusion and exclusion criteria to consider:

- Studies that target specific populations/sub-populations
- Studies that report on the effect of relevant outcomes
- Studies that target specific age ranges
- Studies published in a particular period (e.g., after 2000).

2.1.2 Study design

As outlined above, the mandatory inclusion criteria includes studies that include a valid counterfactual (e.g., RCTs, QEDs), systematic reviews (with or without meta-analyses) and dismantling studies. Table 6 outlines these study designs.

Included studies must meet these minimum standards for study design. Studies that do not meet these standards should be excluded from consideration.

Table 6. Study designs that meet the mandatory inclusion criteria

Study	Description	Sub types
design		
Systematic review with meta- analyses (SR) ¹	A systematic review uses systematic and replicable methods to synthesise and summarise available research evidence to answer a well-defined research question. Systematic reviews with meta-analyses use statistical techniques to synthesise the data from several studies into a single quantitative estimate or summary effect size (Petticrew & Roberts, 2008). Effects sizes measure the relationship between two variables (e.g., a specific outcome and a specific treatment/intervention/exposure), providing information about the size of an intervention's effect.	
Randomised Controlled Trials (RCTs)	Randomly assigning participants to a treatment or control group ensures that those in each group differ only in their exposure to the intervention. All other factors that might affect the outcomes of interest should be distributed randomly, provided there is a large enough sample size – whether they are known and measured or not. To be valid, participants' allocation to a group must be entirely by chance, and there should be no difference between the participants in terms of the probability or likelihood that they will be assigned to a specific group. Moreover, most high-quality studies will test whether important factors related to the outcome (e.g., demographic characteristics) are distributed equally at baseline (i.e., the two groups are not statistically different on important characteristics before the intervention begins). Randomisation of	RCTs Cluster RCTs

¹ An additional type of study is the 'overview of systematic reviews' or 'review of reviews'. These synthesise the evidence on the effectiveness of programs or practices included in multiple systematic reviews. It is a relatively new approach, and both the method itself and associated tools to assess their quality are still developing (Hunt, Pollock, Campbell, Estout, & Brunton, 2018). While awaiting clearer guidance, overviews of systematic reviews can be used to identify single systematic reviews.

Study design	Description	Sub types
	participations to an intervention may not be possible if the intervention is targeted at care providers or groups of people (e.g., all members of a class). Under these circumstances, clusters (groups) of people should be randomised by provider and/or site. Some trials will do both individual and group random assignment. Trials where groups of people are allocated (or where individual practitioners are randomised, and outcomes are measured in patients) are called cluster-RCTs and can include stepwedge designs that use random assignment.	
Quasi- experimental	These are trials where the participants are allocated to the different groups	Examples include:
Designs	that are being compared using a	Propensity score matching
(QEDs)	method that is not random.	Difference in differences estimation
		Regression discontinuity
		Instrumental variable analyses
		Step-wedge designs without random assignment
		Doubly robust estimates
		Synthetic control group designs covariate matching
		Regression adjustment estimates
		Other complex designs that reasonably control for known biases and confounders.

Study design	Description	Sub types
Dismantling Studies	These studies identify the various components of a program and test the effectiveness of each component on its own.	These studies are rare. All such studies should be identified but the level of certainty about their findings is subject to the same rules as studies of treatment effectiveness and would be rated similarly on the evidence rating scale.

2.2 Search for evidence

To identify programs for which the evidence will be rated, a comprehensive electronic database search must be undertaken. This section describes how to:

Activities in this step	Resources and tools
Develop Search strategy	Appendix D. Evidence Review Search Strategy
	Appendix E. Evidence Review Search Strategy - Example
Establish data management processes	Data management software
Conduct evidence search	Appendix F: Overview of Database search
	Appendix G: Overview of Database Search - Example
	Appendix H: PRISMA Flowchart
	Appendix I: PRISMA Flowchart - Example

2.2.1 Develop search strategy

A search strategy is an organised structure of key terms used to search an electronic database. A comprehensive and targeted search strategy is important as it will:

- Identify relevant studies that are within the scope of the Portal
- Reduce the amount of irrelevant studies that need to be screened
- Reduce redundancy in the studies that arise from the search
- Be replicable and transparent

 Provide verifiable evidence that the search has been systematic rather than selective.

Researchers must develop a search strategy that will identify studies relevant to the research question identified in Step 1. Search strategies should identify keywords in titles and abstracts, and in subject headings where permitted by the database.

Researchers must complete <u>Appendix D. Evidence Review Search Strategy</u>. Search strategies (i.e., search strings) must be cut and pasted exactly as run into this document.

See <u>Appendix E: Evidence Review Search Strategy - Example</u> for an example of search strings for a review on preventing child maltreatment.

2.2.2 Identify databases to conduct search

At a minimum, the search must be undertaken in the following electronic databases:

- 1. PsycINFO
- 2. Medline
- Social Sciences Abstracts.

These databases are comprehensive and widely used. Research databases are typically accessible through university libraries.

Additional databases are suggested in Table 7. The researchers can decide at their own discretion which, if any, additional databases will be used. Additional databases not identified in Table 7 may also be used. However, the researchers should confirm any decisions with the commissioner of the evidence review.

The databases chosen should be documented in <u>Appendix B: Research Question</u> document.

Table 7. Additional databases

General Topic Area	Optional Databases
Allied health	CINAHL
	Informit – Health Collection
Social welfare	Family and Society Studies Worldwide
	Social Work Abstracts
	Sociological Abstracts
	Informit – Families & Society Collection
	Informit – Humanities & Social Science Collection
Indigenous population	Informit – Indigenous Collection
Education	ERIC Education Resource Information Center

2.2.3 Identify data management software

Data management processes, supported by appropriate software, are required for recording and managing literature searches and screening. Consistent data management practices will assist in streamlining the evidence reviews conducted for the Evidence Portal and will improve transparency.

Literature searches and screening

An open-sourced reference management software should be used to compile all titles and abstracts of studies found during electronic database searches. The researchers may use:

Mendeley: https://www.mendeley.com/

Zotero: https://www.zotero.org/

• EndNote https://endnote.com/.

Specialised systematic review data management software may also be used. For example:

Covidence: https://www.covidence.org

• Rayyan: https://rayyan.qcri.org/welcome.

This software documents citations and produces counts of included and excluded publications at the title/abstract screening stage and at the full text screening stage, for all reviewers. Covidence also produces a PRISMA flow chart of the study acquisition process.

The software chosen should be agreed upon with the commissioners of the evidence review. The commissioners must ensure they have access to the chosen software and understand how to use it, if needed.

2.2.4 Data extraction

Appropriate software should also be used to support data collection and recording. This software should allow for the transparent tracking of all parallel processes to accurately record, check and manage data relating to the overall search, screening and data extraction processes.

For example, when Steps 3-5 are undertaken, the research team can share working documents with the commissioners of the evidence review via Google Docs. This will enable the commissioners to:

- ensure the project is on track
- manage timelines and expectations
- ensure the work being done aligns with these Technical Specifications.

Software suitable for this purpose should be selected by the commissioners of the evidence review. All data management software and processes should be determined prior to the commencement of the evidence review.

2.2.5 Conduct search for evidence

Database searches should be undertaken by a person with appropriate expertise and experience in undertaking and adapting electronic database searches, such as a research librarian.

When the database search is conducted, <u>Appendix F. Overview of the Database</u> <u>search</u> needs to be completed. This document provides an overview of the search that was conducted, including:

- The databases searched
- When the searches were conducted
- Search strings cut and pasted exactly as they were run
- Total number of citations (i.e. records retrieved) from each database
- Reference management software use.

See Appendix G for an example of the database search form completed for an evidence review on preventing child maltreatment.

All studies found during the search must be compiled in the reference management software. The reference library will be delivered to the commissioners of the evidence review as an output of the project.

The total number of articles identified must also be recorded in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart (see Appendices H and I for the PRISMA flowchart template and example).

If very few studies are found during this initial search, we recommend revisiting the research question with the commissioners of the evidence review to workshop the scope of the review.

You could also discuss whether grey literature could be included in the search. Grey literature will be subject to the same risk of bias assessments as peer-reviewed studies. If grey literature is included in the search this needs to be acknowledged in the following outputs:

Appendix A: Evidence Portal Decision Form

Appendix B: Research Question document

Appendix H: PRISMA Flow Chart.

2.3 Screen studies

After the search for evidence, all studies must be screened to ensure they are relevant to the research question and fit the search criteria. Any studies that do not meet the criteria are excluded from the evidence review. This section describes how to:

Activities in this step	Resources and tools
Screen titles and abstracts	Systematic data management software Appendix H: PRISMA Flow Chart
Screen full texts	Appendix I: PRISMA Flow Chart - Example

2.3.1 Screen titles and abstracts

The title and abstract of each study must be assessed for:

- **Study scope:** studies must meet all inclusion criteria defined in the Research Question document (see Step 1). If it is clear from the title or abstract that the study does not meet the pre-defined inclusion criteria, it should be excluded.
- **Study design:** studies must be assessed for study design. If it is clear from the title or abstract that the study does not meet the study design standards, it should be excluded. See Figure 2.

Where the information provided within the title and abstract is not sufficient to identify if the study meets the criteria above, the full text should be reviewed.

To maintain an accurate screening process, we recommend a double-screening process is implemented. Two reviewers should screen a first batch of randomly selected 20 studies together as a training exercise. Reviewers should then screen another batch of 20 studies independently and compare their results. If inter-rater reliability is less than 80%, a further batch of 20 studies should be reviewed by both reviewers independently. This process should be repeated until the 80% threshold is reached. Where reviewers disagree about whether a study should be included, this should be resolved by discussion, a third independent reviewer, or included in the full text screening.

The chosen data management software should be used to retain a record of studies that were included and excluded at the title and abstract screening stage. Ensure studies are filed into clearly labelled subfolders indicating if the studies were included or excluded at this stage.

Researchers must complete <u>Appendix H: PRISMA flow chart</u>. You must record the number of studies that were screened and the number of studies that were excluded at this stage.

2.3.2 Screen full texts

After the title and abstract of each study has been screened, the full text of all remaining studies must also be screened. Studies must be assessed for:

- **Study scope:** studies must meet all inclusion criteria defined in the Research Question document (see Step 1). If it is clear that the study does not meet the pre-defined inclusion criteria, it should be excluded.
- **Study design:** studies must be assessed for study design. Studies must meet the minimum standards for study design to establish effectiveness (e.g. systematic reviews with meta-analysis, RCTs or QEDs). See Figure 2.

A double-screening process is recommended. Two reviewers should screen a first batch of randomly selected 5 studies together as a training exercise. Reviewers should then screen another batch of 5 studies independently and compare their results. If inter-rater reliability is less than 80%, a further batch of 5 studies should be reviewed by both reviewers independently. This process should be repeated until the 80% threshold is reached. Where reviewers disagree about whether a full-text study should be included, this should be resolved by discussion or a third independent reviewer.

For excluded studies, the reasons for exclusion must be clearly recorded in the reference management library. For example, the study was a pre/post-test study and did not meet the study scope criteria or the study design criteria.

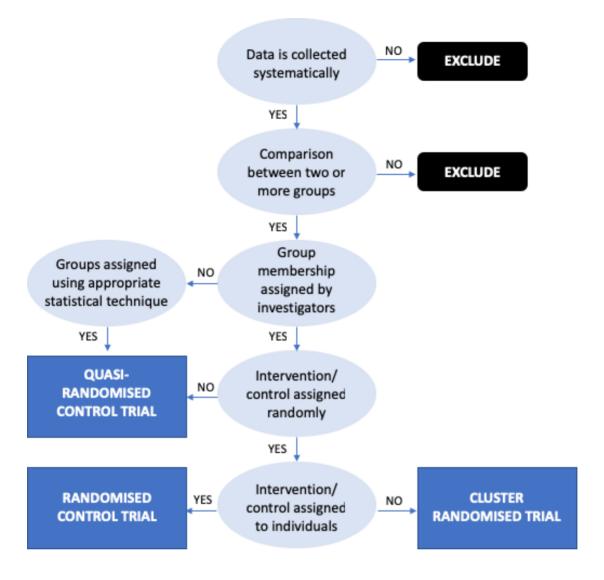
The chosen data management software should again be used to retain a record of studies that were included or excluded at the full text screening stage. Ensure studies are filed into clearly labelled subfolders indicating if the studies were included or excluded at this stage.

Recording this information is important because the scope of the Evidence Portal and the method used to assess and/or report on research studies may change over time. Therefore, the studies that are included or excluded as evidence may require reassessment at a later stage. The list of excluded studies may also be used to compile information about programs and practices that currently do not have sufficient evidence to be included on the Evidence Portal.

Researchers must complete the PRISMA flow chart (see <u>Appendix H</u>). You must record the number of full-text studies that were assessed as eligible for inclusion and the number of full-text studies that were excluded with a summary of reasons for their exclusion.

Figure 2 is a decision tree that can be used to identify the study design. Most studies will be easy to identify using this method. However, there may be difficulties assessing whether random assignment has occurred or the appropriate statistical control in lieu of assignment has been used.

Figure 2. Decision tree to identify study design



2.4 Assess for risk of bias

Activities in this step	Resources and tools
Assess for risk of bias	Appendix J: Risk of Bias Assessment for Systematic Reviews (AMSTAR 2)
	Appendix K: Risk of Bias Assessment for RCTs and QEDs (The Evidence Project Risk of Bias Tool)
	Appendix L: Data Extraction Template

This section outlines how studies will be assessed for risk of bias (RoB). Only studies with low-to-moderate risk of bias will be used to identify programs.

Different study designs (e.g. systematic review, RCT or QED) must be assessed with a specific RoB assessment tools:

- Assessing the quality of systematic reviews: A Measurement Tool to Assess Systematic Reviews 2 (AMSTAR 2)
- Assessing the quality of RCTs and QEDs The Evidence Project Risk of Bias Tool

How to use these tools is outlined below. Each RoB assessment should be made using the current online version of these tools.

Researchers conducting the RoB assessments must have research methods training and a good understanding of how the different study designs are best executed. While the RoB tools are designed to focus reviewers on key elements of quality, critical thinking and a keen eye for detail are also required.

These tools do not specify quality thresholds. We have identified specific thresholds that fit with the requirements of the Evidence Portal. These thresholds are described below.

The risk of bias assessments should be completed by a reviewer and checked by a second reviewer. Where reviewers disagree about the risk of bias assessment, this should be resolved by discussion or a third independent reviewer.

Data for the risk of bias assessments should be recorded for all included studies in sheet 1 and 3 of the Data Extraction Template (<u>Appendix L</u>).

2.4.1 Assess the quality of systematic reviews

To assess the quality of relevant systematic reviews, the AMSTAR 2 tool should be used (Shea et al., 2017). This tool is designed to rate the quality of systematic

reviews that include primary studies, with both randomised or non-randomised designs. It can also assess reviews with or without meta-analyses.

AMSTAR 2 includes 16 items that assess methodological quality. The assessor assigns a rating of Yes, Partial Yes, No or N/A to each item. The assessor then identifies whether the systematic review has critical flaws in key methodological areas. *AMSTAR 2* developers recommend rating the overall level of confidence in how the review was conducted as critically low, low, moderate or high. Where one or more critical flaws have been identified on the *AMSTAR 2*, the review is assessed to have low or critically low levels of confidence (i.e., high or critically high risk of bias). The *AMSTAR 2* tool has a comprehensive user guide that is freely available (https://amstar.ca/Amstar-2.php).

Appendix J includes a copy of the AMSTAR 2 tool for your reference. However, the most up-to-date version of this tool must be accessed online before the assessment is undertaken.

The assessments should be documented in <u>Appendix L: Data Extraction Template</u>, in Sheet 3: RoB – Systematice Reviews.

Systematic reviews assessed to have moderate or very high levels of confidence will be included in the evidence review and will undergo data extraction (see Step 6). Systematic reviews assessed to have low or critically low levels of confidence will not undergo data extraction or be used to evaluate programs. The excluded systematic reviews will need to be listed in the PRISMA diagram (Appendix H).

2.4.2 Assess the quality of RCTs and QEDs

To assess the quality of relevant studies that use RCTs and QEDs, The Evidence Project Risk of Bias Tool (Kennedy et al., 2019) should be used. This tool was developed for both randomized and non-randomized study designs.

The tool is straightforward to administer. The <u>Kennedy et al.</u> (2019) study provides clear guidelines for its use. The tool includes eight items. Together, items 1-3 summarise the study design, while the remaining items consider other elements of study rigor. All are rated as being present (yes) or not present (no), not applicable or not reported. The items include:

- 1. Cohort
- 2. Control or comparison group
- 3. Pre-post intervention data
- 4. Random assignment of participants to the intervention
- 5. Random selection of participants for assessment
- 6. Follow-up rate of 80% or more
- 7. Comparison groups equivalent on sociodemographics
- 8. Comparison groups equivalent at baseline on outcome measures.
- 9. Selective outcome reporting

An additional item assessing selective outcome reporting is recommended for inclusion.

<u>Appendix K</u> includes a copy of the tool for your reference. However, the most up-todate version of this tool must be accessed online before the assessment is undertaken.

The assessments should be documented in <u>Appendix L: Data Extraction Template</u>, in Sheet 3: RoB – RCTs and QEDs.

Although it is not typical practice to categorise studies as low/moderate/high risk of bias, we recommend using the categories below to determine the level of risk of bias when rating the evidence for each program. RCTs/QEDs assessed to have high risk of bias (0-3) will not undergo data extraction and they will not be used to rate the evidence for identified programs. The excluded RCTs and QEDs will need to be listed in the PRISMA diagram (Appendix H).

Table 8. Categorising level of risk of bias

Score on The Evidence Project Risk of Bias Tool	Level of Risk of Bias
0 to 3	High risk of bias
4 to 6	Moderate risk of bias
7 to 9	Low risk of bias

2.5 Extract data

Activities in this step	Resources and tools
Extract data	Appendix L: Data Extraction Template

2.5.1 Extract data from individual studies

After full-text screening and risk of bias assessment, data should be extracted from each included study using the data extraction template (<u>Appendix L: Data Extraction Template</u>).

Table 9 provides a summary of the information that needs to be extracted. It also refers you to the relevant sections of the Data Extraction Template (Appendix L).

The data extraction template should be completed by a reviewer and checked by a second reviewer against the full-text studies. Any discrepancies in the information should be resolved by discussion or a third reviewer who should undertake a data check of the relevant full text.

Any changes to the data extraction template must be discussed with the commissioners of the evidence review and the Evidence Portal custodians.

At present, the data extraction template is an Excel file. If needed, this can be transferred to GoogleDocs or another open-source software. The format of the data extraction template must be agreed upon by the researchers, commissioners of the evidence review and the Evidence Portal custodians.

DCJ understands that many studies will not provide all of the information listed below. In those circumstances, we ask that researchers merely extract as much information as possible from the included studies.

The data extraction template includes an example of a study to show researchers what information should be provided and the level of detail that is needed.

Note: for systematic reviews without meta analyses, researchers need to obtain the individual studies within the systematic review. Data needs to be extracted from each individual study separately (Appendix L). A risk of bias assessment does not need to be undertaken for these individual studies, Systematic reviews with meta analyses can be treated individual studies for the purpose of data extraction.

Table 9. Summary of Data Extraction Template

Section of Data Extraction Template (Appendix G)	Data Collected
Section A: General Information	 Study ID Author Publication year Reviewer information Title Study design Risk of bias assessment score
Section B: Sample Size	Original and final sample sizes
Section C: Sample Characteristics	 Participant age Race/ethnicity/Indigenous status Country Socioeconomic status, including income and education levels Marital status Other relevant demographic information or risk factors

Section of Data Extraction Template (Appendix G)	Data Collected
Section D: Program	Name
Characteristics	Developer(s) of program
	Program description
	Program origins
	Program goals/target outcomes
	 Program dosage (i.e., number of sessions, frequency of sessions)
	Delivery mode
	Delivery setting
	Duration of intervention
	Provider of intervention
	Recipient of intervention
	 Referral requirements (including any eligibility criteria for study recruitment)
	Program components
	• Implementation considerations (for the intervention, not research study)
	Adaptability
	Limitations of intervention
	• Cost to implement program (e.g., license fees, training)
	Available for use in Australia
	 Tested in Australia, with Australian Indigenous population, with culturally and linguistically diverse population

Section of Data Extraction Template (Appendix G)	Data Collected
Section E: Outcomes and Results	Comparison group: Description
	Comparison group category (i.e., no intervention, treatment-as-usual TAU, presumably less effective intervention, comparative intervention)
	Client outcome: Variable as specified in study (e.g., parent's hostility and rejection of child)
	Outcome domain: As pre-defined in Step 1 with commissioners of evidence review (e.g., harsh parenting for the cited example above)
	Outcome measure
	Timepoints reported
	Direction of effect (detailed): Describe in detail the direction of the effect (e.g., parents in the intervention group were less likely to report harsh parenting than parents in the control group).
	Direction of effect (general): Specify whether "positive", "negative", or "NS non-significant". Where there are different effects for each specific outcome domain, enter as "positive" if there is at least one positive finding.
	Effect size

2.5.2 Identify relevant outcomes

As part of data extraction, a reviewer should identify all relevant outcomes that sit within the outcome domains specified in Step 1.

Moderating and mediating factors

When the data extraction template is completed, there are two key columns researchers need to complete:

- Client Outcome this is the specific outcome the study has measured (e.g. violent discipline)
- Outcome Domain this is the domain used to group similar client outcomes (e.g. harsh parenting)

Outcome domains should have been identified in Step 1 – when defining the scope of the evidence review. Identifying the domain a client outcome sits under, will better enable you to group and assess outcomes in Step 6.

For any client outcomes found in studies that may be relevant and were not identified in Step 1, researchers should consult with the commissioners of the evidence review to determine whether or not the outcome should be extracted. Identifying relevant outcomes is likely to be an iterative process. As data is extracted from studies, new outcomes will emerge that may be relevant to the purpose of the review. Researchers should take a flexible and pragmatic approach to ensure all relevant outcomes are captured.

To ensure consistency in how client outcomes are categorised, the Data Extraction template (<u>Appendix L</u>) includes a sheet for researchers to list outcome domains and the typical method of assessment.

2.5.3 Assess the direction of effect for each client outcome

The direction of an effect should now be determined for each relevant outcome reported by a study. This involves assigning each client outcome to a category that represents the direction of the reported effect.

The effect categories detailed in <u>Table 9</u> should be used. The criteria for identifying the direction of the effect for client outcomes is summarised in <u>Table 9</u>.

Findings of an effect are characterised by the statistical significance reported by the authors for:

- a single outcome measure within an outcome domain
- grouped outcome measures within an outcome domain.

It is important to note that these criteria are applied to findings on specific outcomes as they are reported within separate studies by the study authors, rather than a calculation being made to determine a standardised effect size within and across similar studies (which requires a meta-analysis). This being the case, the effectiveness categories here only represent whether a study reported an effect, therefore similar outcomes reported across different studies may not be comparable.

The direction of effect for all client outcomes should be recorded within the Data Extraction Template (Appendix L) for each study.

Table 10. Criteria for categorising the direction of an effect based on a single or grouped outcome measure within an outcome domain.

Effect Category	Description based on single outcome measure	Description based on grouped outcome measure
Positive effect	The estimated effect is positive and statistically significant.	The grouped outcome measure has statistically significant, positive effects (for a meta-analysis: an average treatment effect, such as
(e.g., statistical significance is at the p < 0.05 level, two-sided test.)	standardised mean difference, for synthesised outcome measures across multiple studies; statistical significance is at the p < 0.05 level, two-sided). ²	
Negative effect	The estimated effect is negative/adverse and statistically significant.	The grouped outcome measure has statistically significant negative/adverse effects (for a meta-analysis: an average treatment effect,
	(e.g., statistical significance is at the p < 0.05 level, two-sided test.)	such as standardised mean difference, for synthesised outcome measures across multiple studies; statistical significance is at the p < 0.05 level, two-sided).
No observed effect	The estimated effect is not statistically significant. (Statistical significance is at the p > 0.05 level, two-sided test.)	

2.6 Rate the evidence for programs and identify evidence-informed programs

After the data extraction is complete, you are ready to start identifying and rating the evidence for programs and identifying evidence-informed programs. This section describes how to:

Activities in this step	Resources and tools
Identify programs for which evidence will be rated	Appendix L: Data Extraction Template – Evidence Ratings Tab
Confirm outcome domains	Appendix L: Data Extraction Template - Outcomes Tab
Check exclusion criteria for evidence rating	Table 11. Exclusion criteria for evidence rating Appendix L: Data Extraction Template – Excluded from evidence rating tab
Rate the evidence for each program by outcome domain and identify evidence-informed programs	Appendix L: Data Extraction Template - Evidence Rating tab Table 12: The Evidence Rating Scale

2.6.1 Identify and confirm programs

At this stage, programs can be identified from the final list of studies that met all inclusion criteria (i.e. studies that had data extracted from them).

Studies that test the effectiveness of a particular program will be grouped together. This is so the body of evidence supporting each program can be assessed as a whole.

Adaptations of programs (e.g., enhanced intervention with additional component) will be considered as a different program and rated separately.

2.6.2 Confirm specific outcome domains

Following data extraction, the outcome domains should be re-confirmed with the commissioners of the evidence review. Additional specific outcome domains identified through data extraction may need to be added to the initial list from Step 1. Once confirmed, the researchers must ensure all outcomes from studies are coded under the correct domains in the Data Extraction Template (Appendix L).

2.6.3 Check exclusion criteria for evidence rating

The next step is to exclude the following types of studies for the program evaluation.

Table 11. Exclusion criteria for evidence rating.

Reason for Exclusion	Description
Studies which report on the same sample as another included study and are not the most recent follow-up If there are multiple follow-ups post-intervention (e.g., 1-year and 2-year follow-up), then flag with the commissioners of the evidence review to decide on a case-by-case basis.	This approach ensures the evidence is not conflated by taking into account multiple effects on the same sample. It is often the case that effects are significant immediately following intervention and these then taper off at a subsequent follow-up. DCJ is, however, still interested in identifying significant effects at follow-up timepoints and taking this into account in the descriptions of the programs.
Studies which do not correspond with the comparison group/counterfactual determined in study scope	Studies with the relevant comparison group/counterfactual as determined in the study scope will be included.

Studies excluded from evidence rating should be recorded in <u>Appendix L: Data Extraction Template</u>, in the sheet titled Excluded from Evidence Rating. The following information should be detailed:

- Study ID#
- Citation
- Program name
- Rationale for exclusion

2.6.4 Rate the evidence for each program by outcome domain

The approach for rating evidence outlined below, considered and sometimes adapted the methodology of other publicly available evidence rating scales, including the <u>Early Intervention Foundation Evidence Standards</u> and the Works Clearinghouse Procedures and Standards Handbook (Version 4.0) (United States Department of Education, 2017).

The following section outlines the process to rate the evidence for a program.

To start, a rating will be given to each outcome domain identified for a program.

Researchers should follow the steps below:

- 1. In Excel, transform the data extraction template (i.e., where data is organised by study) into a format where the data is organised by outcome (see the sheet titled 'Evidence Ratings' in Appendix L: Data Extraction Template).
- 2. Hide columns so that only the following columns are displayed:
 - a. Study ID#
 - b. Author (Year)
 - c. Program Name
 - d. Client Outcome
 - e. Specific Outcome Domain
 - f. Outcome: Direction of Final Effect (Simplified)
- 3. Add three new columns to the end of the spreadsheet titled:
 - a. Evidence Rating
 - b. Overall program rating
 - c. Overall direction of effect
- 4. Sort the spreadsheet by Program Name first, then Outcome Domain.
- 5. For each outcome domain in a program, determine evidence rating by checking against The Evidence Rating Scale (Table 12).

An example of this process is outlined in Figure 3 for the Healthy Families America program. In this example, there are 4 different studies that reported on this program: Duggan et al. (2007), DuMont et al. (2008), Lecroy & Krysik (2011), and Rodriguez et al. (2010).

There are three outcome domains:

- Harsh parenting: findings are drawn from four studies. Duggan et al. (2007), DuMont et al. (2008), and Lecroy and Krysik (2011) all reported on positive effects of the program. On the other hand, Rodriguez et al. (2010) did not report any effects. At least two studies reported a positive outcome and fewer studies reported no observed effects, the evidence rating for this outcome domain would be "Supported research evidence".
- Parenting attitudes: only two studies reported on this and both found no observed effects (Duggan et al., 2007; Lecroy & Krysik, 2011). The evidence rating for this domain would therefore be "Evidence fails to demonstrate effect".
- 3. **Positive parenting:** only one study reported a positive effect (Rodriguez et al., 2010). With no studies reporting non-significant or adverse effects, the evidence rating for this domain would therefore be "Promising research evidence".

The evidence rating for each outcome domain should be recorded in <u>Appendix L:</u>

<u>Data Extraction Template</u> – in the sheet titled Evidence Ratings. Two reviewers

should confirm the ratings and any inconsistencies should be resolved by discussion or by a third reviewer.

Figure 3. Example of how outcomes for each evidence-informed program are grouped into outcome domains and rated

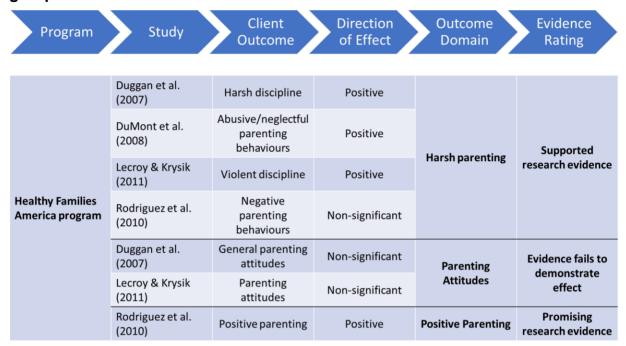


Table 12. The Evidence Rating Scale³.

Rating	Evidence Rating Scale Description
Well supported by research evidence	 At least one high-quality* systematic review with meta-analyses based on RCT studies reports statistically significant positive effects for at least one outcome. No studies show statistically significant adverse effects.
Supported research evidence	 At least two high-quality randomised controlled trial (RCT)/ quasi-experimental design (QED) studies report statistically significant positive effects for at least one outcome, AND Fewer RCT studies of similar size and quality show no observed effects than show statistically significant positive effects for the same outcome(s), AND No RCT studies show statistically significant adverse effects.

³ The Evidence Rating Scale should not be directly interpreted as confirmation of a program's effectiveness (or lack of), but rather as a general report about the existing evidence available for each evidence-informed program. Although beyond the scope of this Technical Specifications, meta-analyses should be used to properly synthesise evidence and GRADE (https://www.gradeworkinggroup.org/) or a similar evidence to recommendation process should be used to properly level of quality and certainty of evidence for studies reporting on outcomes for specific populations and/or problem areas.

Rating	Evidence Rating Scale Description
Promising research evidence	At least one high-quality randomised controlled trial (RCT)/quasi-experimental design (QED) study reports statistically significant positive effects for at least one outcome, AND
	 Fewer RCT/QED studies of similar size and quality show no observed effects than show statistically significant positive effects, AND
	 No RCT/QED studies show statistically significant adverse effects.
Mixed research evidence (with no adverse	At least one high-quality randomised controlled trial (RCT)/quasi-experimental design (QED) study reports statistically significant positive effects for at least one outcome, AND
effects)	 An equal number or more RCT/QED studies of similar size and quality show no observed effects than show statistically significant positive effects, AND
	 No RCT/QED studies show statistically significant adverse effects.
Mixed research evidence (with adverse effects)	At least one high-quality randomised controlled trial (RCT)/quasi-experimental design (QED) study reports statistically significant adverse effects for at least one outcome, AND
	 An equal number or more RCT/QED studies show no observed effects than show statistically significant adverse effects, AND/OR
	At least one high-quality RCT/QED study shows statistically significant positive effects for at least one outcome.
Evidence fails to demonstrate effect	At least one high-quality systematic review with meta- analyses based on randomised controlled trial (RCT)/quasi- experimental design (QED) studies reports no observed effects for all reported outcomes, OR
	At least one high-quality RCT study reports no observed effects for all reported outcomes.
	Criteria are not met for mixed research evidence (with or without adverse effects)
Evidence demonstrates adverse effects	At least one high-quality systematic review with meta- analyses based on randomised controlled trial (RCT)/quasi- experimental design (QED) study reports statistically significant adverse effects for at least one outcome, OR
	At least one high-quality RCT/QED study reports statistically significant adverse effects for at least one outcome, AND

Rating	Evidence Rating Scale Description	
	Fewer RCT/QED studies show no observed effects, AND/OR	
	 No RCT/QED studies show statistically significant positive effects. 	

^{*}On this rating scale, high-quality indicates studies with low-to-moderate risk of bias.

2.6.5 Rate the overall evidence for each program

Once you have rated the evidence for each outcome domain, you can then give each program an overall evidence rating.

The overall evidence rating applied to a program is the same as what was described in the previous step (Step 6D). Researchers must determine the evidence rating by checking against The Evidence Rating Scale (Table 12).

Figure 4 builds on the previous example in Figure 3 and shows how the overall program rating and direction of effect are assigned for the Healthy Families America Program.

At least two high-quality RCTs (4 in total) reported statistically significant positive effects for at least one outcome, and fewer RCT studies (3 in total) showed no observed effects. No RCT studies showed statistically significant adverse effects. Therefore, Healthy Families America program was assigned an overall program rating of "Supported research evidence", with a positive direction of effect.

If there is only one study for a program the evidence rating scale should be applied in the same manner as above. See Figure 5. Only one study reported on the e-Pals Baby-Net program. The study reported on two different outcomes. Child abuse potential and positive parenting behaviours. The study showed a significant positive effect on parenting behaviours, but no statistically significant effect was found for child abuse potential.

Overall, the program receives an evidence rating of 'mixed research evidence (with no adverse effect). This is because the program had:

- one RCT with statistically significant positive effects for at least outcome.
- An equal number (1) of RCTs with no observed effects
- No RCTs with statistically significant adverse effects.

The overall evidence rating should be recorded in the <u>Appendix L: Data Extraction Template</u> – in the sheet titled Evidence Ratings. Two reviewers should confirm the overall evidence rating for a program and any inconsistencies should be resolved by discussion or by a third reviewer.

Figure 4. Example of assigning overall program rating and direction of effect.

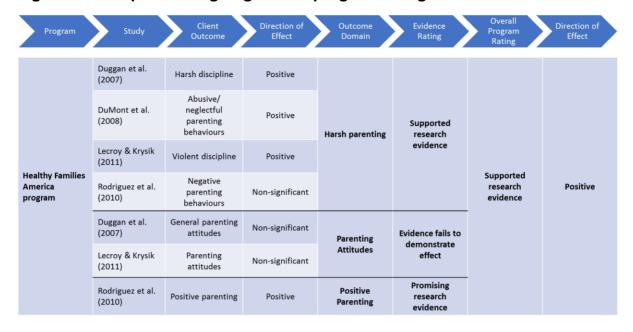


Figure 5. Example of assigning overall program rating and direction of effect for programs with one study



2.6.6 Rate the overall direction of effect for each program

Direction of effect will be assigned as such:

Evidence Rating	Direction of effect	
Well supported by research evidence		
Supported research evidence	Positive	
Promising research evidence		
Mixed research evidence (with no adverse effects)	Mixed	
Mixed research evidence (with adverse effects)		
Evidence fails to demonstrate effect	No effect	
Evidence demonstrates adverse effects	Negative	

See Figure 4 for example.

The overall direction of effect should be recorded in the <u>Appendix L: Data</u> <u>Extraction Template</u> – in the sheet titled Evidence Ratings. Two reviewers should confirm the overall direction of effect for a program and any inconsistencies should be resolved by discussion or by a third reviewer.

2.6.7 Identify evidence-informed programs

Programs with the following rating are considered to be evidence-informed programs:

- well supported by research evidence
- supported research evidence
- promising research evidence
- mixed research evidence (with no adverse effects)
- mixed research evidence (with adverse effects).

Core components and flexible activities will be derived from the evidence-informed programs identified. Program summaries for the evidence-informed programs will be included on the Evidence Portal.

2.6.8 Write summaries of each program

A summary of each program must be developed that provides key information about the program, including the target group, client outcomes, effectiveness, strength of evidence and implementation considerations.

Reviewers should ensure that Program Summaries are populated with detailed information that is clear and concise.

A template has been developed to summarise programs (<u>Appendix M</u>). It includes headings and instructions on what information to include.

It is possible that the literature reporting program information does not provide sufficient detail. In these cases, it should be noted that this information was not available.

Harvard referencing style should be used for all program summaries.

Please also see <u>Appendix M.1</u> – this includes a pre-written example of a program summary. Researchers should use this as a guide.

2.7 Identify core components and flexible activities

Activities in this step	Resources and tools
Identify core components	Appendix L: Data Extraction Template – Core Components and Flexible Activities tab
Identify flexible activities	Appendix L: Data Extraction Template -Core Components and Flexible Activities tab
Test findings with key stakeholders	

After evidence-informed programs have been identified, core components and flexible activities can be extracted. This includes closely examining and grouping the **types** of activities that are undertaken as part each evidence-informed program. The **way** these activities are implemented is also of interest and should be captured as these will make up the flexible activities within each core component.

Core components are the fixed aspects of an evidence-informed intervention or program. Flexible activities are the different ways the intervention may be implemented, according to the local context.

For example, in an evidence review on preventing child maltreatment, five core components were identified. See Table 13.

Table 13. Example of core components and flexible activities

Core Components	Flexible Activities (examples only)
Engagement	Building a trusting relationship
	 Removing barriers to participation
	Parents as experts
Case Management, including	Wrap around support
material, emotional and	Service utilisation
practical support	Family driven goal setting
	Coordinated support
Parenting education, coaching	Family problem solving
and modelling	Young infant/ newborn care
	Prenatal health behaviours
	 Positive parenting behaviours
	Child environmental safety
Parent self-care and personal	Building confidence and self-sufficiency
development	Life Skills development
·	Parental risk factors
	Counselling

Core Components	Flexible Activities (examples only)	
	Support to cope with stress	
Building social support	Anger managementMultifamily supportive recreational activities	
Building social support	 Enhancing informal support from family and friends 	
	Parent relationship strengthening classes	
	Improving parents' social support	

2.7.1 Identify core components

To identify the core components, the following steps should be undertaken:

1. Familiarise yourself with the information about each evidence-informed program (i.e. in the program summaries and the data extraction template).

Important note: only evidence-informed programs should be used to identify core components and flexible activities. Programs rated as 'Evidence fails to demonstrate effect' or 'Evidence demonstrates adverse effects' should not be used to derive the core components.

Important note: we advise that researchers draft all the program summaries (see 2.6.8) before starting this step. It is easier to derive the core components and flexible activities from the summaries directly.

- 2. Generate a list of potential core components based on your understanding of the evidence-informed programs. Use the sheet titled 'Core Components and Flexible Activities'in the Data Extraction template (Appendix L). Create a column for each potential core component.
 - Core Components should be broad categories that can be used to group specific activities.
 - We would expect somewhere between four to six core components to be identified, depending on the topic.
- 3. Conduct a content analysis of each evidence-informed program in the data extraction template.
 - Read the program summaries and code relevant information under a core component (or 'theme'). You should look for key words, phrases and concepts that describe the activities undertaken in a program.
 Every activity should be allocated to a relevant core component.
 - Coding rules may need to be developed to ensure transparency and consistency. For example, activities that support parents to address alcohol abuse may be coded as 'parent self-care and personal development'. However, merely referring parents to additional support for the same issue may be coded as 'case management'.

- New core components may be identified, other core components may be split or the wording may be changed as you read through the content. The coding will likely be an iterative process that is tweaked and improved as you develop a better understand of the programs and their activities.
- 4. A second reviewer should complete step 3 above.
 - Any inconsistencies between reviewer 1 and 2 should be resolved by discussion or by a third reviewer if necessary.
- 5. Identify final list of core components.
 - o Count the number of times each core component was identified.
 - If some core components were only mentioned a few times (e.g. less than 5) they may not be considered core components as they are not common across different programs. They should be removed from the final list of core components.
 - Review the names of remaining core components to ensure they are useful and accurate representations of the content.

2.7.2 Identify flexible activities

To identify the flexible activities, the following steps should be undertaken:

- 1. Select the first core component to identify flexible activities for.
- 2. Review the information that was coded for that core component. Identify the specific activities that were implemented in different programs.
 - Flexible activities are the specific activities delivered in a program (e.g. parent relationship classes or multifamily recreational activities).
 - Some flexible activities will be common across different programs. When this occurs, they should not be duplicated. Ensure the name of the flexible activity accurately captures the activities. For example, one program has home visitors teach parents to 'manage money matters'. Another program includes an online learning module about 'financial planning and budgeting'. The flexible activity could be 'developing financial literacy skills'. When describing how the flexible activity is implemented, make reference to both programs.
- 3. Use the <u>flexible activity template</u> to describe the activity and how it is implemented.
 - Some studies may not describe activities and how they were implemented in enough detail. You can review the relevant program summaries, the data extraction template and even the original studies to try to collect as much information as possible about the activity and how it was implemented.
 - If you cannot find enough information, you will need to decide if the activity can be included. If the activity is not included – make a note of this in the data extraction template.
- 4. Repeat steps 1-3 for each core component.

Researchers may derive the core components and flexible activities using a variation of this process. For example, it may make sense to identify flexible activities first and then group these under core components. If this is the case, please document the process in Appendix A.

2.7.3 Write summaries of core components and flexible activities

A summary of each set of core components must be developed that provides key information about the core components, including relevant target groups, client outcomes, list of flexible activities and important considerations.

A summary of each flexible activity must also be developed. This should describe the activity, who it's for and how it can be implemented.

Reviewers should ensure that the core component and flexible activity summaries are population with detailed information that is clear and concise.

The Core Component and Flexible Activity Templates (see <u>Appendix N</u>, <u>Appendix O</u> and <u>Appendix P</u>) include headings and instructions on what information to include.

It is possible that the literature reporting relevant information does not provide sufficient detail. In these cases, it should be noted that this information was not available.

Also see Appendix N.1, O.1 and P.1 - these includes pre-written examples of core components and flexible activities. Researchers should use this as a guide.

2.7.4 Test final list of core components and flexible activities with key stakeholders

The core components and flexible activities need to be tested with key stakeholders. This is to ensure the language resonates with the relevant sector.

There might be minor changes to the names and descriptions of the core components and flexible activities as a result of this process.

Stakeholder consultation should not be used to identify additional activities implemented by service providers. It is merely a 'check' to ensure the right language has been used and they make sense to potential users of the Evidence Portal.

The commissioners of the Evidence Review should complete this step. Researchers can be involved in this process as needed.

2.8 Summarise findings of evidence review

All findings from this process will be reported in four key documents:

- **Program Summaries:** description of each program found in the evidence review.
- **Core Components Summaries**: description of the set of core components and each core component.
- Flexible Activity Summaries: description of each flexible activity.
- Evidence Review Summary: 4-6 page document that summarises the overall findings of the evidence review.

Program summaries should have been completed in Step 2.6. Core Components and Flexible Activity summaries should have been completed in Step 2.7.

2.8.1 Write Evidence Review Summary

A short summary of the key findings of the evidence review must be written.

This should be a 4-6 page document that clearly and concisely describes the purpose of the evidence review and what was found.

<u>Appendix Q. Evidence to Action Note</u> is the template that should be used. It includes relevant headings and descriptions of what information to provide.

Use Endnotes, instead of in-text citations, for referencing in the Evidence to Action Note.

2.8.2 Writing in Plain English

All summaries must written in Plain English. Researchers must remember that these summaries will be uploaded to the Evidence Portal which is a publically available resource. Users include DCJ staff, but also service providers and other members of the public. As such, we need to make sure that everything is written for the lay user.

Writing in Plain English makes it easier for readers to understand your message. Plain English uses easy to understand, plain language. It emphasises clarity, brevity and avoids overly complex words or jargon.

To write in Plain English, researchers should:

- Write in a formal but friendly tone.
- Use short, simple words and phrases. Complicated words may hide your meaning.
- Use short sentences with a maximum of 20 words.
- Use short paragraphs to maintain the reader's interest.
- Use active rather than passive voice, so your reader understands who is doing what e.g. 'we analysed'.

- Avoid using hidden verbs, e.g. instead of saying 'have a discussion', say 'discuss'.
- Remove words and details that add little value.
- Avoid jargon and technical terms where possible.

For more tips, and free Plain English writing tools register on the <u>Plain English</u> <u>Foundation website</u>, or <u>contact</u> them.

3 References

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4 Appendices

Appendix A - Evidence Portal Decision Form

Name of Evidence Review:		Project Lead:			
ID	Date	Step	Description of decision/change	Resolution	Impact
Example 1	1 st Jan 2021	3 – Include relevant evidence	Decided to include systematic reviews without meta-analysis	Systematic reviews without meta-analysis included	Evaluation ratings made based on additional studies

Appendix B - Research Question

Research Question	
Definitions	
Outcomes	
Inclusion criteria:	
Exclusion criteria:	
Databases to be searched:	

Appendix C - Research Question - Example

Research Question	What programs are effective in preventing child maltreatment in families?					
Definitions	Child maltreatment: As per Centers for Disease Control and Prevention, "any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child"					
	Includes physical abuse, sexual abuse, and neglect					
	Studies examining the effect of interventions on harsh parenting and out-of-home placement also included					
	Intervention programs: Includes only preventive interventions (focus on child abuse potential in families with <u>no</u> documented abuse/neglect (e.g., in the general population, at-risk families), as compared to curative interventions ⁴					
	Child: 18 years and under					
	Families: Includes biological, foster and adoptive families					
Outcomes	Child abuse potential					
	Physical abuse					
	Sexual abuse					
	Neglect					
	Harsh parenting					
	Shaken Baby Syndrome					
	Out-of-home placement					
Inclusion criteria:	Studies report on preventive (not curative) interventions for child maltreatment: Preventive interventions focus on child abuse potential in families with NO documented abuse/neglect (e.g., in the general population, at-risk families). If study has both families with and without documented abuse/neglect, include if majority is without documented abuse/neglect. Exclude if majority is with documented abuse/neglect.					
	Studies report on the effect of at least one intervention					
	Studies report on interventions where target recipient is parent/caregiver					
	Studies assess outcomes listed above					
	Studies assess child maltreatment perpetrated by parent or caregiver					
	Study designs of dismantling studies, meta-analyses, systematic reviews, randomized controlled trials (RCTs) and quasi-experimental designs (QEDs)					

⁴van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Coughlan, B., & Reijman, S. (2020). Annual research review: Umbrella synthesis of meta-analyses on child maltreatment antecedents and interventions: differential susceptibility perspective on risk and resilience. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 61*(3), 272–290. https://doi.org/10.1111/jcpp.13147

Exclusion criteria:	Studies report on curative interventions: Curative interventions focus on reducing child maltreatment in families with documented abuse/neglect (e.g., involvement with child protection/welfare)			
	Studies report on interventions where target recipient is not parent/caregiver (e.g., child)			
	Studies that do not include a valid counterfactual			
	Studies that do not test the effectiveness of a program/practice			
	Studies that assess child maltreatment perpetrated by non-caregiving adults (e.g., relative, teacher)			
	Studies that are not in English			
	Studies evaluating interventions in low and middle income countries			
	Dissertations			
Databases to be searched:	PsycINFO, Medline, Social Sciences Abstracts, Family and Society Studies Worldwide, Sociological Abstracts, ERIC			

Appendix D - Evidence Review Search Strategy

Adapted for _____database

#	Searches
1	
2	
3	
4	
5	

Appendix E - Evidence Review Search Strategy - Example

This search strategy was developed for an evidence review on preventing child maltreatment in October 2020. The search strategy was adapted for each database used.

Adapted for PsycINFO database

#	Searches					
1	("randomized controlled trial" or "clinical trial" or "randomized clinical trial" or "systematic review" or "meta analysis" or "quasi experimental").id,sh.					
	OR					
	(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis").ti,ab.					
2	(intervention or program* or treatment or service).id,sh.					
	OR					
	(intervention or program* or treatment or service).ti,ab.					
3	(prevention).id,sh.					
	OR					
	(prevent*).ti,ab.					
4	("child abuse" or "child neglect" or "child exploitation" or "child welfare" or "child maltreatment" or "child protection").id,sh.					
	OR					
	(child* adj2 (abus* or neglect or exploit* or welfare or maltreat* or protection)).ti,ab.					
5	S1 AND S2 AND S3 AND S4: N = 477					

Adapted for Medline database

.,	Second to							
#	Searches							
1	("randomized controlled trial" or "clinical trial" or "randomized clinical trial" or "systematic review" or "meta analysis" or "quasi experimental").id,sh.							
	OR							
	(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis").ti,ab.							
2	(intervention or program* or treatment or service).id,sh.							
	OR							
	(intervention or program* or treatment or service).ti,ab.							
3	(prevention).id,sh.							
	OR							
	(prevent*).ti,ab.							
4	("child abuse" or "child neglect" or "child exploitation" or "child welfare" or "child maltreatment" or "child protection").id,sh.							
	OR							
	(child* adj2 (abus* or neglect or exploit* or welfare or maltreat* or protection)).ti,ab.							
5	S1 AND S2 AND S3 AND S4: N = 508							

Adapted for Social Sciences Abstract (EBSCOhost) database

#	Searches						
1	SU ("randomized controlled trial" or "clinical trial" or "experimental" or "quasi experimental" or "systematic review" or "meta-analysis")						
	OR						
TI (randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis" or "metaanalysis" or							
	OR						
	AB (randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")						
2	SU (intervention or program* or treatment or service)						
	OR						
	TI (intervention or program* or treatment or service)						
	OR						
	AB (intervention or program* or treatment or service)						
3	SU prevention						
	OR						
	TI prevent*						
	OR						
	AB prevent*						
4	SU ("child abuse" or "child sexual abuse" or "sexually abused children" or "child welfare" or "child services")						
	OR						
	TI (child* N2 (abus* or neglect or exploit* or welfare or maltreat* or protection))						
	OR						
	AB (child* N2 (abus* or neglect or exploit* or welfare or maltreat* or protection))						
5	S1 AND S2 AND S3 AND S4: N = 190						

Adapted for Family and Society Studies Worldwide (EBSCOhost) database

#	Searches							
1	SU ("randomized controlled trial" or "clinical trial" or "experimental" or "quasi experimental" or "systematic review" or "meta-analysis")							
	OR							
	TI (randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "meta-analysis" or "meta analysis")							
	OR							
	AB (randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")							

2	SU (intervention or program* or treatment or service)					
	OR					
	TI (intervention or program* or treatment or service)					
	OR					
	AB (intervention or program* or treatment or service)					
3	SU prevention					
	OR					
	TI prevent*					
	OR					
	AB prevent*					
4	SU ("child abuse" or "child sexual abuse" or "sexually abused children" or "child welfare" or "child services")					
	OR					
	TI (child* N2 (abus* or neglect or exploit* or welfare or maltreat* or protection))					
	OR					
	AB (child* N2 (abus* or neglect or exploit* or welfare or maltreat* or protection))					
5	S1 AND S2 AND S3 AND S4: N = 472					

Adapted for Sociological Abstracts (Proquest) database

#	Searches							
1	SU("randomized controlled trial" or "clinical trial" or experiment* or "quasi experimental" or "systematic review" or "meta-analysis")							
	OR							
	TI(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")							
	OR							
	AB(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi experiment*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")							
2	SU(intervention or program* or treatment or service)							
	OR							
	TI(intervention or program* or treatment or service)							
	OR							
	AB(intervention or program* or treatment or service)							
3	SU(prevention)							
	OR							
	TI(prevent*)							
	OR							
	AB(prevent*)							

4	SU("child abuse" or "child sexual abuse" or "child exploitation" or "child welfare" or "child maltreatment")
	OR
	TI(child* N/2 (abus* or neglect or exploit* or welfare or maltreat* or protection))
	OR
	AB(child* N/2 (abus* or neglect or exploit* or welfare or maltreat* or protection))
5	S1 AND S2 AND S3 AND S4: N = 170

Adapted for ERIC (Proquest) database

#	Searches							
1	SU("randomized controlled trial" or "clinical trial" or experiment* or "quasi experimental" or "systematic review" or "meta-analysis")							
	OR							
	TI(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi ex*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")							
	OR							
	AB(randomized or randomised or randomly or "trial" or RCT or "wait* list" or experiment* or "quasi experiment*" or quasiexperiment* or "systematic review" or "meta-analysis" or "metaanalysis" or "meta analysis")							
2	SU(intervention or program* or treatment or service)							
	OR							
	TI(intervention or program* or treatment or service)							
	OR							
	AB(intervention or program* or treatment or service)							
3	SU(prevention)							
	OR							
	TI(prevent*)							
	OR							
	AB(prevent*)							
4	SU("child abuse" or "child sexual abuse" or "child exploitation" or "child welfare" or "child maltreatment")							
	OR							
	TI(child* N/2 (abus* or neglect or exploit* or welfare or maltreat* or protection))							
	OR							
	AB(child* N/2 (abus* or neglect or exploit* or welfare or maltreat* or protection))							
5	S1 AND S2 AND S3 AND S4: N = 106							

Appendix F - Overview of database search

Electronic databases search strategy

Overview of database search							
Name of database	PsycINFO	Medline	Social Sciences Abstracts	Optional database 1	Optional database 2	Optional database 3	Add additional databases
Searched	YES[]	YES[]	YES[]	YES[]	YES[]	YES[]	
	NO []	NO[]	NO []	NO []	NO []	NO []	
Date search was conducted (dd-mm-yyyyy)							
Search string							
Documented changes							
Total number of citations							
Exported to reference management	YES[]	YES[]	YES[]	YES[]	YES[]	YES[]	
library?	NO []	NO []	NO []	NO []	NO[]	NO []	
Exported to specialised systematic review management software?	YES[]	YES[]	YES[]	YES[]	YES[]	YES[]	

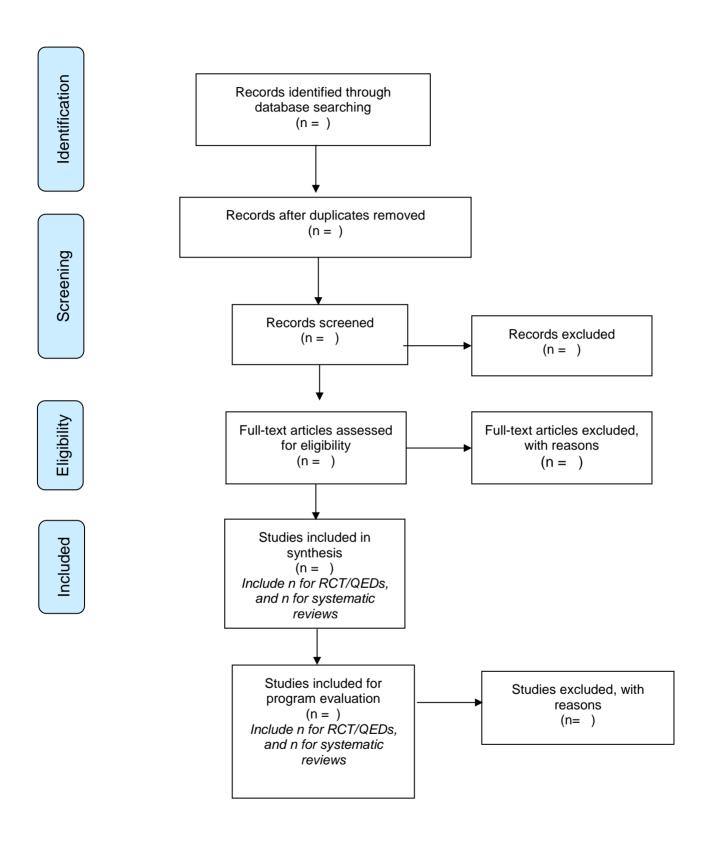
Appendix G - Overview of database search - Example

This form was completed for the review on preventing child maltreatment in October 2020.

Electronic databases search strategy

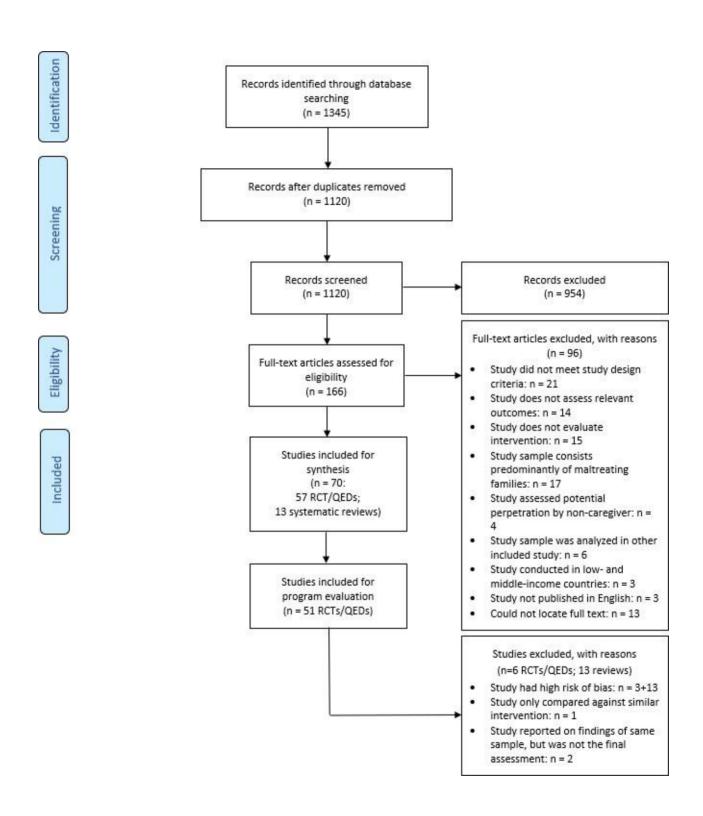
Overview of database search								
Name of database	PsycINFO	Medline	Social Sciences Abstracts	Family & Society Studies Worldwide	Sociological Abstracts	ERIC		
Searched	YES [X] NO[]	YES [X] NO[]	YES [X] NO[]	YES [X] NO[]	YES [X] NO[]	YES [X] NO[]		
Date search was conducted	19-10-2020	19-10-2020	20-10-2020	21-10-2020	20-10-2020	20-10-2020		
Search string	See Child Maltreatment Review Search Strategy 2020-10-21.docx							
Documented changes	NA	NA	NA	NA	NA	NA		
Total number of citations	477	508	190	472	170	106		
Exported to reference management library?	YES [X] Mendeley NO []	YES [X] Mendeley NO []	YES [X] Mendeley NO []	YES [X] Mendeley NO []	YES [X] Mendeley NO []	YES [X] Mendeley NO []		
Exported to specialised systematic review management software?	YES [X] Covidence NO []	YES [X] Covidence NO []	YES [X] Covidence NO []	YES [X] Covidence NO []	YES [X] Covidence NO []	YES [X] Covidence NO []		

Appendix H - PRISMA Flow diagram template



Appendix I - PRISMA Flow Diagram - Example

This PRISMA flowchart was completed for the review on child maltreatment prevention programs.



Appendix J - Risk of bias assessment for systematic review (AMSTAR 2)

This AMSTAR 2 (Shea et al., 2017) is the recommended risk of bias assessment tool for systematic reviews. The template provided here is a reference only. The most up to date version should be accessed online before any risk of bias assessments are conducted. It is very important that this tool is used alongside its relevant user guide. This will ensure reviewers have a comprehensive understanding of its application and use.

An Excel template has also been developed for the current version of the AMSTAR 2. This is available in the Data Extraction Template (see Appendix L) and should be used to record all assessments.

AMSTAR 2 for assessing the quality of systematic reviews

Domain (Critical domains red)	Yes	Partial Yes	No	Other/Notes
Item 1: Did the research questions and inclusion criteria for the review include the components of PICO?				
Item 2: Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?				
Item 3: Did the review authors explain their selection of the study designs for inclusion in the review?				
Item 4: Did the review authors use a comprehensive literature search strategy?				
Item 5: Did the review authors perform study selection in duplicate?				
Item 6: Did the review authors perform data extraction in duplicate?				
Item 7: Did the review authors provide a list of excluded studies and justify the exclusions?				
Item 8: Did the review authors describe the included studies in adequate detail?				
Item 9 (RCT): Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?				

Item 9 (NRSI): Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?					
Item 10: Did the review authors report on the sources of funding for the studies included in the review?					
Item 11 (RCT): If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?					
Item 11 (NRSI): If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results?					
Item 12: If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis?					
Item 13: Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review?					
Item 14: Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?					
Item 15: If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?					
Item 16: Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?					
Overall Assessment:	Circle one:				
Very high: No/one non-critical weakness (the systematic review provides an accurate and	Very High				
comprehensive summary of the results of the available studies that address the question of interest).	Moderate				
,	Low				

Moderate: >1 non-critical weakness ⁵ (review has >1 weakness but no critical flaws, may provide an accurate summary).	Critically Low
Low: 1 critical flaw with/without non-critical weaknesses: Review may not provide an accurate and comprehensive summary.	
Critically low: >1 critical flaw with/without non-critical weaknesses (Review should not be relied on to provide an accurate and comprehensive summary).	
Notes	

⁵ Multiple non-critical weaknesses may diminish confidence in the review and it may be appropriate to move the overall appraisal down from moderate to low confidence.

Appendix K - Risk of bias assessment for RCTs and QEDs (The Evidence Project Risk of BiasTool)

The Evidence Project Risk of Bias Tool (Kennedy et al., 2019) is the recommended risk of bias assessment tool for RCTs and QEDs. The template provided here is a reference only. The most up to date version should be accessed online before any risk of bias assessments are conducted. It is very important that this tool is used alongside its relevant user guide. This will ensure reviewers have a comprehensive understanding of its application and use.

An Excel template has also been developed for the current version of this tool. This is available in the Data Extraction Template (see <u>Appendix</u> <u>L</u>) and should be used to record all assessments.

The Evidence Project Risk of Bias Tool for assessing the quality of RCTs and QEDs

Item	Description	Yes	No	Not Applicable/ Not Reported	Other/Notes
Study Design					
Cohort	Did the study include a cohort that was followed over time and included multiple assessments with the same people?				
Control/comparison group	Did the study include a control and/or comparison arm in addition to the intervention arm?				
Pre-post intervention data	Did the study present data from both before (baseline) and after the intervention?				
Participant Representativeness					
Random assignment of participants to the intervention	In multi-arm study designs, were the participants randomly assigned (i.e., not self-selected) to the intervention and control/comparison arm?				

Random selection of participants for assessment	Did the authors use a probability sample* to select participants, or did the authors use a mixed sampling strategy but conducted random sampling for at least one part of that mixed strategy? *A study in which investigators pre-assess a sampling frame and randomly select groups or people from the specified population			
Follow-up rate of 80% or more	Did the entire study group have a follow-up rate of 80% or more?			
Equivalent of Comparison Gro	oups			
Comparison groups equivalent on sociodemographics	Were the study arms equivalent on sociodemographic characteristics?			
Comparison groups equivalent at baseline on outcome measures	Were the study arms equivalent on outcome measures at baseline?			
Selective Reporting of Outcor	mes			
All outcomes reported	Were data for all pre-specified outcomes reported (i.e., outcomes were not selectively reported)?			

Appendix L - Data Extraction Template

The Data Exchange Template is an excel spreadsheet.

It includes the following sheets:

Title of Sheet	Description
RoB – RCTs and QEDs	Used to capture risk of bias assessments for included RCTs and QEDs. Uses the Evidence Project Risk of Bias Tool.
RoB1 - Example	An example of a risk of bias assessment for RCT.
RoB – Systematic Reviews	Used to capture risk of bias assessments for included systematic reviews. Uses the AMSTAR 2 tool.
RoB2 - Example	An example of a risk of bias assessment for a systematic review.
Data Extraction	Template to extract all data from included studies.
DE - Example	Example of data extracted from a single study.
Outcomes	List of outcome domains used to group outcomes identified in included studies. Includes method of assessment.
DE - Abbreviations	List of abbreviations and acronyms used in Data Extraction sheet.
Evidence Rating	Used to record the evidence rating given to outcomes and programs.
Excluded from evidence rating	Used to document studies excluded from evidence rating and rationale.
Core Components and Flexible Activities (CCs and FAs)	Template to code descriptions of programs and identify core components and flexible activities.

Appendix M - Evidence-informed program summary

Information to	Information to feature on search result page	
Evidence type	Evidence-informed program	
Name of the program		
Brief description of program for search page	1-2 sentences that describe the program – include headline information only.	
Outcomes	List positives outcome domains – use high-level outcome domains. If the program had no positive outcomes, simply state 'no positive outcomes'.	
Strength of evidence	Strength of evidence rating	
Effectiveness	Effectiveness category: positive, neutral, no effect, negative	

Use MS Word Styles Style1 for all program summary titles. Use Style2 for sub-headings within those sections. Use Style3 for content within each section. Use bold font sparingly, and only within sentences. Do not use italics.

Information to feature on program summary page

About the program

Describe the program and how it's meant to work. List the program aims/goals.

Who does it work for?

Describe the client cohort the program was designed for.

Describe the sample of each study, including number of participants (IG and CG), average age of client group(s), and other key demographic characteristics.

Include any relevant information about who the program has NOT been evaluated with (e.g. the program has not been evaluated in Australia or with Aboriginal Australians).

What outcomes does it contribute to?

Describe the relevant outcomes the studies reported on.

Positive outcomes:

•

No effect:

•

Negative outcomes:

•

When an outcome has mixed results (e.g. one study was positive, another showed no effect) describe this in detail.

Included in-text references to relevant studies.

How effective is it?

Describe the overall effectiveness of the program: positive, mixed, no effect or negative.

How strong is the evidence?

Include overall evidence rating of the program. Include description of evidence rating from scale.

How is it implemented?

Describe delivery model, mode, setting, duration of program and other important considerations.

How much does it cost?

Describe the cost of the program.

What else should I consider?

Include other relevant information about the program. This could include referral requirements, training necessary for staff, limitations of the program and/or studies, etc.

Where does the evidence come from?

List number and type of studies included, with in-text reference for each.

Further resources

Include hyperlink to any relevant websites about program, including program manual if available.

Include full-text reference for studies. Use Harvard Referencing guide. Ensure all references have hyperlinks also – even if the paper is behind a paywall.

Appendix M.1 - Evidence-informed program summary – ACT Program Example

Information to feature search result page	
Evidence type	Evidence informed program
Name of the	ACT Raising Safe Kids program
program	
Brief description of	The Adults and Children Together (ACT) Raising Safe Kids program
program for search	provides parents with support and education to promote positive
page	parenting, protect children from violence in the home, and increase
	connectedness between family members and community supports.
Outcomes	Improved parenting
Strength of	Mixed Research Evidence (with adverse effects)
evidence	
Effectiveness	Mixed

Information to feature on program summary page

About the program

The Adults and Children Together (ACT) Raising Safe Kids program provides parents with support and education to promote positive parenting, protect children from violence in the home, and increase connectedness between family members and community support.

The overarching goals of the ACT program are to:

- make early violence prevention a central and ongoing part of the community
- educate adults about their important role in creating healthy and safe environments for children.

The program delivers sessions on:

- understanding child behaviour
- children and violence
- adults dealing with their anger
- dealing with children's anger
- resolving family conflicts in a positive way
- positive discipline
- reducing the influence of media
- parents role in raising safe children.

The program was developed by the American Psychological Association and the National Association for the Education of Young Children.

Who does it work for?

ACT serves to complement existing parenting programs that target parents identified as being at high risk for child maltreatment. The program can be delivered to parents aged 18 years and over participating in existing programs.

It is designed for parents of children aged 0-10 years old.

The ACT program has only been evaluated in the USA (Portwood et al. 2011). A randomized control trial was conducted with 197 people (116 in the intervention group and 81 in the control group). On average, the parents were 33 years old. Most of the parents were Hispanic and low income families.

The program has not been evaluated in Australia or with Aboriginal Australians. The program has not been evaluated

with parents who had already engaged in child maltreatment.

What outcomes does it contribute to?

Positive outcomes:

- **Harsh parenting:** parents who participated in the ACT program were less likely to engage in harsh verbal and physical discipline, compared to parents who did not participate in the program. This remained true three months after the program had finished. However, these positive effects may be limited to parents who completed at least seven of the eight program sessions.
- **Positive parenting behaviours:** parents who participated in the ACT program were more likely to exhibit nurturing behaviours.
- **Parenting attitude:** parents who participated in the ACT program were more likely to see improvement in their developmental expectations of their children.

No effect:

- Family functioning: The program did not have an effect on perceived conflict in the family environment.
- Parent's social support: The program did not have an effect on parent's social support from family or friends.

Negative outcomes:

• **Parenting stress:** parents who participated in the ACT program reported increased levels of parenting stress over time.

How effective is it?

Overall, the program had a mixed effect on client outcomes.

How strong is the evidence?

Mixed research evidence (with adverse effects):

- At least one high-quality randomised controlled trial (RCT) or quasi-experimental design (QED) study reports statistically significant adverse effects for at least one outcome, AND
- An equal number or more RCT or QED studies show no observed effects than show statistically significant adverse effects, AND/OR
- At least one high-quality RCT or QED study shows statistically significant positive effects for at least one outcome.

How is it implemented?

The ACT program consists of eight two-hour group sessions delivered by community service providers.

The sessions cover:

- understanding child behaviour
- children and violence
- adults dealing with their anger
- dealing with children's anger
- resolving family conflicts in a positive way
- positive discipline
- reducing the influence of media
- parents role in raising safe children.

The program is designed to be implemented within the existing service delivery infrastructure. That is, pre-existing supports and programs should still be delivered.

A train-the-trainer model was employed with service providers. Service providers trained local facilitators to deliver the program to parents receiving existing services.

How much does it cost?

Program materials may be purchased from the American Psychological Association (APA) at a cost of \$50 USD. Training workshops are provided free of charge.

Average cost of \$266.65 USD per participant. Per participant costs range from \$177.54-\$552.61 USD.

What else should I consider?

The ACT program was not developed as an alternative to existing parenting programs that target parents at high-risk of child maltreatment. It serves to compliment empirically based programs.

The curriculum for the ACT program is available in both English and Spanish.

A qualitative evaluation of the program (Portwood et al. 2011) found that overall, parents felt the ACT program helped them:

- become better parents
- control their anger
- learn and implement better parenting discipline strategies
- acknowledge developmentally appropriate behaviours for their children.

The overwhelming majority of parents agreed the ACT program exceeded their needs and were positively impacted by the ACT program.

Many parents praised the interactive nature of the ACT program, commenting that they enjoyed the group discussions that followed from the program activities.

Where does the evidence come from?

1 RCT conducted in the USA with a sample of 197 people (Portwood et al. 2011).

Further resources

For more information and resources about the ACT Program see: https://www.apa.org/act

Portwood et al. (2011), <u>An evaluation of the Adults and Children Together (ACT) Against Violence Parents</u> <u>Raising Safe Kids program</u>, The Journal of Primary Prevention, vol. 32, pp. 147-160.

Appendix N - Set of Core Components Summary

Information to feature on search result page	
Evidence type	Core Components
Name of the set of core components	
Brief description of the set of core components	1-2 sentences that describe the set of core components – include headline information only.
Outcomes	List high-level outcome domains

Use MS Word Styles Style1 for all program summary titles. Use Style2 for sub-headings within those sections. Use Style3 for content within each section. Use bold font sparingly, and only within sentences. Do not use italics.

Information to feature on core components page

Describe the set of core components, how they're meant to work, their purpose etc.

Who does it work for?

Describe the target group the set of core components is meant for, including any key demographics and risk factors.

Core Components

List the core component (Note: use the Component page template for each component)

What should you consider when working with Aboriginal Communities?

Leave blank.

This section will be populated by the commissioners of the evidence review after consultation with the relevant stakeholders.

What else should you consider?

Include any high-level information a practitioner might need to know about the set of core components.

Further resources

Include full-text reference for any studies cited above. Use Harvard Referencing guide. Ensure all references have hyperlinks also – even if the paper is behind a paywall.

Appendix N.1 - Example of set of core components summary

Information to feature on search result page	
Evidence type	Core Components
Name of the set of core components	Preventing child maltreatment
Brief description of the set of core components	These five core components describe the essential types of activities that can be delivered to prevent child maltreatment.
Outcomes	Child maltreatment

Information to feature on core components page

Five core components that are essential to preventing child maltreatment.

In 2020, an evidence review was conducted to understand what works to prevent child maltreatment. 32 evidence-informed programs were identified. A content analysis identified 5 commonalties across these programs.

These 5 core components are the common activities across evidence-informed programs that have been shown to prevent child maltreatment. They make up standardised program components that can be delivered by any program for families at risk of child maltreatment.

Who does it work for?

These core components are relevant to services working with families and carers of children 18 years and under to prevent child maltreatment.

Core Components

- Engagement
- Case Management
- Parenting education, coaching and modelling
- Parental self-care and personal development
- Building supportive relationships and social networks

What should you consider when working with Aboriginal Communities?

What else should you consider?

When using the core components and flexible activities above to design or implement a program, it must be tailored to fit the needs and characteristics of the target group.

Further resources

Appendix O - Core Component Summary

Information to feature search result page	
Evidence type	Core Component
Name of the	
component	
Brief description of	1-2 sentences that describe the core component – include headline
the component for	information only.
search page	
Set of Core	Name of the set of core components
Components	

Use MS Word Styles Style1 for all program summary titles. Use Style2 for sub-headings within those sections. Use Style3 for content within each section. Use bold font sparingly, and only within sentences. Do not use italics.

Information to feature on component page

Brief description of the core component.

Flexible activities include

List of flexible activities.

• Use bullet points

What should the user consider when adopting/implementing this core component? 1-2 sentences.

Related core components

List the related core components

Appendix O.1 - Example of a Core Component summary

Information to feature search result page	
Evidence type	Core Component
Name of the component	Parenting education, coaching and modelling
Brief description of the component for search page	Parenting education, coaching and modelling ensures parents have the skills and knowledge to meet their children's needs
Set of Core Components	Preventing child maltreatment

Information to feature on component page

Parenting education, coaching and modelling ensures parents have the skills and knowledge to meet their children's needs. It may include practical advice about routines or typical infant and child behaviour. It may also include resolving family conflict or practicing positive parenting behaviours.

Flexible activities include

- Family problem solving
- Newborn and infant care
- Prenatal care
- Positive parenting behaviours
- Child health and safety

Activities to provide parenting education and improve skills focus on a range of topics from prenatal behaviours to family problem solving. These activities can be delivered in a number of ways including parenting classes, home visiting programs and one-off multimedia sessions.

Related core components

- Engagement
- Case Management
- Parental self-care and personal development
- Building supportive relationships and social networks

Appendix P - Flexible Activity Summary

Information to feature search result page	
Evidence type	Flexible activity
Name of the flexible	
activity	
Brief description of	1-2 sentences that describe the set of core components – include
flexible activity for	headline information only.
search page	
Set of Core	Name of the set of core components
Components	
Core Component	Name of core component

Information to feature on Flexible activity page

Use MS Word Styles Style1 for all program summary titles. Use Style2 for sub-headings within those sections. Use Style3 for content within each section. Use bold font sparingly, and only within sentences. Do not use italics.

Flexible activity

Describe the flexible activity, how it's meant to work, its purpose etc.

How can it be implemented?

Describe how the activity can be implemented. Provide as much detail as possible.

What should you consider when working with Aboriginal people and communities?

Leave blank.

This section will be populated by the commissioners of the evidence review after consultation with the relevant stakeholders.

Who is the target group?

Describe the target group the flexible activity is meant for, including key demographics and risk factors.

What programs conduct this activity?

Briefly describe how each program implements the activity. 1-3 sentences per program.

What else should I consider?

Include limitations and any other relevant information that may impact how the activity is conducted.

Further resources

List the evidence-informed programs the activities are from.

Include hyperlinks if pointing to existing pages.

Appendix P.1 - Example flexible activity summary

Information to feature search result page	
Evidence type	Flexible activity
Name of the flexible activity	Newborn and infant care
Brief description of program for search page	Educate families on newborn and infant development and are taught how to respond to difficult infant behaviours.
Set of Core Components	Preventing child maltreatment
Core Component	Parenting education, coaching and modelling

Information to feature on Flexible activity page

Flexible activity

In this activity, families are educated on newborn and infant development and are taught how to respond to difficult infant behaviours. Coaching, modelling, discussion, practice and guided self-reflection are all conducted to support parents' skill development. Education and information on child development and age-appropriate behaviours is also provided.

This supports parents to better understand their child's behaviours and to respond appropriately. It seeks to strengthen the parent-child relationship, support child development and prepare parents for development milestones.

How can it be implemented?

Education on newborn and infant care can be provided in a number of different ways. It should be implemented as soon as possible after the birth of the child. If, however, this isn't possible, the content should be tailored to the child's developmental stage.

You should use your professional judgement to determine what is most appropriate for your client/s.

Hospital visits:

New parents can be visited in the hospital soon after the birth of their child. Parents can be
provided with a packet of parenting information. The visitors discusses the content with the
parents and answers any questions they may have.

Home visits:

- Sessions on newborn or infant care and development can be conducted in existing home visits with individual families.
- Sessions typically run weekly, for 1-2hrs.
- Visits can be supplemented with telephone calls as needed.
- Home visitation can last for 3-24 months. The frequency of visits and length of the program should be based on client needs.

Home visits + online learning:

- Home visits can be combined with an online component.
- Home visitors can structure their visits around the content in the online learning materials.

 Online component can include videos that teach/model newborn care techniques and how to respond to difficult infant behaviours.

Self-directed learning:

- Parents undertake self-directed learning by watching instructive videos on newborn or infant care and development.
- Parents practice the skills they were taught and record a 5-min video of themselves and their child demonstrating the skills.
- Parents participate in a telephone or video conversation with a coach receive and discuss any feedback and to further develop the parents skills.

One-off video and booklet:

- Parents receive a booklet and DVD with key information about newborn care. The materials are explained to new parents by a health care professional.
- The booklet may contain checklists and activities that reinforce messages from the video.

What should you consider when working with Aboriginal people and communities?

Who is the target group?

This flexible activity has been implemented with a number of different target groups. Key characteristics include:

- First time parents aged 18 and over
- First time parents who are socially disadvantaged
- Mothers with young children in low income families
- Parents of new born infants
- Families at high risk of child abuse and neglect
- Mothers aged 15 and over from low income households
- Teenage mothers at risk of maltreating their children

What programs conduct this activity?

- The All Babies Cry program seeks to improve parents responses to infant crying by visually depicting a wide variety of care strategies in a 55-minute video.
- In the Colorado Adolescent Maternity Program home visits help teenage parents appreciate and manage individual differences in infant temperament. For example, teenage parents often misinterpret their infants' crying as a care-giving failure on their part or as an indication that the infants are intentionally trying to disrupt their lives.
- The e-PALS Baby Net program includes 6 online education sessions on newborn and infant care.
- In the Hawaii Healthy Start Program Enhanced with Cognitive Appraisal, parents are taught skills to read children's cues to distress and to counter misattributional processes (e.g. countering the view that infants and babies can read parents' minds, are behaving with negative intent, or are challenging parental power).

- In the Healthy Families America program, home visitors support parents to understand child development and age-appropriate behaviours by providing education and information. This in turn, helps parents prepare for developmental milestones.
- The e-Parenting Program is a computer based program combined with home visiting.
 Parents undertake cognitive retraining on causes of and how to soothe infant crying and fussiness.
- In the First Steps program, parents are visited in their hospital room. Additional telephone contact is made as needed. Parents are provided with information on: infant development, feeding, sleep, crying and immunisations.
- In the Linkages for prevention project, home visitors provide mothers with parental education on fetal and infant health and development. Home visits are conducted 2-4 times a month.
- My Baby & Me includes numerous 1.5hr modules about infant and toddler care. Parents
 begin by learning the basic skills of observing their child's communicative signals and then
 progress to using a variety of responsive behaviours (e.g., smiling, using a warm tone of
 voice, encouraging children's efforts, avoiding intrusiveness and unnecessary restrictions,
 attending to and following the child's interests).
- In the Nurse Family Partnership program, home visits are conducted to improve parent education on fetal and infant development.
- The Period of PURPLE crying program (the original and the modified version) educates
 parents about normal infant crying, strategies to use when infants cry and the dangers of
 shaking in an effort to decrease abusive head trauma

What else should I consider?

If online or video interventions are going to be implemented, service providers and participants will require access to devices and/or software to view the content.

Cultural differences in response to infants crying should be considered when educating parents about crying.

Further resources

All Babies Cry
Colorado Adolescent Maternity Program
e-PALS Baby-Net
Hawaii Healthy Start Program – Enhanced with cognitive appraisal
Healthy Families America program
e-Parenting Program
First Steps
The Linkages for Prevention program
My Baby & Me program
Nurse Family Partnership program
The Period of PURPLE Crying program
The Period of PURPLE Crying – modified educational video

Appendix Q - Evidence to Action Note

Heading: use a title	that will engage your audience and capture their attention
Snapshot	This section allows the audience to briefly scan the publication for relevance.
	It should contain 5-6 bullet points of no more than 20 words each.
	Summarise the research findings and outline the key messages you are trying to communicate in plain English.
Introduction	Length: 1-2 short paragraphs (approximately 50-100 words).
	Briefly describe the purpose and content of the E2A note.
	What was the aim of the evidence review?
Why is this	Length: 1-2 paragraphs (approximately 300 words)
important?	Think about:
	What is the issue being addressed?
	Why is this topic important?
	Refer to relevant literature that tells the reader why this is important and
	situates the problem/topic and/or approach taken in the analysis.
What did the	Length: 2–3 pages
evidence review	Include 1-2 sentences about the method.
find?	Describe the key findings of the research:
	Think about your audience and what they need to know
	Use charts and tables to illustrate findings
	Include at least one infographic to highlight important findings
	Use subheadings for easy scanning
	If necessary, briefly describe the limitations of the evidence review.
Where to from	Length: 2-3 paragraphs (up to 300 words)
here?	Think about:
	How can these findings be used to inform policy and/or practice?
	What are the implications of these findings for policy and/or practice?
	Provide links to resources.
EndNotes	Using Endnotes throughout the document, instead of in-text references. Use Harvard Referencing Guide for reference list.