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Evidence Check

Service models for children under 10 with problematic sexual behaviours

An **Evidence Check** rapid review brokered by the Sax Institute for the NSW Ministry of Health. December 2018

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Executive summary

Background

The NSW Ministry of Health is developing clinical guidelines and standards for responding to children under the age of 10 with problematic or harmful sexual behaviour. The Sax Institute brokered this Evidence Check to identify current best evidence about effective models of service delivery for the treatment and prevention of problematic or harmful sexual behaviour in children under 10. While there have been a number of recent reviews into best practice for treatment and prevention of problematic or harmful sexual behaviour in children that have provided some information about what may be effective, there is limited research relating to children under 10. Additionally, most of these reviews have focused on discrete therapeutic interventions rather than a holistic approach to ascertain what model of service delivery optimises outcomes. Each of these reviews acknowledges the importance of family/caregiver involvement, which is widely recognised as critical to providing consistency in behaviour change strategies and as such directed one of the key criteria components of this review. This Evidence Check aims to build on and complement these existing reviews by exploring effective models of service delivery for children under 10 with problematic or harmful sexual behaviour.

It is widely recognised that children's sexual development begins in infancy and they will display sexual behaviour as part of their normal sexual development.[1, 2] Age-inappropriate displays of sexual behaviour are considered harmful or problematic and can have long-term negative impacts on the social and emotional health and wellbeing of the children involved.[3] Although determining the prevalence of problematic or harmful sexual behaviour among Australian children aged under 10 is difficult[3–5, 8–10], there is substantial evidence that indicates that it is a significant problem.[5, 11] If it is not addressed, children who display problematic or harmful sexual behaviour and children who are exposed to this behaviour may develop long-term patterns or have an increased likelihood of negative developmental trajectories, behavioural or conduct problems later in life[3, 5] and an increased risk of being sexually exploited.[5] Conversely, early and effective intervention results in a high rate of resolution. The earliest intervention produces the best rehabilitative outcomes.[3] It is therefore important to provide high-quality evidenced-based early intervention with the aim of preventing the reoccurrence of problematic or harmful sexual behaviour.

Review questions

Question 1: What are the characteristics of specialist service delivery models that have been evaluated for children under the age of 10 with problematic or harmful sexual behaviour?

Question 2: Of the specialist service delivery models identified in Question 1, what are the results of the evaluations?

Question 3: Of the models identified above, what are the findings and recommendations about how best to implement these models?

Summary of methods

The review team used a two-stage approach to identifying relevant literature to address the research questions. Both academic databases and grey literature were searched for literature published between January 2006 and June 2018 from Australia, New Zealand, Britain, the US and Canada, written in English only. To be included, the literature must have evaluated a service model or intervention designed for, or provided to both child/ren (under 10) and parent/s or caregiver/s. Models developed earlier than 1993 (i.e. more than 25 years ago) were excluded. Reviews and meta-analyses meeting the aforementioned criteria

were included where they had a discernible method. Those with no discernible method were key sourced for additional resources.

Eight articles met criteria for inclusion in the Evidence Check, including two meta-analyses, one rapid evidence assessment and five primary studies. The quality of the available evidence was graded according to study design using the National Health and Medical Research Council (NHMRC) Evidence Hierarchy. Evidence grades ranged from Level 1 (meta-analyses) to Level IV (single-group, pre–post studies).

Key findings

Question 1

The review identified five service models or interventions for children under 10 with problematic or harmful sexual behaviours:

- The SMART (Safety, Mentoring, Advocacy Recovery, and Treatment) Model
- Parent–Child Interaction Therapy (PCIT)
- Game-based Cognitive Behavioral Therapy (GB-CBT)
- Group Treatment for Preschool Children with Sexual Behavior Problems
- The Sexualised Behaviour (under tens) Program

With the exception of the Sexualised Behaviour (under tens) Program, all models were delivered in the US. Most models used dyadic approaches that were based on cognitive behavioural and trauma-informed principles, but there was a mix of group-based and individual–dyad formats. The duration of services ranged from 12 weeks/sessions to a year, or one to two years with sessions typically running for 90 minutes. The workforce ranged from graduate students through to qualified and experienced clinicians, and these workers were typically well-supported through clinical supervision/ governance.

Question 2

Overall, findings were generally positive for the reduction of harmful or problematic sexual behaviours through the provision of the evaluated service models and interventions. However, within the individual studies there were critical limitations that mean results need to be interpreted with caution. Limitations included small sample sizes, limited consideration of the impact of treatment withdrawals and/or refusals on success rates, no comparison groups, and limited applicability to the Australian context.

Question 3

The quality of the contemporary literature was relatively poor, making it difficult to provide strong recommendations regarding implementation of these models and interventions. While most models and interventions offered a tailored response that considered the specific needs of the child and their family (e.g. trauma-informed responses that address the sexual behaviours of concern), it has not yet been established within the contemporary literature whether or not these approaches are evidence-based**.** However, no models/interventions were reported to have any adverse consequences, and therefore (on the basis of limited information) would not be considered contraindicated by evidence (i.e. dangerous or harmful effects), but there is very weak evidence that the interventions are responsible for improving children's problem sexual behaviour.

Discussion of key findings

Given the limited evidence base, it is recommended that the implementation of any model or intervention with the approaches or components specified in this Evidence Check should be should be accompanied by rigorous evaluation to ensure not only the effectiveness of the model or intervention but also that it has no adverse effects. However, as the approaches described within the contemporary literature are not dissimilar to the historical literature where more rigorous evaluations have been completed, the NSW Ministry of

Health could draw upon the historical literature to supplement the contemporary evidence, providing more weight to the evidence base.

Gaps in the evidence

The studies included in this Evidence Check primarily evaluate distinct interventions rather than holistic service models. It is important to note that while care was taken in the development of the search strategy to ensure that we captured a large range of studies, it is possible given the brief nature of the review that evaluations may have been missed. Scoping the service delivery landscape in Australia could supplement the existing published literature.

Applicability

While most models and interventions attempted to have a tailored response that considered the specific needs of the child and their family (e.g. trauma-informed responses that address the behaviours of concern), with the exception of the Sexualised Behaviour (under tens) Program the included models and interventions were not designed for the Australian context. If a service model or intervention described in this Evidence Check were to be incorporated into service provision within NSW, it would be critical to consider how it might need to be adapted to suit children and families in Australia.

Conclusion

Key messages

- There is very little contemporary evidence to inform service delivery for children under 10 with problematic or harmful sexual behaviour and their parents/caregivers within NSW, particularly for holistic service models.
- The contemporary evidence base is limited by a small number of evaluations that did not include comparison or control groups against which the effectiveness of the models and interventions could be compared and did not routinely consider the impact of treatment withdrawal and/or refusal on evaluation outcomes.
- Current interventions, however, are not too dissimilar to historical interventions that have higher quality evidence.
- Of the models and interventions identified in the contemporary evidence base, services typically included dyadic cognitive behavioural approaches delivered by a highly qualified and trained workforce.
- Most of the evaluated models and interventions attempted to provide a tailored response that considered the specific needs of the child and their family, including the child's age and developmental capacity.
- There is little evidence regarding the suitability of the models and interventions for delivery to Aboriginal and Torres Strait Islander children and families, or children and families from culturally and linguistically diverse backgrounds in Australia.
- Within the literature there was also little consideration given to children with additional needs, such as learning or developmental difficulties.

Recommendations

- There is an urgent need for more rigorous and continuous evaluation of current services and interventions to determine which interventions are likely to be most effective for children under 10 with problematic or harmful sexual behaviour.
- Consultation with appropriate cultural advisory, leadership and community groups will be critical to identify the cultural appropriateness of any model or intervention for this population.
- Programs offered within NSW will also need to consider additional requirements for children with special needs, given they are a high-risk group.

- Given the contemporary literature is similar to historical literature (which is of higher quality), the NSW Ministry of Health could draw on this evidence to supplement the evidence in this review.
- Scoping the service delivery landscape in Australia for children under 10 could also supplement the existing published literature (noting the absence of identified evaluations).
- It may also be necessary to look to a structured approach to innovative service design, which may include an assessment of the adaptability of existing models for other target groups (e.g. models for addressing adolescent harmful sexual behaviour, child trauma and generalised behavioural problems).
- The literature in both this Evidence Check and historical reviews has failed to provide any insight into how to manage a child's safety in the home. This is an additional matter for the NSW Ministry of Health (and agency partners) to consider when developing programs.
- Incorporating clinical, research and implementation expertise along with undertaking high-quality evaluations of any new or adapted interventions will be crucial in developing a model or intervention for NSW. The US National Implementation Research Network provides clear methods and frameworks to guide this process.

Background

The NSW Ministry of Health is developing clinical guidelines and standards for responding to children under the age of 10 with problematic or harmful sexual behaviour. This development was initiated by the sector as well as in response to the Government Response to the Royal Commission into Child Sexual Abuse. These guidelines and standards will be embedded in a health-led specialist model of care.

The Sax Institute brokered this Evidence Check on behalf of the NSW Ministry of Health to identify current best evidence about effective models of service delivery in Australia and internationally for the treatment and prevention of problematic or harmful sexual behaviour in children under 10. While there have been a number of recent reviews into best practice for treatment and prevention of problematic or harmful sexual behaviour in children that have provided some information about what may be effective, including the Royal Commission into Child Sexual Abuse[a], the National Institute for Health and Care Excellence (NICE) in Britain[b], and the Parenting Research Centre[c], there is limited research relating to children under 10. Additionally, most of these reviews have focused on discrete therapeutic interventions rather than a holistic approach to ascertain what model of service delivery optimises outcomes. Each of these reviews acknowledges the importance of family/caregiver involvement, which is widely recognised as critical to providing consistency in behaviour-change strategies[5, 32] and as such directed one of the key criteria components of this review. This Evidence Check aims to build on and complement these existing reviews by exploring effective models of service delivery for children under 10 with problematic or harmful sexual behaviour. Previous reviews have used stringent eligibility criteria. This Evidence Check has used broader inclusion criteria to focus on what specialist service delivery models and interventions currently exist for children under 10 in other jurisdictions and to provide recommendations to NSW to inform the development of clinical guidelines and standards for responding to children under 10 with problematic or harmful sexual behaviour.

The review will answer the following questions:

1. What are the characteristics of specialist service delivery models that have been evaluated for children under the age of 10 with problematic or harmful sexual behaviour?
2. Of the specialist service delivery models identified in Question 1, what are the results of the evaluations?
3. Of the models identified above, what are the findings and recommendations about how best to implement these models?

Typical sexual development in children aged under 10

It is widely recognised that children's sexual development begins in infancy and involves children showing an interest in and exploring their own bodies[1], self-stimulation and expression of sexual feelings.[12] Infants experience and engage in bi-directional affection, such as cuddling, which play a substantial role in children's early sexual development. Between the age of one and two years, children learn their ascribed biological sex (male or female)[1], and by their preschool years they understand that different sexual characteristics include physical differences, in which they may engage in games involving looking at and

[a] Royal Commission: http://www.childabuseroyalcommission.gov.au/policy-and-research/our-research/published-research/therapeutic-treatment-of-children-with-problem-or

[b] NICE Guidelines: https://www.nice.org.uk/guidance/ng55

[c] Parenting Research Centre: http://www.community.nsw.gov.au/__data/assets/file/0006/408849/PRC-Problem-Sexual-Behaviour-OOHC-Final-Report-Aug16.pdf

touching each other's bodies (e.g. playing doctor). Self-stimulation, exhibitionism and curious sexual play are part of preschool children's normative sexual development[2, 13]; however, natural and healthy sexual play occurs between children of a similar age and stage of development.[13] Through their experiences, interactions and cultural environment, children construct knowledge about gender, sex and sexuality.[1]

As children get older, their sexual *displays* decline.[2] However, in line with the beginning of their physiological sexual development between the ages of six and 10 years (which involves changes to the reproductive organs, ovaries, uterus, vulva, penis, scrotum and testes), children continue exploring their sexuality and may engage in private touching of their own genitals or masturbation.[14, 15] At the same time children may show an interest in genital or reproduction subjects, use scatological language, crack sexual jokes and compare genitals, engage in isolated voyeurism or occasional exposure, particularly boys.[16] Between the ages of nine and 10 years children begin to develop subjective awareness about their sexuality, and between 10 and 12 years they begin to develop crushes[14] and may act on this by holding hands, kissing, flirting and engaging in sexual innuendo.[16] Their interest in others' bodies also increase and they may engage in more sexually explicit discussions with peers and look at sexual images.[16]

Problematic and harmful sexual behaviour and potential impact

Problematic or harmful sexual behaviour can be considered as any behaviour of a sexual nature by or between children that falls outside normal developmental behaviour for children aged under 10 and is socially unexpected. These behaviours may involve coercion, bribery, aggression, clandestine behaviour and/or violence.[4–6] The behaviours may or may not involve children harming themselves or others.[5] However, the most concerning sexual behaviours are when there is a substantial difference in age or developmental ability of the children involved.[4–7] Sexual behaviour considered problematic differs according to age[7], but generally any sexual behaviour involving others that becomes compulsive or is non-consensual or controlling is considered problematic or harmful.[5] For pre-adolescent children problematic sexual behaviour can include:

- Excessive public masturbation;
- Excessive flashing of genitals, breasts or bottoms to peers;
- Having sexual knowledge above what is typically known for their age, including demonstrations or re-enactments of sexual activity or using sexual language and teaching or sharing this with peers;
- Having an obsession with sex or an interest in pornography and sharing this with peers;
- Trying to touch peers in a sexual way including touching genitals, bottoms or breasts or inviting peers to touch them in these areas;
- Trying to insert objects into peers' genitals, bottoms or mouths;
- Trying to put their genitals in their peers' mouths or asking peers to mouth their genitals;
- Encouraging peers to engage in sexual activity while they watch;
- Simulated or attempted intercourse;
- Sending sexually explicit photos of self or others, or sexually explicit messages to peers;
- Violating personal space or sexually harassing peers.16

Terminology used to discuss children's problematic or harmful sexual behaviour is inconsistent and there is a general lack of agreement among researchers and professionals about how to describe and name these behaviours in children.[5, 6, 9] Different terms are often used to describe sexual behaviour based on the age of the child/ren involved.[4] Where children are aged 10–18, the term 'sexually abusive behaviour' is often applied.[3, 9] O'Brien, though, argues this is not always appropriate.[3] This could be because, in Australia, children can be held criminally responsible for sexual assault from the age of 10 years.[8, 9] For children to be charged, the prosecutor must prove that the child understood, at the time of committing the act, that this was not only wrong but was legally wrong.[5]

Labelling children as perpetrators, sexual offenders or sexual abusers is fraught with problems as these labels can be stigmatising and can negatively impact children's identity, psychological wellbeing, future, and their potential to engage in healthy relationships.[3, 8, 9, 17] Children displaying problematic sexual behaviour challenge social norms and as such they are at risk of being labelled as a sexual deviant, being marginalised, socially isolated or condemned.[13, 18,19] Recent developments in the field have seen many researchers and practitioners adopting the term problematic or harmful sexual behaviours, particularly when referring to children under 10.[4] For children who have experienced sexually abusive behaviour by a peer, the short-term outcomes are as negative as abuse by adolescents or adults, and include nervousness, shame, guilt, and fear of the peer who initiated the sexual behaviour.[20] More serious forms of harmful sexual behaviour can have a long-term negative impact on the social and emotional health and wellbeing of the children exposed to it.[3] If it is not addressed, children who display problematic or harmful sexual behaviour and children who are exposed to this behaviour may develop long-term patterns or increased likelihood of negative developmental trajectories, behavioural or conduct problems later in life[3, 5] and an increased risk of being sexually exploited.[5] Conversely, early and effective intervention results in a high rate of resolution. The earliest intervention produces the best rehabilitative outcome.[3]

Prevalence

Determining the prevalence of problematic or harmful sexual behaviour among Australian children under 10 is difficult.[3–5, 8–10] Not only is there a deficiency of national data relating to the prevalence of problematic sexual behaviour in children and young people, but age ranges have not been clearly established in the research that has been conducted.[3, 5, 8, 13, 21, 22] The exception lies within the Australian Bureau of Statistics Recorded Crime Offenders Report[23], which tabulated sexual assault and related offences by age from 10 through to 17 years This research found that 15 Australian children aged 10 committed sexual assault or a related offence in 2015–16, 40 children aged 11, 99 aged 12, 279 aged 13, 396 aged 14, 351 aged 15, 262 aged 16, and 218 aged 17, totalling 1672 sexually related offences.[23] Other concerns indicating an underestimation in current figures include lack of reporting[3, 5, 9, 13], and variations in the data sources and the phenomena measured.[9] Barriers identified as contributing to a lack of reporting include professionals' and parents' capacity to determine what sexual expression is typical and what is problematic, and children or their families not seeking treatment for a child displaying problematic sexual behaviour due to the fear of criminal prosecution.[4] Additionally, there seems to be an absence of data relating to children under 10.

The age of criminal responsibility (10 years) also introduces additional complexity in terms of young people aged 10–17 and their families seeking treatment. Children older than 10 who display problematic or harmful sexual behaviour are subject to prosecution and potentially lifelong consequences if help is sought, and this can deter families or professionals from putting them forward for treatment.

Characteristics and risk factors

There is no substantial evidence that there are particular characteristics that align with children's displays of problematic or harmful sexual behaviour. There is a great diversity in the type, severity and frequency of problematic and harmful sexual behaviour displayed by children, alongside their age, their demographic, socioeconomic and mental health status, and their background experiences and motivations.[5, 7, 24] These factors are even more diverse for preadolescent children.[7] While males are more likely to be represented in sexual abuse in adults and adolescents, there is no distinct gender pattern in younger children.[3, 7]

Research has shown disadvantage, familial adversity and a history of maltreatment can be risk factors for children's engagement in problematic and harmful sexual behaviour. Aboriginal children are also over-represented.[3, 25] Children living in a dysfunctional family environment, such as living with domestic violence or substance abuse[3, 5], children who are socially isolated, or children who have poor attachments may engage in problematic sexual behaviour in response to trauma.[3] Children who have experienced child abuse or neglect are also at greater risk of developing problematic or harmful sexual behaviours[3, 5, 7, 26], particularly

children who have been sexually abused.[5, 7] Research suggests 20%–30% of adults who have committed sexual offences began sexually abusing others as adolescents, highlighting the importance of early and effective intervention.[25] Children living in out-of-home care are also an over-represented group, which is likely to stem from their complex and traumatic histories.[5, 9] Children with disability are also a high-risk group because they have a greater risk of suffering abuse; they may also find it difficult to self-regulate and to control sexual impulses, and are less easily redirected when exhibiting concerning behaviour.[4, 5, 9, 25] More recently it has been found that exposure to sexually explicit media and living in a highly sexualised environment is also a contributing factor in children's problematic or harmful sexual behaviour.[5, 7, 26]

Despite the large number of potential risk factors, there is no distinct profile or clear pattern of demographic, psychological or social factors that distinguish children with problematic or harmful sexual behaviours from other groups of children.[7, 27]

Current NSW approaches

It is unclear how many services are available for children who display problematic or harmful sexual behaviour in NSW; however, the state's current service delivery model, provided through NSW Health services, encompasses the following attributes: a tailored response for children and their families that considers the client's needs, the impact of trauma, attachment and cultural and developmental issues; evidence-informed culturally safe counselling approaches with a safety and child protection framework; development of approaches to support the child and their family to manage the child's problematic or harmful sexual behaviour, working towards cessation of the behaviour and on strengthening the child's self-worth; collaborative engagement with parents and/or carers; and revision of the counselling goals and progress on a three-monthly basis.[28]

NSW Health services undertake a multidisciplinary response that involves multi-agency collaboration and partnerships with external agencies including primary carer(s) and the family of origin. Responses consider the family, school and community in which the child lives, ensure an eco-systemic framework of intervention and promote shared decision-making.[28]

Methods

This Evidence Check included a systematic search of both peer-reviewed and grey literature for studies evaluating existing service delivery models and/or interventions for children under the age of 10 with problematic or harmful sexual behaviour. Specific research questions and the scope of this Evidence Check were guided by the NSW Ministry of Health and the Sax Institute.

Search strategy

The review team used a two-stage approach to identifying relevant literature to address the research questions. Both academic databases and grey literature were searched in June 2018, and hand searching was undertaken in July 2018. Searches were limited to literature published between January 2006 and June 2018 from Australia, New Zealand, Britain, the US and Canada, written in English only. To be included, the literature must have evaluated a service model or intervention designed for, or provided to both child/ren and parent/s or caregiver/s. Child-only models were excluded from the Evidence Check, as were models developed earlier than 1993 (i.e. more than 25 years ago). Studies with a primary focus on children over 12 years were excluded, except where deemed appropriate (e.g. the majority of participants/clients were under 10). Reviews and meta-analyses meeting the aforementioned criteria were included where they had a discernible method. Those with no discernible method were key sourced for additional resources.

All results were exported to EndNote for screening. One member of the research team completed all searching and screened by title and abstract against the eligibility criteria before undertaking full-text screening. Ten per cent of all screening was checked by a second team member to ensure adherence to the screening criteria. A high degree of inter-rater agreement was established between the two team members (99.2%). The three conflicts (0.8%) were referred to a senior member of the research team for independent evaluation and resolution. The senior member of the team concurred with the main researcher completing screening and as such the researcher undertaking the screening was deemed to have sound adherence to screening criteria.

Peer review literature

Reviewers searched 12 multidisciplinary academic databases to find primary studies, systematic reviews, meta-analyses and other review types relevant to harmful or problem sexual behaviour in children under 10 years: Academic Search Premier, Education Research Complete, ERIC, Psychology & Behavioural Sciences Collection, Embase Classic, Embase, Emcare, MEDLINE, PsycINFO, Scopus, Informit, and ProQuest Social Science Premium Collection. The search strategy incorporated a broad range of search terms designed to capture the content of interest, including: child-related terms (e.g. child*, minor, juvenile, pre-adolescen*, "pre adolescen*"); problematic or harmful sexual behaviour terms (e.g. sex*, behav*, problem*, abus*, harm*, concern*, inappropriate*, violent*, offen*, devian*, perpetrat*); service model and intervention terms (e.g. model, deliver*, response, framework, approach, intervention, treat*, counselling, therap*, program, rehabilitat*); and evaluation terms (e.g. evaluat*, impact, effect*, efficacy, assessment). Specific search strings were refined to meet individual database requirements.

Grey literature

The review team undertook a desktop search of the following 13 databases, clearing houses and websites to identify relevant grey literature: Cochrane Library, The Campbell Collaboration, Joanna Briggs Institute EBP database, Australian Institute of Health and Welfare, Australian Research Alliance for Children and Youth,

Child Family Community Australia (CFCA), Australian Institute of Family Studies (AIFS), Oranga Tamariki (formerly known as Child, Youth and Family New Zealand), National Institute for Health and Care Excellence (NICE), National Society for the Prevention of Cruelty to Children (NSPCC), Social Care Institute for Excellence, and the California Evidence-Based Clearinghouse for Child Welfare (CEBC). Due to less advanced search options, key terms and/or phrases were used to search for relevant grey literature, including (the list is not exhaustive): child/juvenile/minor/pre-adolescent sex behavio/ur, child/juvenile/minor/pre-adolescent problem sex behavio/ur, child/juvenile/minor/pre-adolescent sex offender, child/juvenile/minor/pre-adolescent inappropriate sexual behavio/ur, child/juvenile/minor/pre-adolescent sexual abuse, child/juvenile/minor/pre-adolescent sex perpetrator, problem sexual behavio/ur, harmful sexual behavio/ur. Results from these searches were sorted by relevance and restricted to the first 50 results. The NSW Ministry of Health also identified grey literature relevant to the Evidence Check.[5, 9, 29]

Additional searching

The reviewers hand searched relevant references from the peer-reviewed and grey literature to identify any additional studies not captured by the above search strategies.

Evidence grading

No inclusion/exclusion restrictions relating to quality were applied in this Evidence Check in order to fully capture the existing service models and interventions for problematic or harmful sexual behaviours in children under 10. However, the quality of the available evidence was graded according to study design using the National Health and Medical Research Council (NHMRC) Evidence Hierarchy.[30] The NHMRC levels of evidence are as below:

- Level I: A systematic review of level II studies
- Level II: A randomised controlled trial
- Level III-1: A pseudo-randomised controlled trial (i.e. alternate allocation or some other method)
- Level III-2: A comparative study with concurrent controls (non-randomised experimental trial; cohort study; case-control study; interrupted time series with a control group)
- Level III-3: A comparative study without concurrent controls (historical control study; two or more single-arm studies; interrupted time series without a parallel control group)
- Level IV: Case series with either post-test only, or pre-test/post-test outcomes.

To facilitate the NHMRC evidence grading, and to provide additional commentary on the methodological quality of the evidence base, the reviewers incorporated quality assessment items into the data extraction templates used for eligible studies.

Included studies

Eight articles met criteria for inclusion in the Evidence Check, including two meta-analyses, one rapid evidence assessment and five primary studies. A flowchart of the literature selection process is included in Figure 1, below. However, a closer inspection of the two meta-analyses and the rapid evidence assessment revealed that while the reviews met the criteria for publication date, only one included study across the three papers was published post-2006 (publication date 2007, refer Table 1). This study had already been captured in the peer-reviewed literature search as a primary source. The remainder were published between 1992 and 2005. Additionally, the rapid evidence assessment primarily contained articles that were relevant to adolescents.

This Evidence Check included only primary studies that met the search inclusion criteria, regardless of whether they were identified as a primary source or within an evidence review. As such, commentary in this Evidence Check regarding the meta-analyses and rapid evidence assessment are provided for information but are used primarily for comparison between historical and contemporary approaches, rather than informing implications. A list of all primary studies identified individually or as part of a review, along with

the NHMRC grading for each study, can be found in Table 1. A summary table of results from all contemporary studies is attached as Appendix 1. Results from the meta-analyses are summarised in Appendix 2.

One additional systematic review was identified; however, the primary studies fitting within the specified date range were pharmacological treatments only and were therefore excluded from further examination. Studies investigating non-pharmacological approaches were outside the specified date criteria but also had some ethical concerns (i.e. squirting lemon juice in the mouth of a child; undertaking excessive washing/sterilisation of the child's hands to deter behaviour) and as such were not considered further.

Table 1. Summary of primary studies

Study name	Author(s)	Publication year	Study design	Included/excluded	Evidence grade
Parent–child interaction therapy for sexual concerns of maltreated children: A preliminary investigation	Allen, Timmer, Urquiza[34]	2016	Pre–post treatment. One sample split into elevated and normative sexual concerns, both received same intervention	Included	Level III-2
Get SMART: Effective treatment for sexually abused children with problematic sexual behaviour	Offermann, Johnson, Johnson-Brooks and Belcher[33]	2008	Pilot study. Pre-treatment, during treatment, post-treatment, 6 and 12 month follow-up. No comparison group	Included	Level III-3
Treatment for preschool children with interpersonal sexual behaviour problems: A pilot study	Silovsky, Neic, Bard and Hecht[36]	2007	Baseline, pre-treatment, post-treatment. No follow-up. Data from the treatment group while waiting for treatment to commence was used as a comparison	Included (also cited in meta-analysis by St Amand, Bard and Silovsky [2008], see below)	Level III-3
Predictors of group treatment outcomes for child sexual abuse: An investigation of the role of demographic and abuse characteristics	Hiller, Springer, Misurell, Kranzler and Rizvi[35]	2016	Pre-test, post-test. No follow-up. No comparison group	Included	Level IV
The sexualised behaviour (under tens) program evaluation report	Cleland[37]	2013	Program model evaluation (logical deduction)	Included	Not able to be rated against NHMRC criteria

Primary studies included in Corcoran and Pillai (2008)[31]					
Treatment of traumagenic beliefs among sexually abused girls and their mothers: An evaluation study	Celano, Hazzard, Webb & McCall	1996	Experimental, randomisation to treatment vs treatment as usual	Excluded – historical	Level II
A treatment outcome study for sexually abused preschool children: Initial findings	Cohen & Mannarino	1996	Experimental, randomisation to cognitive behavioural or individual supportive therapy	Excluded – historical	Level II
A treatment study for sexually abused preschool children: Outcome during a one-year follow-up	Cohen & Mannarino	1997	1-year follow-up from Cohen & Mannarino (1996)	Excluded – historical	Level II
Factors that mediate treatment outcome of sexually abused preschool children: Six and 12 month follow-up	Cohen & Mannarino	1998	Experimental, randomisation to cognitive behavioural or individual supportive therapy	Excluded – historical	Level II
A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms	Cohen, Deblinger, Mannarino & Steer	2004	Experimental, randomisation to parent–child cognitive behaviour therapy or child supportive therapy	Excluded – historical	Level II
Sexually abused children suffering posttraumatic stress symptoms: Initial treatment outcome findings	Deblinger, Lippmann & Steer	1996	Experimental, randomisation to three experimental conditions: parent-only, child-only, parent and child, and community control	Excluded – historical	Level II
Two-year follow-up study of cognitive behavioral therapy for sexually abused children suffering post-traumatic stress symptoms	Deblinger, Steer & Lippmann	1999	Follow-up (6, 12, and 24 months) from Deblinger, Lippmann & Steer (1996)	Excluded – historical	Level II

Comparative efficacies of supportive and cognitive behavioral group therapies for young children who have been sexually abused and their nonoffending mothers	Deblinger, Stauffer & Steer	2001	Experimental, randomisation to cognitive behavioural or supportive therapies, 3-month follow-up	Excluded – historical	Level II
Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial	King, Tonge, Mullen, Myerson, Heyne, Rollings, et al.	2000	Experimental design, randomised to child-alone cognitive behavioural treatment, family cognitive behavioral treatment, or waiting-list control, 12-week follow-up	Excluded – historical	Level II
Primary studies included in St Amand, Bard and Silovsky (2008)[32]					
Treating fear and anxiety in sexually abused children: results of a controlled 2-year follow-up study	Berlinder & Saunders	1996	Participants grouped according to age. Groups randomly assigned	Excluded – historical	Level II
Children with sexual behaviour problems: Assessment and treatment — final report	Bonner, Walker & Berliner	1999	Families were randomly assigned to treatment group	Excluded – historical	Level II
A multisite, randomized controlled trial for children with sexual abuse-related PTSD symptoms	Cohen, Deblinger, Mannarino & Steer	2004	Experimental, randomisation to parent–child cognitive behaviour therapy or child supportive therap.	Excluded – historical	Level II
A treatment outcome study for sexually abused preschool children: Initial findings	Cohen & Mannarino	1996	Experimental, randomisation to cognitive behavioural or individual supportive therapy	Excluded – historical	Level II

Interventions for sexually abused children: Initial treatment outcome findings	Cohen & Mannarino	1998	Random assignment to condition	Excluded – historical	Level II
Comparative efficacies of supportive and cognitive behavioural group therapies for young children who have been sexually abused and their nonoffending mothers	Deblinger, Stauffer & Steer	2001	Experimental, randomisation to cognitive behavioural or supportive therapies, 3-month follow-up	Excluded – historical	Level II
Psychotherapy outcome of sexually abused boys	Friedrich, Luecke, Beilke & Place	1992	Single-group pre–post design	Excluded – historical	Level III-3
Intervention de groupe auprès d'enfants présentant des comportements sexuels problématiques: évolution comportementale, affective et sociale [Group intervention for children with sexual behaviour problems: Behavioural, affective and social development]	Gagnon, Tremblay & Bégin	2005	Single-group pre–post design	Excluded – historical	Level III-3
Children with sexual behaviour problems: Identification of five distinct child types and related treatment considerations	Pithers, Gray, Busconi & Houchens	1998	Families randomly assigned to treatment	Excluded – historical	Level II
Treatment for preschool children with interpersonal sexual behaviour problems	Silovsky, Niec, Bard & Hecht	2007	Baseline, pre-treatment, post-treatment. No follow-up. Data from the treatment group while waiting for treatment to commence was used as a comparison	Already identified as primary study	Level III-3

				for inclusion (see above)	
Cognitive behavioural groups for nonoffending mothers and their young sexually abused children: A preliminary treatment outcome study	Stauffer & Deblinger	1996	Single-group waitlist design (waiting average length 12 weeks)	Excluded – historical	Level III-3
Primary studies involving children under 10 years in Shlonsky et al. (2017)[5]					
Children with sexual behaviour problems: Assessment and treatment — final report	Bonner, Walker & Berliner	1999	Families were randomly assigned to treatment group	Excluded – historical	Level II
Children with sexual behaviour problems: Identification of five distinct child types and related treatment considerations	Pithers, Gray, Busconi & Houchens	1998	Families randomly assigned to treatment	Excluded – historical	Level II

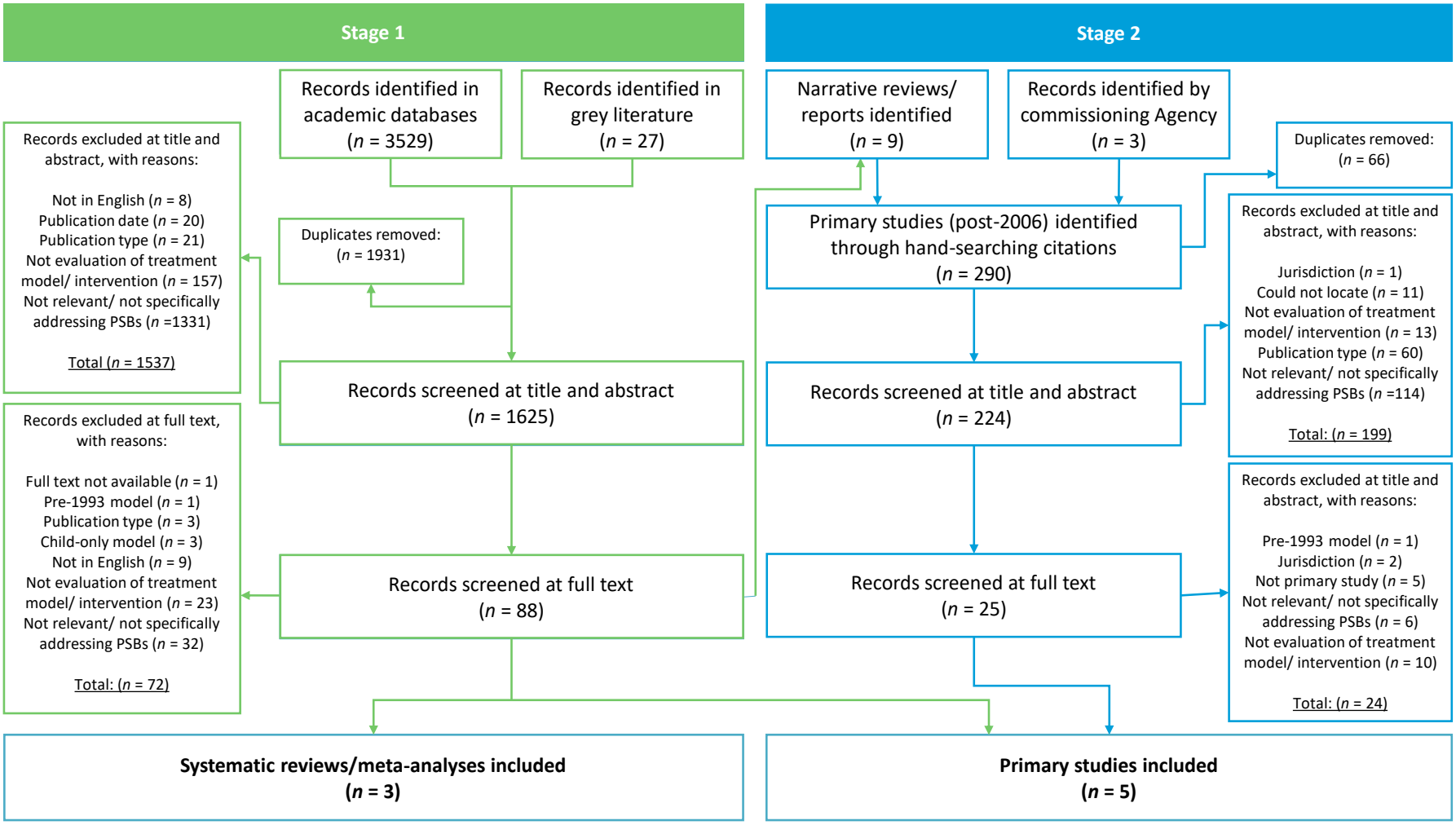

Figure 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)38 flowchart of the literature selection process.

Findings

Question 1: What are the characteristics of specialist service delivery models that have been evaluated for children under the age of 10 with problematic or harmful sexual behaviour?

Contemporary literature

Program names

The review identified five service models or interventions for children. A majority of the service models and interventions (*n* = 4) included in this Evidence Check were designed with the target group of interest (children displaying problematic or harmful sexual behaviour) in mind. One study applied a more general model designed for externalising behaviours and examined its effect on sexual concerns. The evaluated service models are:

- The SMART (Safety, Mentoring, Advocacy Recovery, and Treatment) Model
- Parent–Child Interaction Therapy (PCIT)
- Game-based Cognitive Behavioral Therapy (GB-CBT)
- Group Treatment for Preschool Children with Sexual Behavior Problems
- The Sexualised Behaviour (under tens) Program

Target group characteristics

Across the five primary studies included, the targeted age range of children spanned from three to 11 years. While three years was the most common lower age cut-off[d], the upper age cut-off varied between seven and 11 years. Regarding other characteristics of the client group, all services were targeted towards children and their parents/caregivers/families. The children ranged from those with a history of sexual abuse, those displaying a broad conceptualisation of sexual concerns (e.g. problematic sexual behaviour, sexual anxiety and sexual preoccupation) and co-morbid externalising problems, to those exhibiting problematic or harmful sexual behaviour.

Service delivery to Aboriginal and Torres Strait Islander or culturally and linguistically diverse populations

With the exception of the evaluation of the Sexualised Behaviour (under tens) Program, all models evaluated in the included studies were delivered in the US (*n* = 4). Reviewers noted that the evaluation of the SMART model stated that culturally appropriate and culturally specific interventions were used; however, it did not specify what this involved (e.g. adaptations to assessment tools and intervention materials, cultural input/governance, cultural awareness training). It is therefore difficult to comment on the applicability of the SMART model for children and families within Australia with varied language and cultural needs. The Sexualised Behaviour (under tens) Program noted that it also included cultural considerations in services provided, such as individualised services for all clients, working with caregivers and recognising that 'family' can have different meanings, talking with clients about culture and involving relevant agencies and specific services as required, material developed specifically for Aboriginal and Torres Strait Islander and culturally and linguistically diverse clients, cultural awareness/respect training, access to Aboriginal staff and support for treatment, and implementing a plan to improve service accessibility for Aboriginal and Torres Strait Islander people.

[d] The Sexualised Behaviour (under tens) Program did not specify a lower age cut-off (i.e. <10 years); GB-CBT had a lower age cut-off of six years.

Program components

Of the included studies, most used dyadic approaches that were based on cognitive behavioural and trauma-informed principles. It was also common for approaches to be separated into phases either by content (e.g. stabilising, trauma work, relapse prevention), or by client (e.g. child work, parent work, joint work). Most commonly, phases were separated by client, but sessions typically ran concurrently. In the SMART model key components within each phase must be mastered in order for a child to progress to the next stage.

The majority of studies (*n* = 4) also reported on the specific content or focus of the service. All studies included age-specific and/or developmentally appropriate activities within their services. A full list of components/approaches within each program is provided in Appendix 1. In the SMART model, GB-CBT and Group Treatment for Preschool Children with Sexual Behavior Problems, service provision for the child focused on, for example, emotional expression and regulation, anger management, impulse control, and positive and safe relationships. The SMART model and GB-CBT also included content that related to healing from trauma. For parents/caregivers these services typically focused on psycho-education (e.g. sexual development, problem sexual behaviour, child sexual abuse), as well as reinforcement and behaviour management techniques (e.g. responding to sexual behaviour). PCIT, on the other hand, primarily involved discipline and behaviour management (e.g. praising appropriate behaviours, describing the child's behaviour). PCIT was not specifically developed for problematic or harmful sexual behaviour, which may account for the lack of focus on previous trauma, expression of emotions, and positive/safe relationships. The Sexualised Behaviour (under tens) Program incorporates trauma-informed, developmentally informed, ecological, attachment-focused and dyadic approaches; however, the reviewers were unable to determine the specific content covered by this approach.

Location and format

Service location, when it was reported (*n* = 3), showed little variability. PCIT, the Sexualised Behaviour (under tens) Program, and the Group Treatment for Preschool Children with Sexual Behavior Problems all took place in either a clinic or community setting.

The format of service provision in the models consisted of a mix of group-based and individual–dyad approaches. Group Treatment for Preschool Children with Sexual Behavior Problems was undertaken face-to-face in a closed-group format (i.e. each session builds on the previous). Group size ranged from three to seven participants and there were parallel groups for children and parents, with a portion (~30%) of each group session spent in joint family work. GB-CBT was also provided in a face-to-face group format; however, the size and structure (e.g. age ranges, mixed gender) of the groups was not specified. The SMART model offered concurrent individual, family and group sessions. Group sessions were mixed gender and organised by age, with younger children (4–6 years) attending with their primary caregivers. Although PCIT did not specify the format of the service, this therapy was most commonly undertaken on an individual–dyad level, but could also be undertaken in small groups (3–4 families).[39] Although it is not explicitly stated, the Sexualised Behaviour (under tens) Program appears likely to be offered in an individual dyad or family format, given the description of the therapeutic approaches and principles of the service (e.g. dyadic therapy.

Duration

All included studies reported details on the intensity and duration of service provision. Duration of services ranged from 12 weeks/sessions (GB-CBT and Group Treatment for Preschool Children with Sexual Behavior Problems, respectively) to one or one to two years (the SMART model and the Sexualised Behaviour (under tens) Program, respectively). PCIT was provided for an average of 19 sessions. The evaluation of the SMART model also provided additional details of the duration of each phase of the program (Phase 1: 8 weeks; Phase 2: 32 weeks; Phase 3: 12 weeks); this level of detail, however, was not available for the other services.

Intensity

Three of the five studies reported detail about the service intensity. GB-CBT and Group Treatment for Preschool Children with Sexual Behavior Problems ran sessions for 90 minutes each, with GB-CBT sessions running weekly (the frequency of the Group Treatment for Preschool Children with Sexual Behavior Problems' sessions was not reported). The SMART model noted the frequency of sessions (weekly), and the total number of sessions provided to individuals (n = 34), families (n = 40) and groups (n = 24) — although the actual number of sessions received varied depending on the needs of the child and family — but did not state the length of each session. The PCIT evaluation did not specify the intensity of service provision, although it is commonly provided as one or two one-hour sessions a week.[39] The Sexualised Behaviour (under tens) Program noted that intensity of service was variable depending on the needs of the family but could range from one session a week to one session a month.

Workforce characteristics

Across all studies, the workforce ranged from graduate students through to qualified and experienced clinicians. Where reported, disciplines of the workforce included allied health professionals (not further specified; the Sexualised Behaviour (under tens) Program), social workers and family therapists with an average of 8.6 years of clinical experience (the SMART model), and psychologists with training and experience implementing behavioural and psycho-educational treatments for children, co-facilitated by graduate-level practicum students (Group Treatment for Preschool Children with Sexual Behavior Problems). GB-CBT stated sessions were led by the director of the group treatment program (assumed from previous related studies to be a supervising psychologist), master's-level clinicians and doctoral-level graduate students. Although the PCIT evaluation stated the intervention was run by a clinician, no further details were provided. However, it is recommended that PCIT is run by those with a firm understanding of behavioural principles and prior training in the relevant skills and therapeutic approaches and, if not training as part of a graduate program, clinicians delivering PCIT are required to hold the equivalent of a master's degree.[39]

Workforce training

Only two studies provided detail of the specific training the workforce received prior to implementation of the models and interventions. The GB-CBT workforce received intensive GB-CBT training by the model co-founders as well as training in the implementation, scoring and interpretation of clinical outcome measures. Those implementing the SMART model participated in a three-day intensive training session and were certified for the model by its developer. It was unclear what, if any, service-specific training the workforce of the remaining models and interventions received. However, the Group Treatment for Preschool Children with Sexual Behavior Problems has a manualised treatment protocol, so it is assumed the workforce was trained in this approach. Further, although not provided in the evaluation, PCIT recommends workforce training (i.e. five days for a total of 40 hours; follow-up consultation through the completion of two cases)[39], and it is therefore assumed clinicians delivering PCIT in the included study received this training. It could not be determined what training the workforce delivering the Sexualised Behaviour (under tens) Program received, although it was noted there are recommended training courses the clinicians are required to attend. No further detail was provided except that staff must attend Aboriginal cultural awareness/respect training.

Workforce supervision/clinical governance

Three of the five studies included detail regarding workforce supervision whereby clinicians were typically provided supervision by a supervising psychologist (GB-CBT, the SMART model, and Group Treatment for Preschool Children with Sexual Behavior Problems). Supervision involved monitoring and tracking the progress of cases and reviewing treatment issues (the SMART model), and monitoring adherence to treatment approaches (GB-CBT, Group Treatment for Preschool Children with Sexual Behavior Problems). Clinicians administering the SMART model also received monthly clinical and didactic consultations from a psychiatrist to review child and family treatment issues related to the sexual abuse. The study evaluating PCIT did not specify supervision requirements but the model recommends that 40 hours of intensive skills

training be followed by completion of two supervised cases prior to independent practice.[39] Clinicians in the Sexualised Behaviour (under tens) Program undergo annual performance reviews with the following supervision each year: 12 hours with an experienced and well-recognised health worker in Sydney, six hours with an experienced psychiatrist in Newcastle, and ongoing peer supervision through intake meetings, co-therapy and case reviews. Details were also provided about the governance of the Sexualised Behaviour (under tens) Program, which sat within a clinic (the Sparks Clinic) that was responsible to the Child and Family Health Team in NSW's Hunter Region.

Historical literature

Across the two meta-analyses that examined studies between 1992 and 2005 (and one study published in 2007 already captured in the peer review literature search as a primary source)[31, 32], the service models and interventions targeted children aged up to 16 years; however, most commonly children were 12 or 13 years or below. Models and interventions ranged from cognitive behaviour therapy (with both parent/caregiver and child, individual therapy sessions with parent/caregiver and child separately with joint sessions occurring at a later stage in the intervention, or part-individual sessions and part-joint sessions), cognitive behaviour therapy specifically for sexual behaviour problems, trauma-focused cognitive behaviour therapy, sexual abuse-specific cognitive behaviour therapy, gradual exposure, play therapy, expressive therapy, relapse prevention, group treatment (not further specified), client-centred therapy, non-directive supportive therapy, and a multi-model intervention. Where the number of sessions was able to be determined from the information reported (primarily in the cognitive behaviour therapy interventions), the range was from eight to 20.

One of the two meta-analyses[32] also broke down the practice elements of the included models and interventions. The practice elements included: introduction to treatment, rules about sexual behaviour, identifying stimuli and contexts that increase risk, cycle of abuse/sexual behaviour problems, physical boundaries, emotional regulation skills, cognitive coping skills, relaxation, sex education, acknowledging sexual behaviour problems, understanding the impact of sexual behaviour problems and making amends, self-control skills, abuse prevention skills, trauma-narrative gradual exposure, social skills, relationship skills, attachment among child and caregivers (positive child–caregiver interactions), parenting and child behaviour management skills, self-esteem, caregiver social support, sexual abuse and trauma, loss and goodbyes, and sexual urges and arousal and reconditioning. A summary table of the meta-analyses is attached as Appendix 2.

The rapid evidence assessment[5] identified two studies that examined cognitive behaviour therapy, dynamic play treatment, relapse prevention and expressive therapy. These studies were included in the aforementioned meta-analysis[32] and therefore are not further described here.

Question 2: Of the specialist service delivery models identified in Question 1, what are the results of the evaluations?

Explanatory note:

There are two key statistical measures to determine whether a program is effective: statistical significance and effect size.

Tests of statistical significance measure the probability of observing an effect that is likely to be attributable to a specific cause (with 95% confidence or higher), rather than observing an effect that has likely occurred randomly or by chance. Statistical significance helps to answer "is it effective".

An effect size is the difference between the average score of participants in the intervention group, and the average score of participants in the comparison group. Effect sizes (Hedge's g, presented in this

evidence summary) of .20 are considered small; .50 moderate; and .80 large; they help to answer "how effective".

A third, and less common, measure is clinical significance. Clinical significance relates to the practical importance of an effect; that is, whether a treatment or program has noticeable effects on the daily life of participants. Clinical significance helps to answer "how important is the effect".

Reviews included in this evidence summary draw primarily on statistical significance and (to a lesser extent) effect size.

Contemporary literature

All studies included outcome measures that were directly related to problematic and harmful sexual behaviour, but also included more indirect outcomes. To best tailor the findings of the included studies to the research question within the brevity of this Evidence Check, only those findings that are most directly relevant to problematic or harmful sexual behaviours are presented in this section. That is, direct measures or observations of these behaviours, rather than risk factors or co-morbid problems (e.g. externalising behaviours, internalising behaviours, trauma symptoms).

Overall, findings were generally positive for the reduction of harmful or problem sexual behaviour through the provision of the evaluated service models and interventions. However, within the individual studies there were critical limitations that mean results need to be interpreted with caution.

Comparative studies with concurrent controls (Level III-2)

One of the included studies (20%) was rated as a 'comparative study with concurrent control'. This was a 'case-control study'.

Parent–Child Interaction Therapy

The study evaluating PCIT used archival data of 187 participants to examine sexual concerns. Sexual concerns were measured using the Trauma Symptom Checklist for Young Children — Sexual Concerns Subscale, which broadly conceptualises the construct to include problematic sexual behaviour, sexual anxiety and sexual preoccupation. The participant pool was divided into those with normative sexual concerns (referred for other externalising behaviours or parent–child relationship concerns; n = 143), and those with elevated sexual concerns (along with other externalising behaviours; n = 44), meaning that the sexual concerns group was relatively small.

All participants received the same intervention and measurements were completed pre-treatment and post-treatment. It is noted, however, that only 44% of those with elevated sexual concerns and 36% of those with normative sexual concerns completed treatment. This may indicate that the acceptability of the treatment approach needs further exploration. Additionally, although the characteristics of those with normative and elevated sexual concerns were compared to determine any differences prior to treatment commencement, the impact of treatment withdrawals and/or refusals on success rates was not considered. This represents a significant limitation of the study, particularly given the high attrition rates reported.

Following treatment, participants in the elevated group had a significant decrease in sexual concerns (M_{change} = 17.2), whereby 63.6% of participants scored in the normative range. Scores were unchanged in the normative group (M_{change} = +0.8). It is noted that the sexual concerns subscale of the Trauma Symptom Checklist for Young Children — Sexual Concerns Subscale is nine items, rated on a scale of one to four. The mean scores presented for sexual concerns in the elevated group were 82.3 and 65.1 at pre- and post-treatment, respectively; it was therefore not clear whether other subscales of the Trauma Symptom Checklist for Young Children were incorporated into the Sexual Concerns Subscale scoring.

This study demonstrates some effect from PCIT for sexual concerns; however, in addition to the limitations noted above, no observational measure of problematic or harmful sexual behaviour for participants was included. Using a measure like the Child Sexual Behavior Inventory that is designed to capture problematic or harmful sexual behaviour would provide greater confidence in the results. Further, there was no alternative treatment for comparison and no follow-up to monitor any effects over time. Comparing effects of treatment on sexual concerns with children scoring in the normative range for sexual concerns also casts doubts over the results as it is unlikely this group would experience a reduction in sexual concerns given they did not experience these concerns at commencement. Evaluating PCIT against an alternative treatment delivered to children who are exhibiting problematic or harmful sexual behaviour would allow for more definitive conclusions to be drawn. Finally, although PCIT is provided internationally, the study was conducted in the US and the applicability of the results to the Australian context is not known. Nevertheless, the finding that 63.6% of those scoring in the elevated range at pre-treatment scored in the normative range following PCIT is notable.

Comparative studies without concurrent controls (Level III-3)

Two of the included studies (40%) were rated as comparative studies without concurrent controls. These were 'interrupted time series' studies, in which multiple time point measurements were recorded.

The SMART Model

The SMART model recorded measurements at pre-treatment (baseline), during treatment, post-treatment and at follow-up (six and 12 months). The study measured problem sexual behaviours using the Child Sexual Behaviour Checklist and a symptom checklist developed by the SMART clinic.[e] However, the study did not include a comparison group, and therefore any benefits of the intervention above that of an alternative model or intervention cannot be determined. Attrition rates were also not reported, making it difficult to determine the acceptability of the treatment, and those with inconsistent attendance were removed from analyses, meaning the impact of treatment withdrawals and/or refusals on evaluation outcomes was not considered. Further, the study had a relatively small sample size (n = 62) and was undertaken in the US. The applicability of the model to a larger population, and to the Australian context, cannot therefore be determined. There also appeared to be selective reporting of results whereby only significant effects supporting the study hypotheses were reported. This makes it impossible to gauge whether there were any negative or adverse effects. Given the limitations of this study, it is recommended that its results are considered carefully.

In relation to the Child Sexual Behaviour Checklist, the authors found significant decreases in the following subscales after the 12-month treatment (discharge): 'interest in sex and sexuality', 'hugs others', 'bathroom behavior', 'bowel/bladder problems', 'touches children', and 'looks/peeks at others'. Mean change scores for these subscales ranged from 1.0 to 3.8. The authors also reported marginally significant results in the following subscales: 'touches self/masturbation', 'behaves in sexual way', 'shows self/private parts to others' and 'undresses/nudity'; change scores were not reported, however. The authors also reported a decrease in the mean SMART checklist score of 5.7, from 13.3 (SD = 11.3) at entry. In relation to this finding, it is notable that on a scale of zero to 93, a score at entry of 13.3 is not likely to represent a high level of problematic or harmful sexual behaviour.

Group Treatment for Preschool Children with Sexual Behavior Problems

The effectiveness of the Group Treatment for Preschool Children with Sexual Behavior Problems model was examined using 85 participants. Measurements for this study were taken at pre-treatment and post-treatment using the Child Sexual Behavior Inventory. The study also took a baseline (intake) measurement

[e] The SMART checklist was created by one of the authors of the article specifically for the treatment protocol. It measures 31 symptoms seen in children who are sexually reactive towards others.

while participants were waiting for commencement (the time period varied among participants). Thirty two participants (38%) did not complete the treatment and only 31 families had complete data from all assessment points, meaning results are based on a small sample. No differences were found on demographic variables or the Child Sexual Behavior Inventory between families who completed treatment and those who withdrew. The authors conducted a worst- and best-case intention-to-treat analysis, which revealed that treatment effects were significant in both scenarios, although reductions were also found during the waitlist period (0.4 unit decrease in raw Child Sexual Behavior Inventory scores each week, approximately half the size of the treatment effect). It is critical to note that 35% of children included in this study were also receiving another treatment (e.g. individual therapy). While the authors did note that 98% of these children started the concurrent treatment prior to the intake evaluation (and baseline to pre-treatment scores were compared), receiving more than one intervention at a time represents a significant confound to the effects of the Group Treatment for Preschool Children with Sexual Behavior Problems model.

Within-subjects analyses showed there was a significant decrease in total scores over time (Time 1 M = 98.4, SD = 14.9; Time 2 M = 95.9, SD = 17.9; Time 3 M = 75.0, SD = 19.7). With the exception of within-group baseline (intake) and pre-treatment comparison, no comparison group was included in this study so it is not known whether this treatment was more effective than an alternative. There was also no follow-up measurement taken to monitor lasting effects of the treatment over time. Further, and in line with other models described here, this study was undertaken in the US so its applicability to Australia is unknown.

Case Series (Level IV)

One of the included studies (20%) was rated as a 'case series', otherwise known as a 'pre–post only study'.

Game-Based Cognitive Behaviour Therapy

The study examining the effectiveness of GB-CBT included 166 participants, with 127 of these being included for data analysis. It was not clear whether the discrepant participant numbers was due to treatment dropout, or whether they were excluded from analysis due to missing data points. The study included pre-treatment and post-treatment measurements of problematic and harmful sexual behaviour using the Child Sexual Behavior Inventory; no follow-up measurement was taken. The study also did not include a comparison group so the effects of this treatment over and above other treatments are unknown. Attrition was not specified in this study, but a minimum of eight out of 12 sessions were required for inclusion. It is therefore assumed that there were treatment dropouts and that these were not included in analyses or considered in evaluation outcomes. Like other studies already summarised, this study was undertaken in the US, so applicability to the Australian context is not able to be determined.

Ratings on the Child Sexual Behavior Inventory reduced significantly from 2.91 (SD = 5.68) to 1.87 (SD = 3.80) over the 12-week period (M_{change} 1.03; SD = 4.71). Further analysis indicated that Child Sexual Behavior Inventory scores were not impacted by age, gender, ethnicity, household income or abuse factors.

Evidence not able to be rated

The Sexualised Behaviour (under tens) Program

The study evaluating the Sexualised Behaviour (under tens) Program aimed to examine the extent to which the intended benefits of the program had been achieved. Specifically, the evaluation examined: a) does the program address the priority needs it was designed to address?; b) has the program made a difference?; and c) is it cost-effective? However, on closer inspection of the results, the evaluation was found to examine these objectives in relation to service or system outcomes (e.g. improved outcomes for all children in NSW; families receive the support they need; a more skilled workforce) rather than symptom or behavioural improvements for children and families. There were no measurements of problematic or harmful sexual

behaviours included, nor were there any measures of related constructs. This Evidence Check is therefore unable to comment on the effectiveness of this approach for children and families.

Historical literature

One of the included meta-analyses[31] examined the effectiveness of seven randomised control trials of parent-involved treatments for internalising, externalising and sexualised behaviours, and post-traumatic stress. Four of the seven studies (*n* = 358 children) specifically examined problematic or harmful sexualised behaviour (through the Child Sexual Behavior Inventory). Of these studies, the majority (*n* = 3) examined the effectiveness of 12-session cognitive behavioural therapy provided to both parent and child (*n* = 2 studies), or individual sessions with child and parent separately (brought together for joint parent–child sessions in the later stages of therapy; *n* = 1 study). The remaining study that specifically examined problematic or harmful sexualised behaviour was an eight-session cognitive behavioural group therapy for child and parent/caregiver, which included a 15-minute parent–child activity each week. Effect sizes for these studies varied from small to medium (Hedge's g = .23 to .55). One study included in the meta-analysis also examined the effect of this outcome over time, whereby a medium effect was found (Hedge's g = .45). These results suggest that cognitive behavioural therapy is likely to have an effect on problematic or harmful sexual behaviour.

The second meta-analysis[32] had more relaxed inclusion criteria regarding study design (i.e. randomised control trials, single-group pre–post design, and single-group waitlist design). The studies included a range of therapies (see Question 1 for a full list of therapies), although these were predominantly cognitive behavioural based. The individual practice elements of these programs and services were also coded (see Question 1 for a full list of practice elements). All included studies measured problematic or harmful sexual behaviour using the Child Sexual Behavior Inventory. The overall treatment effect size (mixed model effect) for problematic or harmful sexual behaviour was .46, with effect sizes for individual treatments ranging from .32 (for gradual exposure) to .60 (for Group Treatment for Preschool Sexual Behavior Problems). When treatment and sample characteristics were examined individually, four parent practice elements (parenting/behaviour management skills, rules about sexual behaviour, sex education, and abuse prevention skills), one child practice element (self-control skills), and family involvement and preschool age group had a significant, positive impact on the effect size variably across treatments. Specific therapies for sexual behaviour problems and trauma-focused therapies were also more effective at reducing sexual behaviour problems.

Question 3: Of these models identified above, what are the findings and recommendations about how best to implement these models?

Previous evidence has found a relationship between effectiveness and both a consistent theory of change and explicitly defined content.[40] On this basis it is deduced that components of interventions must be clearly aligned with the needs of the target population and have an explicitly named and evidence-based approach with outcomes aligned to activities. While most models and interventions included in this Evidence Check offered a tailored response that considered the specific needs of the child and their family (e.g. trauma-informed responses that address the sexual behaviours of concern) it has not yet been established within the contemporary literature whether these approaches are evidence-based.

The quality of the contemporary literature was relatively poor, making it difficult to provide strong recommendations regarding implementation of these models and interventions. However, no models/interventions were reported to have had any adverse consequences, and therefore (on the basis of limited information) would not be considered contraindicated by evidence (i.e. dangerous or harmful effects), but there is very weak evidence that the interventions were responsible for improving children's problem sexual behaviour.

The common implementation themes that were able to be synthesised from the identified models and interventions are provided in Table 2.

Table 2. Common approaches/implementation of available service models and/or intervention

Program elements	Common approaches/implementation of services
Target group	Children 3–10 years who have a history of child sexual abuse and/or are exhibiting problem sexual behaviours and their parents/caregivers
Cultural considerations	Not well established in the literature
Components	Dyadic cognitive behavioural approaches (some noting specific tools, protocols or manuals)
Service location	Clinic setting
Format	Individual–dyad, or group-based. Multi-phase approaches with child and (non-abusing) parent/caregiver or family involved
Duration	12 weeks to 1–2 years
Intensity	1 hour to 90-minute sessions, once or twice a week
Workforce	Allied health professionals (not further specified), social workers, family therapists and psychologists (co-facilitating with graduate students), who are qualified and/or trained in specific approaches
Clinical governance	Supervision and case monitoring provided by a senior practitioner

Note. This table reflects the most common themes found in the contemporary literature. See Appendix 1 for further information about individual studies.

The available information suggests the most common approach in the contemporary literature is dyadic and cognitive behavioural, and includes parental/caregiver participation. This finding is not dissimilar to the historical evidence base, which was found to be of higher quality (i.e. randomised control trials; see Table 1 for evidence grading). Most frequently, the models and interventions had a structure of weekly sessions in an individual–dyad or group-based setting with a phased format; however, it was unclear whether any of the programs addressed how to manage children's safety in the home. Across all services, a qualified and trained workforce provided the interventions (with graduate students co-facilitating the intervention in one instance), and in general the workers were well supported through clinical supervision and case monitoring. The models and interventions also appeared to share underlying principles. For example, most applied trauma-informed and developmentally appropriate practice elements.

Discussion

This Evidence Check set out to determine current best evidence about effective models of service delivery for the treatment and prevention of problematic or harmful sexual behaviour in children aged under 10. Shlonsky et al. note in their rapid evidence assessment for the Royal Commission into Institutional Responses to Child Sexual Abuse that "[i]t is important to treat problem and harmful sexual behaviours, given that sexual abuse by peers is one of the main forms of sexual abuse today".[5, p71] However, much like Shlonsky et al.'s research[5], this review has found only a minimal number of studies evaluating models and services for children under 10. Further, when evaluated against the NHMRC criteria, the small amount of evidence that does exist is of limited quality, with primary sources being graded at a Level III-2, or below.

All but one study included outcome measures that were directly related to problematic and harmful sexual behaviours and, overall, findings were generally positive for the reduction of these behaviours through the provision of the evaluated service models and interventions. However, the lack of follow-up measures in the majority of the studies, with the exception of the SMART model, means that there is no clear evidence that the models or interventions have long-term effects. Without a follow-up measure, reductions in behaviour can only be interpreted as short term.[7] Additionally, within the individual studies there were critical limitations, such as limited consideration of the impact of treatment withdrawals and/or refusals on success rates, meaning results need to be interpreted with caution. As such, the evidence base has not yet been established within the contemporary literature. The quality of the contemporary literature was lacking in rigour, making it is difficult to provide research-informed recommendations regarding implementation of these models and interventions. From the findings of the included studies, no models/interventions reported any adverse consequences and therefore would not be considered contraindicated by evidence (i.e. dangerous or harmful effects), but there is very weak evidence that the interventions are responsible for improving children's problem sexual behaviour.

Across the included evaluations, the targeted age range of children spanned from three (with the exception of GB-CBT where services were provided from the age of six years) to 7–11 years, and all the services in the studies included age-specific and/or developmentally appropriate activities. Early intervention has the potential to provide greater opportunity for rehabilitation if the programs are also of a high quality.[3] Therefore, targeting children who are displaying problematic or harmful sexual behaviour early in their life may reduce or eliminate concerns in later years (e.g. adolescence). The client group towards which services were targeted included children and their parents/caregivers/families. The inclusion of family members has been shown to increase the potential success of recovery with older age groups[3, 5, 7], and children aged 12 and younger.[32]

Most studies used dyadic approaches based on cognitive behavioural therapeutic principles. It was also common for approaches to be separated into phases by content or client (i.e. child work, parent work). Approaches such as these are also common in the current service landscape within Australia, with many services modelling treatment for problematic or harmful sexual behaviour on strengths-based cognitive behavioural therapeutic approaches.[3] Cognitive behaviour therapy is considered a sound theoretical framework for supporting children and young people with problematic or harmful sexual behaviour.[9] It may also be worth looking at the characteristics of models designed for an older age group (e.g. adolescents) to see whether any are applicable, or could be adapted to suit a younger age group. However, any model or model components designed for a different target group would need to be subjected to stringent evaluation to assess both the suitability and the benefits of the model.

There was a mix of group-based and individual–dyad approaches within service provision, with most models and interventions providing a combination of both, particularly for children. In previous research, O'Brien has suggested this could be because each agency establishes therapeutic interventions based on its own principles and opinion as to which approach may be most appropriate[3]; however, Shlonsky et al. suggest group-based approaches should be avoided (due to the potential for peer contagion) and services instead should adopt individually tailored services to address the specific individual needs of children and families.[5]

Consistent with recommendations from the current literature[3, 5, 7, 19], most models and interventions attempted to have tailored responses that considered the specific needs of the child and their family (e.g. trauma-informed responses that addressed the behaviours of concern). Given research identifies that children who are maltreated or living in adversity are at a greater risk of developing problematic or harmful sexual behaviour[3, 5, 7, 9], it is theoretically sound for interventions to be trauma-informed. A thorough assessment of needs will be critical in any service to identify the specific needs of children and their families. However, it is unlikely that a single service will address all assessed needs of a target population identified with multiple and complex problems, so consideration should be given to establishing formalised referral pathways to high-quality services to address the additional needs of children and their families.

All included studies reported details of the intensity and duration of service provision. Duration of services ranged from 12 weeks/sessions to a year, or one to two years, with the most commonly reported length of sessions being 90 minutes. In Australia, most services are not strictly time-limited and depend on the individual needs of the child.[3] This approach was demonstrated in the Sexualised Behaviour (under tens) Program. However, identifying the optimal length of service delivery is important.

The workforce providing services in the models and interventions was, on the whole, highly qualified and/or trained, or (in the case of graduate/placement students) supervised by highly qualified professionals. There was strong supervision and clinical governance across models and interventions. In contrast, O'Brien reports that within Australia professional the qualifications and skill levels of clinicians varies enormously. She advocates regulatory requirements because working with children with problematic or harmful sexual behaviour is a "separate and specialised field of service provision necessitating specialist training and supervision for clinicians".[3, p16]

In consideration of the limited evidence base, it is recommended that any service implementing a model with the identified approaches/components specified in this Evidence Check does so while undertaking rigorous evaluation to ensure not only the effectiveness of the model or intervention but also that it has no adverse effects. However, as the approaches described within the contemporary literature are not dissimilar to the historical literature where more rigorous evaluations have been completed, the NSW Ministry of Health could draw on the historical literature when planning services for this client group.

Gaps in the evidence

This Evidence Check was designed to inform the development of clinical guidelines and standards for responding to children under the age of 10 with problematic or harmful sexual behaviour. Specifically, this Evidence Check was looking to fill a gap in knowledge relating to holistic approaches to ascertain what model of service delivery optimises outcomes. Despite searching for broader service models in the literature, the included studies evaluate distinct interventions rather than holistic service models. It is important to note while care was taken in the development of the search strategy to ensure that we captured a large range of studies, it is possible given the brief nature of the review that we may have missed evaluations. Scoping the service delivery landscape in Australia could supplement the existing published literature.

Another clear gap in the contemporary literature relates to the use of rigorous evaluation design. That being said, the historical literature identifies randomised control trials that examine models of service that are similar to the ones outlined in this Evidence Check (e.g. cognitive behavioural approaches). Given neither the treatment models nor the presenting behaviour have significantly changed over time (the exception being accessing internet pornography), the historical literature could be used to supplement the contemporary evidence, providing more weight to the evidence base.

Applicability

In making recommendations for children under 10 exhibiting problematic or harmful sexual behaviour in NSW, it is important to assess the applicability of the models and interventions identified in the literature to the Australian, and more specifically the NSW context. In doing this, it is important to consider whether the model, intervention or approach: a) suits the setting it is being delivered in; and b) matches the characteristics of the families within the specified jurisdiction. Having identifiable components that are chosen because they match the needs of the target population will be of primary importance, as will having a suitably qualified and experienced workforce equipped to deliver the intervention, who are provided with strong clinical governance/supervision.

With the exception of the Sexualised Behaviour (under tens) Program, the included models and interventions were not designed for the Australian context and therefore do not take into account the unique cultural needs present in the Australian population. If a model or intervention described in this Evidence Check were to be incorporated into service provision within NSW, it would be critical to consider how it might need to be adapted to suit cultural needs. Furthermore, none of the studies specifically considered children with additional needs, such as learning or developmental difficulties. These are significant omissions given that children from minority groups and children with special needs are identified as high-risk groups.[3–5, 9, 25] It is also unclear what interventions might be effective within contexts where multiple children are displaying problematic or harmful sexual behaviour (e.g. in a school setting or community).

Conclusion

This Evidence Check was designed to inform the development of clinical guidelines and standards for responding to children under the age of 10 with problematic or harmful sexual behaviour. Key messages and recommendations derived from the review of the identified literature are provided below.

Key messages

- There is very little evidence to inform service delivery for children under 10 with problematic or harmful sexual behaviour and their parents/caregivers within NSW, particularly for holistic service models
- The contemporary evidence base is limited by a small number of evaluation studies that do not include comparison or control groups against which the effectiveness of the models and interventions can be compared; and most studies did not routinely consider the impact of treatment withdrawals and/or refusals on evaluation outcomes
- Current interventions are not too dissimilar to historical interventions that have higher quality evidence
- Of the models and interventions identified in the contemporary evidence base, services typically included dyadic cognitive behavioural approaches delivered by a highly qualified and trained workforce, and included solid supervision and governance
- Children and young people who display harmful sexual behaviour are, first and foremost, children and most of the evaluated models and services take into account the child's age and developmental capacity
- Children who show problematic or harmful sexual behaviour are more likely to have experienced child sexual abuse, exposure to domestic violence, exposure to sexually explicit materials or other adversities, and most models and interventions attempted to provide a tailored response that considered the specific needs of the child and their family (e.g. trauma-informed responses that address the behaviours of concern)
- Given most studies were conducted in the US, there is little evidence regarding the suitability of the models and interventions for delivery to Aboriginal and Torres Strait Islander people or people from culturally and linguistically diverse backgrounds in Australia
- Within the literature there was little consideration given to children with additional needs, such as learning or developmental difficulties.

Recommendations

- There is an urgent need for more rigorous and continuous evaluation of current services and interventions to determine which interventions are likely to be most effective for children under 10 with problematic or harmful sexual behaviour
- Consultation with appropriate cultural advisory, leadership and community groups is also required to identify the cultural appropriateness of any model or intervention for a specific population
- The literature in both the current review and historical reviews has failed to provide any insight into how to manage a child's safety in the home. This is an additional matter for the NSW Ministry of Health (and agency partners) to consider when developing programs
- Programs offered within NSW will also need to consider additional requirements for children with special needs, given they are a high-risk group
- Given the contemporary literature is similar to historical literature (which is of higher quality), the NSW Ministry of Health could draw on this evidence to supplement the evidence in this review. Scoping the service delivery landscape in Australia for children under 10 could also supplement the existing published literature (noting the absence of identified evaluations)

- It may also be necessary to look to a structured approach to innovative service design, which may include an assessment of the adaptability of models for other target groups (e.g. adolescent harmful sexual behaviour, child trauma, generalised behavioural problems)
- It is recommended that the NSW Ministry of Health take an active role in building the evidence base through the further development of models and interventions for children aged under 10 followed by rigorous research on outcomes and evaluation of the program/s
- Any service delivery model for children will need to include clinical supervision/governance, accessibility considerations, appropriate workforce, theory of change, and components that are matched to the target group need
- Incorporating clinical, research and implementation expertise along with undertaking high-quality evaluations of any new or adapted interventions will be crucial in developing a model or intervention for NSW. The US National Implementation Research Network provides clear methods and frameworks to guide this process.

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Appendix 1

Table 3. Summary of intervention models and evaluations in primary research studies included in the Evidence Check

Characteristic	Allen et al. (2016)[f]	Cleland (2013)	Hiller et al. (2016)[g, h]	Offermann et al. (2008)	Silovsky et al. (2007)
Country of implementation	US	Australia	US	US	US
Applicability to the Australian context	Not applicable	Applicable Reported to include cultural considerations in services provided	Not applicable	Not applicable Reported to use culturally appropriate and culturally specific interventions	Not applicable
Study quality	Level III-2	Not Rated	Level IV	Level III-3	Level III-3
Intervention/model characteristics					

[f] Limited information was provided about the PCIT intervention. 'Recommended' duration, intensity, workforce characteristics, training and supervision was obtained from information on PCIT outlined in the California Evidence-Based Clearinghouse for Child Welfare

[g] The sample of participants in this study was retrospectively drawn from a larger study (Springer, et al., 2012). Along with two other studies, this larger study was identified during the peer-review literature search but was excluded as the GB-CBT described in those articles appeared to be child-only models (i.e. parent involvement was either not mentioned or the lack of parent involvement was noted as a limitation). This is inconsistent with the description of GB-CBT in the current study, which outlines a parent component. It is unclear whether parents were included in the intervention but this information was not reported in the previous study, or whether the model has been updated since publication of the previous study to include a parent component, in which case parents in the previous study (and, by default, the current study) were not involved in the intervention. Further, the sample size of the current study differs from that identified in the previous study.

[h] Information regarding number of clinicians per session and workforce characteristics, training, and supervision was obtained from the larger study (Springer et al., 2012).

Name	Parent–Child Interaction Therapy (PCIT)[i]	The Sexualised Behaviour (under tens) Program (The Sparks Clinic)	Game-Based Cognitive Behavioural Therapy (GB-CBT)	The Safety, Mentoring, Advocacy, Recovery, & Treatment model (SMART model)	Group Treatment for Pre-School Children with Sexual Behavior Problems
Developers	S Eyberg	Not identified	C. Springer and J. Misurell (co-authors)	BJ Offermann (first author)	JF Silovsky and L Niec (first and co-authors)
Target group	Children with significant externalising problems or families where the parent–child relationship is poor	Children under 10 with problematic or harmful sexualised behavior	Victims of child sexual abuse (CSA)	Children aged 3–11 with a history of sexual abuse who are exhibiting PSB	Children with sexual behaviour problems
Referral pathway	Referred to PCIT treatment from various community sources, primarily child protective services (CPS) and local courts	Children/families need to be referred to the Child & Family Health Team (NSW) Referral sources: school counsellor, general practitioner, paediatrician, allied health professional, non-government agency or government agency Referral priority: based on client/family need No self-referral	Referred from an urban community-based hospital clinic specialising in child abuse and neglect	Not specified	Referred from child protective services agency or related programs; other mental health, medical or other service providers; or self-referral

[i] PCIT was first published in 1988 but has been adapted in later years to be used for different groups and was therefore included in this Evidence Check.

Location	University hospital-based outpatient clinic	Clinic setting	Unknown	Unknown	Clinic setting
Format	Individual family therapy (parent–child dyads) Face-to-face	Individualised services including family and dyadic therapy Face-to-face	Group therapy: concurrent child and parent groups Face-to-face Sessions were facilitated by at least three group clinicians per session Group size: not specified	Concurrent individual, family and group therapy Face-to-face Group sessions: coed and organised by age. Children 4–6 years attend with their primary caregiver Group size: not specified	Group work: concurrent child and parent groups with time for joint family work Face-to-face A lead therapist and up to three additional co-therapists facilitate the children's group work Group size: 3–7 individuals
Duration	No duration specified in intervention outline Time to completion: *M*=18.9 sessions (*SD*=6.4) Recommended: Range = 10–20 sessions *M* = 14 sessions	No set duration Generally requires 1–2 years' involvement	12 weeks	12 months: ▪ Phase 1: 8 weeks ▪ Phase 2: 32 weeks ▪ Phase 3: 12 weeks Total number of sessions: ▪ 34 individual ▪ 40 family 24 group	12 sessions (time period unknown)
Intensity	No intensity specified in intervention outline Recommended: one or two 1-hour	Variable depending on assessed needs (e.g. from once a week to once a month)	Weekly 1.5 hour sessions	Weekly sessions; session length unknown Number of sessions varies depending on the	90-minute sessions, includes joint family work (last 20–30 minutes of session)

	sessions per week with the therapist			needs of the child and family	
Components	Two-phase treatment: <u>1: Child-directed interaction (CDI)</u> Parents are taught to use techniques such as: ▪ Praising appropriate behaviour ▪ Reflecting the child's verbalisations ▪ Describing the child's behaviour <u>2: Parent-directed interaction (PDI)</u> Parents are taught to: ▪ Establish rules ▪ Deliver effective commands ▪ Provide non-violent forms of discipline for non-compliance and rule breaking PCIT includes in vivo coaching to parents while interacting with	Clinical intervention process: <u>1: Initial consultation</u> Consultation and assessment with clients and caregivers (in most cases with two therapists) within four weeks of referral <u>2: Safety assessment</u> Standardised assessment routinely completed for the presenting child with PSB and the child/ren around them The protective capacity of parents/carers is assessed <u>3: Intervention</u> Clinicians work with the parent/carer and child with PSB (including siblings where applicable) Support includes:	<u>Child component</u> Session topics include: ▪ Social skill development ▪ Emotional expression ▪ Anger management ▪ Relaxation ▪ Gradual exposure to the trauma ▪ Psycho-education (to challenge cognitive distortions associated with CSA) ▪ Personal safety skills <u>Parent component</u> Concurrent groups for non-offending caregivers Session topics include: ▪ Psycho-education (about CSA and healthy sexuality) ▪ Healthy coping skills ▪ Behaviour management	Three-phase model: <u>1: Safety and stabilisation</u> ▪ Trauma assessment ▪ Risk reduction plan ▪ Family and community engagement <u>2: Triggers and integration</u> ▪ Risk management and assessing mental health status ▪ Affect modulation ▪ Impulse regulation ▪ Trauma triggers ▪ Trauma narratives/ gradual exposure ▪ Cognitive processing ▪ Sharing the narrative ▪ Apology letter <u>3: Re-socialisation</u> • Assess use/integration of healthy coping skills • Forming positive relationships • Self-esteem	Manualised treatment protocol <u>Child component</u> Addresses: ▪ Body awareness and 'safe' and 'unsafe' touching ▪ Maintaining physical boundaries ▪ Relaxation ▪ Impulse control ▪ Abuse prevention ▪ Feeling identification and expression skills <u>Parent component</u> Addresses: ▪ Sexual development and PSB ▪ Methods of responding to and preventing sexual behaviour ▪ Strategies to enhance parent–child interactions

	their child during the session	▪ A trauma-informed response ▪ A developmental-informed response ▪ An ecological approach to intervention ▪ Attachment-focused family therapy ▪ Dyadic therapy ▪ Bio-ecological model within a child protection framework and an eco-systemic approach to intervention	▪ Gradual exposure to their children's traumas ▪ Support coping with the CSA	• Relapse prevention	▪ Behaviour management techniques consistent with demonstrated efficacy (i.e. PCIT) Includes time to facilitate support and give opportunity for active learning <u>Joint component</u> ▪ For eight sessions: children describe, demonstrate and practise skills, and caregivers are encouraged to support use of the skills with modelling and home practice ▪ For four sessions: caregivers practise behaviour management and relationship-building skills with their children while being observed and receiving feedback from the therapist For all sessions: therapists model

					behaviour management strategies (e.g. praising children, providing reinforcement, selective attention) and provide feedback to caregivers
Implementation/methods of delivery	Treatment continues until parents have mastered the skills taught and children respond to their parents' efforts to manage their behaviour (e.g. behaviour is successfully managed by parent without clinician coaching)	Co-therapy is provided for complex cases (the majority of cases) Having two workers with the one client family helps to ensure a clinician is available to advocate for siblings and that there are constant checks across family dynamics <u>Cultural considerations</u> ▪ Provide individualised services to all clients ▪ Work with caregivers, recognising that 'family' can have different meanings ▪ Talk about culture with clients and involve relevant Aboriginal agencies and specific services as required ▪ Have access to material developed	Didactic instruction Role playing Structured therapeutic games	Uses a treatment workbook Each phase incorporates and reinforces safety and stability concerns, affect and behaviour regulation, and strategies for developing new coping patterns through trauma-informed interventions Key components in each phase (above) must be mastered before the child can progress to the next phase. Indicators of mastery are provided in the model Each component contains age-specific and developmentally appropriate activities and interventions	Closed group — session material builds on earlier sessions <u>Child component</u> Topics are taught and practised with developmentally appropriate activities (e.g. singing, colouring, puppet play, games) to facilitate learning concepts and practising skills

		specifically for ATSI and CALD clients ▪ Have access to Aboriginal staff and support for treatment ▪ Plan in place to improve ATSI access to services		Each phase starts with victim-focused work and then targets the affective experiences of the child	
Workforce characteristics	Clinician (not further specified) <u>Recommended:</u> Providers must have a firm understanding of behavioural principles; adequate prior training in CBT, child behaviour therapy and therapy process skills is required For training in this treatment protocol outside an established clinical training program, the equivalent of a master's degree and licensure as a mental health provider is required	Allied health professionals (not further specified)	Group clinicians: ▪ A supervising psychologist ▪ Master's-level clinicians ▪ Doctoral-level graduate student externs It is assumed the supervising psychologist identified in Springer et al. (2012) is the director of the treatment program identified in the current study	Implemented by seven clinicians who are: ▪ licensed social workers and a family therapist with an average of 8.6 years' clinical experience	<u>Child component:</u> ▪ Lead therapist has a master's degree or doctorate in psychology with training and experience implementing behavioural and psycho-educational treatments for children ▪ Co-therapists are primary graduate-level practicum students <u>Caregiver groups:</u> ▪ Led by doctoral-level clinical psychologists
Workforce training	Not specified	There are recommended training courses the clinicians are required to	All group clinicians received intensive GB-	All clinicians using the SMART model received a three-day intensive	It is assumed the workforce are trained in the approach and use of

	Recommended: 40 hours of intensive skills training followed by completion of two supervised cases prior to independent practice	attend (not further specified) This includes Aboriginal cultural awareness/respect training	CBT training from the model co-founders All clinical team members received training in the implementation, scoring and interpretation of clinical outcome measures	training session and were certified in the model by its developer	the manualised treatment protocol
Supervision/governance	Not specified Recommended: Completion of two supervised cases following intensive training but prior to independent practice For within-program supervisors: Completion of a minimum of four prior cases and within-program trainer training	Annual performance reviews Supervision: ▪ 12 hours/year with an experienced and well-recognised health worker in Sydney ▪ six hours/year with an experienced psychiatrist in Newcastle ▪ Ongoing peer supervision (at intake meetings, co-therapy and case reviews) Governance structure: NSW Kids and Families ↓	During training, clinicians conducted screenings under observation. They were observed & rated by experienced clinical team members for consistency	Weekly group and individual supervision for clinicians with active cases during which cases were monitored and tracked for progress Monthly psychiatric and psychological clinical and didactic consultations to review child and family treatment issues related to the sexual abuse	Child component: A licensed doctoral-level clinical psychologist: ▪ Observed most of the group sessions and joint parts of the sessions via a one-way mirror ▪ Provided weekly supervision and training to ensure adherence to the treatment manual Parent component: Adherence to the treatment manual was reviewed with the above psychologist before and after each group session

		Hunter New England Local Health District ↓ Children, Young People and Families ↓ Kaleidoscope, Community Health Services ↓ Child and Family Health Team (tertiary service) ↓ The Sparks Clinic			
Study characteristics					
Design	Case-control study[j] No external control/ comparison group	Program model evaluation (logical deduction)	Case Series (Pre–Post) No control/comparison	Interrupted time series (pilot study) No control/comparison	Interrupted time series No control/comparison
Measurement intervals	Pre-treatment (baseline) Post-treatment No follow-up	Not applicable	Pre-treatment (baseline) Post-treatment No follow-up	Pre-treatment (baseline) During treatment Post-treatment	Intake (baseline) Pre-treatment Post-treatment

[j] One sample exposed to the same intervention but with a non-randomised allocation at pre-treatment to two groups for comparison: (1) Elevated: caregiver reported child sexual concerns at borderline or clinical levels; and (2) Normative: caregiver reported child sexual concerns within normative limits.

				Follow-up: at six months Follow-up: at 12 months	No follow-up
Target group	Children displaying sexual concerns (i.e. PSB, sexual anxiety, and sexual preoccupation) and co-morbid externalising problems	Internal and external stakeholders involved with the Sparks Clinic No interviews with past clients or caregivers	Children aged 6–10 who have experienced CSA	Children with a history of CSA who were enrolled in the SMART model	Children aged 3–7 with interpersonal PSB
Recruitment method	Children (and their parents) referred to the clinic for PCIT were invited to participate	Not applicable	Retrospectively drawn from a pool of participants in a larger study	Children enrolled in the SMART model from 1998–2003	Families referred to services over a three-year period were approached and invited to participate
Eligibility criteria	▪ TSCYC[k] was completed pre- and post-treatment ▪ Child aged at least three and less than eight years If >1 child in family being treated, the target child selected using these criteria:	Not applicable	The child: ▪ Is aged between six and 10 ▪ Disclosed CSA, which was substantiated ▪ Caregiver completed pre- and post-treatment measures ▪ Caregiver attended at least eight of 12 group sessions	▪ Mandatory parental involvement at least two times a month ▪ Consistent attendance for treatment sessions SMART model is targeted to children aged 3–11 with a history of sexual abuse who exhibit PSB	The child must: ▪ Be aged between three and seven at intake ▪ Exhibit PSB that includes interpersonal sexual behaviour, not exclusively problematic self-touch sexual behaviour

[k] TSCYC = Trauma Symptom Checklist for Young Children

	1. Completed more PCIT sessions 2. Greater sexual concerns 3. More complete risk history 4. Was the younger child				CPS investigations and protective acts must be completed prior to inclusion in the program
Exclusion criteria	None specified beyond not meeting inclusion criteria Note: caregivers who were known or suspected perpetrators of CSA were excluded from PCIT services	Not applicable	The child: ▪ Had significant cognitive impairment, was actively psychotic and/or had severe behavioural difficulties that would interfere with their ability to participate in group treatment; and/or ▪ Missed more than four group sessions	None specified beyond not meeting inclusion criteria	▪ Demonstration of severe psychiatric or developmental problems ▪ Caregiver could not accurately complete assessment forms (e.g. for developmental, language, or other reasons) ▪ Caregiver was a known or suspected perpetrator of CSA
No. of participants	Baseline: Total = 187 dyads (44 elevated; 143 normative) Treatment completion: 44% elevated 36.1% normative	Not specified	Baseline: n = 166 *127 participants included for analyses relating to child sexual behaviour outcomes	Baseline: n = 62 Attrition appears to have occurred at follow-up but rate is unknown	Baseline: n = 85 (eligible for treatment and completed intake) Post-treatment: n = 53 (Attrition rate: 37.65%)

Participant demographics (baseline)[I]	Child gender: 51% male Elevated more likely than normative to be female (68.2% vs 43.4%) Child age (years): 3–8 (*M* = 4.8; *SD* = 1.2) Child ethnicity: 45% white/non-Hispanic 26% African American 23% Latino Parent ethnicity: 49% white/non-Hispanic 20% African American 20% Latino Parent gender: 92% female Relationship to child: 58% biological parent 17% relative caregiver 18% non-relative foster caregiver 7% adoptive caregiver History of CSA: Elevated more likely than normative to have a history of CSA (31.8% vs 11.2%)	Administrative data (internal and external to the Sparks clinic) Sparks clinicians and direct management Hunter New England Local Health District (HNELHD) health professionals who work with children and families External service providers Workforce of external stakeholder agencies Workforce of internal HNELHD health services who work with children and families	Gender: 65.7% female; 34.3% male Age (years): 6–10 (*M* = 8.01; *SD* = 1.49) Ethnicity: 78.3% African American 13.3% Latino 1.8% Caucasian 3% biracial 3% other 0.6% unknown Annual household income: 28.9% < $15k 24.1% $16–30k 19.9% $31–60k 10.2% $60k+ 16.9% unknown Also reported CSA factors: ▪ Most intrusive type ▪ Relationship of perpetrator to victim ▪ Frequency of abuse	Gender: 35% female Age (years) at: entry *M* = 8.3 (*SD* = 2.1) discharge *M* = 9.4 (*SD* = 2.1) Ethnicity: 74% African American 16% white 10% multiracial Placement (at entry): 32% kinship care 26% biological family 26% regular foster care 2% group home 10% treatment foster care 5% special foster care # placement changes during SMART: 76% none # placements after SMART: 98% none; 2% one	Child gender: 58% female Child age (years): *M* = 4.9 (*SD* = 1.1) Ethnicity: 33% race minority Primary caregiver gender: Primarily mothers 6 fathers (3 biological; 2 adoptive; 1 foster) Relationship to child: 41% biological parent 31% foster parent 18% other female relative 6% adoptive parent 5% step-parent Annual income: Median: $25k Range: <$10k to >$80k Sexual abuse of child: 35% confirmed 33% none/ruled out 16% uncertain findings 15% unknown

[I] Participant demographic data was collected at baseline assessment, which was conducted with all participants in each study before any withdrew from participation.

					Other treatment: Individual therapy: 35% children, four parents PCIT: three families
Outcomes measured[m]	Trauma-related symptoms ▪ TSCYC (sexual concerns) ▪ TSCYC (PTS total) Child behaviour ▪ ECBI Family risk factors ▪ Clinic files (to extract history of maltreatment)	Assessed: ▪ Program processes ▪ Relationships with partner agencies ▪ Access to services ▪ Client outcomes Tools: ▪ Sparks Clinic logic ▪ Evaluation of financial productivity ▪ Analysis of key partners ▪ Interviews with Sparks clinicians and direct management ▪ Reviews of internal and external data ▪ Interviews with health professionals and external service providers ▪ Internal and external workforce surveys	Child sexual behaviour ▪ Child Sexual Behavior Inventory (CSBI; total score) Psychosocial evaluation of abuse and impact ▪ Psychosocial Protocol (used with children, parents and child protection case workers) Knowledge of Abuse (child completed) ▪ C-KAQ (total) ▪ PSQ Child functioning ▪ CBCL (EPS) ▪ CBCL (IPS)	Child sexual behaviour ▪ CAFAS/ PECFAS (three descriptions relating to PSB) ▪ SMART Clinic Symptom Checklist ▪ Child Sexual Behavior Checklist (CSBCL) Child functioning ▪ CAFAS (for ages 7–11) ▪ PECFAS (for ages 3–6) (shared subscales only)	Child sexual behaviour ▪ CSBI-III (raw scores) Child functioning ▪ CBCL (total) Child psychological functioning ▪ DISC-IV Child abuse experience ▪ Abuse Dimensions Inventory Child receptive vocabulary ▪ PPVT-III Parenting stress ▪ PSI-SF Treatment history ▪ Treatment History Form

[m] CAFAS = Child and Adolescent Functional Assessment Scale; CBCL (EPS) = Child Behavior Checklist (Externalising Problems Scale); CBCL (IPS) = CBCL (Internalising Problems Scale); CBCL (Total) = CBCL (Total Problems Scale); C-KAQ (Total) = Children's Knowledge of Abuse Questionnaire (Total Score); CSBP-PGSQ = CSBP Preschool Group Satisfaction and Social Validity Questionnaire; DISC-IV = Diagnostic Interview Schedule for Children; ECBI = Eyberg Child Behavior Inventory; HNELHD = Hunter New England Local Health District; PECFAS = Preschool and Early Childhood Functional Assessment Scale; PPVT-III = Peabody Picture Vocabulary Test – Third Edition; PSI-SF = Parenting Stress Index – Short form; PSQ = Personal Safety Questionnaire; TSCYC = Trauma Symptom Checklist for Young Children; TSCYC (PTS Total) = TSCYC (Post-traumatic Stress Total Scale)

					Satisfaction ▪ CSBP-PGSQ
Key findings relating to problematic or harmful sexual behaviour	Level of pre-treatment sexual concerns had no impact on treatment retention Impact on sexual concerns Normative: No significant difference in level of sexual concerns from pre- to post-treatment Elevated: Significant reduction in level of sexual concerns from pre- to post-treatment Moderators: Level of PTS symptoms had no impact on changes in level of sexual concerns Impact on behaviour Significant reduction in intensity and number of externalising behaviour problems for both groups	Clinic intervention evaluations: No formal treatment plans are completed. Goals are established with parent/ carers, included in clinical notes and reviewed intermittently throughout the therapy No standardised service or clinical evaluations are completed Evaluation of intervention effectiveness is based on clinical judgement in consultation with the primary caregiver and involved agencies where applicable Feedback from workforce surveys, interviews and referral agencies/partners	CSBI scores significantly reduced from 2.91 (SD = 5.68) at baseline to 1.87 (SD 3.80) following treatment (M_{diff}= 1.03; *SD* = 4.71) CSBI scores were not influenced by age, gender, ethnicity, household income or abuse factors at the p<.01 significance level	CAFAS/ PECFAS The odds of a positive response to the sexualised behaviour descriptions decreased significantly by discharge but there was no significant change from discharge to six or 12-month follow-up (due to floor effect) SMART Checklist The mean total score at baseline (13.3; SD = 11.6) significantly reduced by 5.7 points CSBCL Statistically significant decrease in scores from baseline to discharge for the following subscales: ▪ Interest in sex and sexuality ▪ Hugs others ▪ Bathroom behaviour ▪ Bowel/bladder problems ▪ Touches children	Complete data from all assessments was only available for 31 families Significant reduction in CSBI-III scores from intake to post-treatment No significant main or interaction effects on CSBI-III scores for Total Stress Events or Concurrent Treatment Significant interaction effects on CSBI-III scores for time in study (number of study weeks from intake to post-treatment)

	Moderators: Level of sexual concerns had no impact on changes in level of externalising behaviour problems	demonstrated positive client outcomes Report recommends standardised evaluations against client outcomes with a service follow-up three months post closure		▪ Looks/peeks at others	
Limitations	No external control or comparison group Comparisons were made between internal groups vastly different in size Small sample size for the Elevated Sexual Concerns group Low treatment completion rate Used a less comprehensive measure of sexual concerns (e.g. TSCYC instead of the CSBI)	This study was a logical deduction assessment of the Sparks Clinic in meeting its main objectives primarily in relation to service outcomes It does not report any specific assessments of child and family outcomes (e.g. effectiveness of treatment to reduce PSB) Further, clients and/or their caregivers were not interviewed	No control or comparison group No follow-up: Cannot determine if change is sustained Retrospective collection of administrative data Limited generalisability	Small sample size No control or comparison group Unclear reporting of findings with identified discrepancies between text and tables Limited generalisability	Small sample size and even smaller sample was analysed Large amounts of missing data No control or comparison group No follow-up: Cannot determine if change is sustained Change cannot clearly be attributed to the intervention studied as some participants were also engaged in other treatment

Appendix 2

Table 4. Summary of meta-analyses Including historical studies

	Meta-analysis 1	Meta-analysis 2
Name of article	Meta-analysis of treatment for child sexual behavior problems: Practice elements and outcomes	A meta-analysis of parent-involved treatment for child sexual abuse
Author(s)	St Amand, Bard and Silovsky	Corcoran and Pillai
Publication year	2008	2008
No. of articles (sample)	11 (732 children who completed treatment and post-treatment assessments)	10 (516 children who completed treatment and post-treatment assessments)
Study inclusion/exclusion criteria	▪ Outpatient treatment only ▪ Treatment for children 12 years and younger ▪ Treatment of sexual behaviour problems either as a primary or secondary target ▪ Access to detailed description of treatment(s), such as a treatment manual, showing technical elements applied in the treatment, not just the treatment's theory model ▪ Evaluation of treatment outcomes using at least pre- and post-measures of sexual behaviour problems ▪ The study had to be published and provide pre- and post- or difference means and standard deviations on a measure of sexual behaviour problems	▪ Sexual abuse was the reason for treatment referral ▪ Treatment was provided to children rather than adult survivors of sexual abuse ▪ Parents had to be involved in the treatment, although the child's sexual abuse was a focus of the intervention ▪ Studies had to assess the result of treatment on child internalising symptoms (e.g. depression, anxiety), externalising (behaviour problems), sexual behaviour problems, or post-traumatic stress disorder ▪ Comparison or control group designs were required

	▪ English or French language of research article and treatment manual	▪ Although randomisation to treatment and control conditions were not necessary, single-group pre-test, post-test designs were excluded ▪ Authors of studies had to provide the necessary statistical information to calculate effect sizes
Target population	Children 12 years or younger displaying problem sexual behaviour, who may have experienced sexual abuse	Children referred due to sexual abuse (age requirement not specified)
Characteristics of included participants	2–16 years old, both males and females. Majority of studies (7 of 11; 64%) included children who had experienced sexual abuse	Age range not reported for all studies. Age range for those reported was 2–13 years old. Other studies reported mean ages ranging from 4.68–11.4. Both males and females include
Intervention(s)	Varied, but most commonly cognitive behavioural interventions for both treatment and comparison groups Treatments included: CBT gradual exposure, CBT, play therapy, CBT for sexual behaviour problems, trauma-focused CBT, client-centred therapy, sexual abuse specific CBT, nondirective supportive therapy, supportive therapy, integrated psychotherapy, à la croisée des chemins, expressive therapy, relapse prevention therapy and the model, Group Treatment for Preschool Children with Sexual Behaviour Problems	Cognitive behavioural interventions only
Practice elements	Practice elements included: introduction to treatment, rules about sexual behaviour, identifying stimuli and contexts that increase risk, cycle of abuse/sexual behaviour problems, physical	Not specified

	boundaries, emotional regulation skills, cognitive coping skills, relaxation, sex education, acknowledging sexual behaviour problems, understanding the impact of sexual behaviour problems and making amends, self-control skills, abuse prevention skills, trauma-narrative gradual exposure, social skills, relationship skills, attachment among child and caregivers (positive child–caregiver interactions), parenting and child behaviour management skills, self-esteem, caregiver social support, sexual abuse and trauma, loss and good-byes, and sexual urges and arousal and reconditioning	
Implementation/methods of delivery	Individual, dyad, group and family treatment	Individual, dyad and group treatment
Duration	Not specified	8–20 sessions (*M* = 12)
Intensity	Not specified	Largely unspecified but reported for some studies and included one-hour sessions and weekly delivery
Workforce characteristics (qualifications and training)	Therapist, not further specified	Varied Clinician, therapist, psychologist/psychiatrist
Clinical governance	Not specified	Not specified
Outcomes measured	CSBI-2 or CSBI-3 CBCL	CBCL CITES-R PTSD CSBI (assessed in only four of 10 studies) PTSD section of Kiddie Schedule for Affective Disorders and Schizophrenia

		PTSD section of the child version of the Anxiety Disorders Interview Schedule for DSM-IV
Key findings relating to problematic or harmful sexual behaviour	The overall treatment effect size (mixed model effect) for problematic or harmful sexual behaviour as measured by the CSBI was .46, with effect sizes for individual treatments ranging from .32 (for gradual exposure) to .60 (for Group Treatment for Preschool Sexual Behaviour Problems) Three treatment types selected for model comparison: CBT, play therapy with interpretation, and play therapy without interpretation. No significant difference in treatment type but the observed mean differences favour those classified as CBT	Effect sizes for the problematic or harmful sexual behaviour as measured by the CSBI varied from small to medium (Hedge's g = .23 to .55). One study included in the meta-analysis also examined the effect of this outcome over time, whereby a medium effect was found (Hedge's g = .45)
Main limitations of meta-analysis, as stated by authors	Only pre–post scores examined, limited studies with follow-up. Examined effects over course of treatment, rather than compared with no treatment	Limited studies with follow-up. Comparison groups varied between studies, with some using child-only models and others using parent-involved treatment