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Evidence Check

Effective interventions to increase father-inclusive practice in community and acute health settings

An Evidence Check rapid review brokered by the Sax Institute
for the NSW Ministry of Health—October 2021

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This report was prepared by: Rebecca Giallo, Alison Fogarty, Grace McMahon, Priscilla Savopoulos, Madison Schulz, and Casey Hosking.

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Effective interventions to increase father-inclusive practice in community and acute settings: An Evidence Check rapid review

An Evidence Check rapid review brokered by the Sax Institute for the NSW Ministry of Health, October 2021.

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Executive summary

Background

Fathers, partners, non-birthing parents and other caregivers play a critical role in promoting the health and wellbeing of their children and families. The need to actively engage them in birthing, antenatal and community child health services has been recognised in Australia and internationally. Father-inclusive and family-centred care refers to a broad range of initiatives and actions by health professionals and organisations to meaningfully engage fathers and other caregivers in the provision of services. Examples include involving them in appointments/episodes of care, providing them with direct services or programs, or providing training to build the skills and confidence of staff to work with fathers and other caregivers in addition to mothers and children.

The extent to which health professionals and organisations implement father-inclusive practice and family-centred care can vary markedly. This is particularly so in antenatal, birthing and maternal and child community health settings where the focus of care is typically on mothers and children. Shifting health services towards more father-inclusive practice and family-centred care requires a better understanding of what practices can successfully increase the engagement of fathers, partners and other caregivers to improve outcomes for children and families.

The NSW Ministry of Health has commissioned an Evidence Check to identify and summarise the evidence for father-inclusive practices and interventions that can be delivered in antenatal, birthing and community child health settings from conception until when the child is aged five years. It is important to note that research into the engagement of non-birthing parents, partners and caregivers who do not identify with the role of fathers is limited. Therefore, this Evidence Check will primarily focus on and refer to fathers, but if research referring to the engagement of a broader range of caregivers is identified, this will be noted.

Evidence Check questions

This Evidence Check aimed to address the following questions:

Question 1: What interventions or father-inclusive practices have been shown to be effective in engaging fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

Question 2: What have been the barriers and enablers to implementing effective father-inclusive practices to engage fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

Summary of methods

The authors conducted a systematic review of the peer-reviewed literature and a grey literature search for evaluation studies of father-inclusive practices published between January 2011 and September 2021. Thirty-six papers met the criteria for inclusion. Of these, four (11.1%) were systematic reviews (Level I), 15 were randomised controlled trials (41.7%), two were quasi-experimental studies (5.6%) and 15 were single-group designs with either a pre-post or post-test only (41.7%).

Key findings

Question 1: What interventions or father-inclusive practices have been shown to be effective in engaging fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

- We identified four broad types of interventions. The most common were co-parenting interventions (38.9%) and father-specific components embedded into standard care typically focused on mothers (36.1%). Father-focused interventions (16.7%) and professional development and training in father-inclusive practice (8.3%) were less common. We did not identify any evaluations of resources or tools to build the capacity of health services to implement father-inclusive practices.
- Only four studies assessed father engagement in healthcare settings with their children and families—the primary outcome of interest in this Evidence Check. Most studies reported on other important outcomes such as parent mental health, co-parenting and breastfeeding. The findings were mixed, likely due to the variation in intervention types and study methods used.
- **Professional development and training:** One randomised controlled trial reported positive effects for use of father-inclusive strategies and father involvement in home-visiting sessions. Changes in health professionals' knowledge, attitudes and confidence in working with fathers were

noted in interventions with lower levels of evidence. We assessed the overall quality of evidence as Poor, indicating the body of evidence is weak and must be applied with caution.

- **Father-specific intervention components:** Seven of the 15 studies were of relatively high quality. While there were consistent findings for increased father involvement in two studies, this was only assessed at post-test. Other studies of varying quality reported small to moderate positive effects for parent mental health and breastfeeding outcomes. The overall quality of evidence was assessed as Satisfactory, indicating some support for this intervention type, but care should be taken in its application.
- **Father-focused interventions:** Although the majority of studies were low quality, they reported relatively consistent positive findings for father mental health outcomes, with small to moderate effect sizes. The overall quality of evidence was assessed as Satisfactory, indicating some support for this intervention type, but care should be taken in its application.
- **Co-parenting interventions:** The vast majority of studies were high level, yielding consistent findings for a range of co-parenting outcomes, and father involvement in parenting and breastfeeding. The overall quality of evidence was assessed as Good, indicating that the body of evidence for co-parenting interventions can be trusted to guide practice.

Question 2: What have been the barriers and enablers to implementing effective father-inclusive practices to engage fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

- A total of 25 studies, as well as three additional qualitative studies known to the reviewers, examined barriers and/or enablers to the implementation of effective father-inclusive practices and/or fathers' engagement in services and intervention programs. We summarised these into five categories reflecting: (a) client/family factors (e.g. work commitments, partner support); (b) setting factors (e.g. community vs hospital setting); (c) intervention factors (e.g. type, focus, mode); staff factors (e.g. gender, professional training, attitudes); and broader systemic/structural factors (e.g. policies, funding).

Gaps in the evidence

There are significant gaps in the evidence base for father-inclusive practice. High-quality research is needed to determine the effectiveness (and cost-effectiveness) of:

- Strategies to engage and involve fathers in health services with their children and families
- Strategies for engaging partners, non-birthing parents and other caregivers who do not identify as fathers or with a fathering role
- Approaches to engaging First Nations and culturally diverse fathers, partners, non-birthing parents and other caregivers
- Healthcare sector/system tools and resources to support the implementation of father-inclusive practice.

Conclusion

Father-inclusive practice is a broad term encompassing a diverse range of interventions and actions by health professionals and organisations to involve fathers. Few studies evaluated the effectiveness of father-inclusive practices to increase father involvement in health services with their children. There is a clear need for high-quality research about how to best engage and work with fathers, partners, non-birthing parents and other caregivers who do not identify as a father or with the fathering role. Despite this, there is evidence for father-inclusive practices in promoting a range of health outcomes for families. These include co-parenting interventions, father-specific components embedded into routine healthcare provided to women and children and father-focused interventions. Provision of such interventions will depend on overcoming common staff and health service sector barriers to implementation. There is a clear need for the development and evaluation of: (a) frameworks, tools and resources to build the capacity of health services to implement a range of father-inclusive practices, and (b) education, training and professional development for health professionals. This is a critical step towards more father-inclusive practices for children and families accessing health services in the first 2000 days from conception and into early childhood.

Background

Fathers, partners, non-birthing parents and other caregivers play a crucial role in promoting the health and wellbeing of their families, especially in the critical early years of their children's development. Fathers' active and positive involvement in parenting and play is important for children's social-emotional development, learning, cognitive functioning[1-3], physical activity and health outcomes.[4] Partner support and encouragement is associated with positive breastfeeding outcomes[5], and fathers' postnatal mental health is intricately linked with maternal mental health[6, 7], quality of family relationships[8] and children's emotional-behavioural development.[9]

The vital role of fathers and partners in promoting maternal and child health and the need to actively engage them in birthing, paediatric and community child health services has been recognised in Australia and internationally. The World Health Organization's Nurturing Care Framework for early childhood development[10], the Australian Government's National Children's Mental Health and Wellbeing Strategy[11] and Australian clinical practice guidelines for pregnancy care[12] all emphasise the importance of involving fathers and male caregivers in the provision of care when appropriate to do so. Furthermore, fathers have been prioritised in Australia's National Men's Health Strategy.[13]

Although research indicates fathers and partners want to be included in the care provided to their families and engaged with their own parenting and wellbeing needs[14], there are many factors that will determine their level of engagement with health services with their children and families. This can include stigma and attitudinal barriers to healthcare use (i.e. the need for control and self-reliance in managing problems; tendency to minimise problems), perceptions that the health system is primarily designed for mothers and children, and inflexible and long working hours.[15, 16] Health services can be instrumental in overcoming some of these barriers to involvement by providing care that is more family-centred or father-inclusive. The recently released National Children's Mental Health and Wellbeing Strategy acknowledges the need for targeted engagement and tailored programs for fathers and other caregivers.

Father-inclusive practice refers to a broad range of initiatives and actions by health professionals and organisations to meaningfully engage and involve fathers and non-birthing parents in the provision of services. Family-centred care recognises that fathers and other members of the family are an integral part of the family system, and that their needs should be equally considered and responded to in the provision of services to children and families.[11,17] Father-inclusive practices can include, but are not limited to:

- Specific consideration for fathers and other partners in health service policy, strategic planning and the development and provision of services
- Reference to, and representation of, fathers in health service promotional materials
- Active and meaningful engagement of fathers and other partners in the provision of services to children and mothers (e.g. inclusion at intake, all appointments, in making care or treatment decisions)
- Provision of direct services to fathers

- Provision of father-specific programs and resources
- Provision of services outside of business hours to meet needs of working fathers and partners
- Employment of male staff to engage and work with fathers in the health setting
- Provision of training in working with fathers for staff.

Father-inclusive practices can vary markedly in how they are provided and the extent to which health professionals and organisations implement them. There are recognised barriers related to the provision of healthcare that focuses primarily on mothers and children. Even when there is a desire to engage and involve fathers and partners in episodes of care, there are challenges associated with lack of staff time, training and confidence to specifically engage and respond to the needs of fathers and non-birthing parents.[18] The implementation of father-inclusive practices will often depend on: (a) the systemic processes and culture of the organisation, (b) the skills, attitudes and capacity of health professionals to engage and work with fathers, and (c) the availability of father-specific interventions.

Challenging traditional models of care that focus on mothers and children, and transforming health services to be more family-centred and father-inclusive is a public health priority. Yet there is a lack of clarity about what practices in healthcare settings can increase the engagement of fathers and improve outcomes for them, their children and families. This has been recognised by the NSW Ministry of Health, which has commissioned this Evidence Check to identify and summarise the evidence for different father-inclusive practices and interventions that can be delivered in health settings from conception until when the child is aged five years.

It is important to note that research into the engagement of non-birthing parents, partners and caregivers who are not fathers, or who do not identify with the role of a father, is limited. Therefore, this Evidence Check will focus on and refer to fathers, but if research referring to the engagement of a broader range of non-birthing parents and caregivers is located, we will note this.

The Evidence Check questions are:

- Question 1: What interventions or father-inclusive practices have been shown to be effective in engaging fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?
- Question 2: What have been the barriers and enablers to implementing effective father-inclusive practices to engage fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

This Evidence Check evaluated the evidence for father-inclusive practices and interventions in antenatal, birthing and community child health settings that focus on:

- The **skills, attitudes and competencies of health professionals** to engage and work with fathers
- The **systemic processes and culture of health organisations** for engaging fathers and increasing their participation in episodes of care
- **Father-focused interventions** that aim to improve a range of health outcomes for fathers, as well as partners, children and their families
- **Father-specific intervention components** that are embedded into standard care or interventions that are typically provided to mothers
- **Co-parenting interventions** provided to couples or all parents in the family that focus on strengthening the co-parenting relationships, father involvement and/or parent mental health in the perinatal period.

Methods

The Evidence Check research questions were addressed through the following search strategies:

- Systematic review of the peer-reviewed literature
- Grey literature search including searches of Australian Government websites, relevant clearing-house and institute websites and a Google Scholar search.

We supplemented the search strategies by reviewing the reference lists of identified studies for additional relevant publications, screening publications for eligibility against pre-specified inclusion and exclusion criteria. We then extracted details of included studies for evidence synthesis.

Systematic review of peer review literature methodology

We developed the search strategy for peer-reviewed studies in consultation with a librarian from the Royal Children's Hospital, Melbourne. The search was conducted in MEDLINE, PsycINFO and the Cochrane Database of Systematic Reviews. Searches were limited to journal articles published in English between 2011 and September 2021. Appendix 1 provides a detailed list of entered search terms for each database search.

We exported retrieved records into Endnote and removed duplicates. The remaining records were uploaded into Covidence for title/abstract screening by at least one member of the review team. Two reviewers then screened full-text publications for eligibility against pre-specified inclusion and exclusion criteria. Details of included studies were extracted by at least one reviewer and checked by another for evidence synthesis.

Grey literature search methodology

We conducted an extensive grey literature search. This included a search of (a) Australian state and federal government websites and relevant clearing-house and institute websites in Australia and internationally, (b) hand searches of reference lists of known relevant publications, and (c) a Google Scholar search.

Website search: We searched a total of 28 websites including Australian state and territory websites (n=2—Australian Government Department of Social Services; Australian Institute of Family Studies), websites of relevant health services, clearing houses and institutes in Australia (n=20; these included the Fatherhood Project; Australian Fatherhood Consortium; Tweddle Child & Family Health Service; Beyond Blue) and international websites from jurisdictions with health systems similar to Australia including the UK, Canada, New Zealand and the US (n=6; these included the Fatherhood Institute (UK); National Responsible Fatherhood Clearinghouse (US); National Fatherhood Initiative (US)). We assessed a total of 27 reports for eligibility.

Google Scholar search: We conducted a Google Scholar search with similar search terms and limits to those used for the peer-reviewed literature search. The first 200 returned results were saved and exported to Endnote and included for screening in Covidence.

Hand searches: We checked reference lists from identified studies for eligible studies to be included in the Evidence Check.

Inclusion and exclusion criteria

Relevant literature included publications reporting on intervention trials, evaluation or service improvement initiatives aiming to engage fathers in community and acute care settings where their child and/or family were receiving care from conception up to age five. Study inclusion criteria encompassed:

- **Population:** Participants could be (a) fathers, partners, co-parents and non-birthing parents, or (b) health professionals such as midwives, maternal and child health nurses, or nurses
- **Settings:** Community health and acute care services for children (0–5 years) and their families including birthing services, antenatal and midwifery care, maternal-child health, child health and development checks, early parenting centres and primary healthcare
- **Interventions:** Interventions or initiatives aimed at engaging fathers to improve outcomes for fathers, partners, mothers and children such as:
  - Professional development and training for staff in how to engage fathers
  - Resources and tools for organisations to support the engagement of fathers
  - Father-focused interventions
  - Father-specific intervention components embedded into interventions or usual care that is typically provided to mothers
  - Co-parenting interventions that aim to promote father involvement and support in antenatal care and breastfeeding, and promote mother and/or father health outcomes
- **Outcomes:** Any quantitative outcomes relating to: (a) father engagement or participation in healthcare settings, (b) skills, attitudes and competencies of practitioners, (c) processes and culture of service organisations, (d) child, parent and family health, and (e) cost-effectiveness
- **Study type:** Randomised controlled trials (RCTs), quasi-randomised controlled trials, comparative studies with concurrent controls, comparative studies without concurrent controls, case series with either post-test or pre-test/post-test outcomes and systematic reviews of RCTs.

Studies were limited to Australia, Canada, New Zealand, the US and the UK. The following types of publications were excluded: descriptive studies, protocols, editorials, opinion pieces, publications that did not assess interventions, and systematic reviews of studies with quasi-experimental or case series research designs.

Evidence grading

We assessed the level of evidence for each study using the National Health and Medical Research Council (NHMRC) Levels of Evidence Hierarchy (see Table 1). Following this, we used an assessment matrix to rate the quality of the evidence in five domains for each intervention type identified in Question 1. The following domains were rated on a four-point scale ranging from A = Excellent to D = Poor: (1) the evidence base, (2) consistency, (3) clinical impact, (4) generalisability and (5) applicability. Finally, we provided an overall assessment or grade of recommendation as follows:

A. Body of evidence can be trusted to guide practice
B. Body of evidence can be trusted to guide practice in most situations
C. Body of evidence provides some support for recommendation(s) but care should be taken in its application
D. Body of evidence is weak and recommendation must be applied with caution.

Two members of the Evidence Check team conducted and discussed the evidence grading.

Findings

Included studies and evidence grading

The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) was used to guide the peer-reviewed literature search methods. A flow chart of the literature selection process is included as Appendix 2. A total of 36 publications met the criteria for inclusion in the Evidence Check. Of these, 23 were identified through the search of peer-reviewed literature, one through the grey literature search and 16 from a search of reference lists of included as well as known relevant publications. The search yielded four systematic reviews and 32 primary studies representing 26 individual interventions. A summary table of the included studies is attached as Appendix 3.

Table 1 summarises the NHMRC levels of evidence for the included studies. Of the 36 identified studies, four (11.1%) were systematic reviews. Fifteen primary studies (41.7%) were of higher levels of evidence (RCTs) and two (5.6%) were non-randomised quasi-experimental studies. The remaining 15 studies (41.7%) were of a lower evidence level (all single-group pre-post or post-only evaluations).

Table 1—NHMRC Hierarchy of Evidence Levels

Level of evidence	Study design	Number of studies
I	A systematic review of Level II studies	4
II	A randomised controlled trial	15
III-1	A pseudo-randomised controlled trial (i.e. alternate allocation or some other method)	0
III-2	A comparative study with concurrent controls (i.e. non-randomised experimental trial, cohort studies, case-control studies, interrupted time series studies with control group)	1
III-3	A comparative study without concurrent controls (i.e. historical control study, two or more single-arm studies, interrupted time series without a parallel control group)	1
IV	Case series with either post-test or pre-test/post-test outcomes	15

Question 1: What interventions or father-inclusive practices have been shown to be effective in engaging fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

Table 2 shows the number of studies identified for each intervention type of interest. Of the 36 studies identified, the majority were evaluations of co-parenting interventions (38.9%), followed by father-specific components embedded into standard care or interventions typically focused on mothers (36.1%), and interventions focusing only on fathers (16.7%). We only identified three studies evaluating professional development and training in father-inclusive practice for health professionals (8.3%). We found no evaluations of organisational resources or tools targeting the systemic processes or culture of health organisations. A detailed description of the included studies, interventions, evaluation designs, methods and outcomes is provided in Appendix 3.

Table 2—Number of studies identified for each intervention type

Intervention type	Description	Number of studies
Professional developmental and training	Training in father-inclusive practice or working with fathers, targeting the skills, attitudes and competencies of health professionals	3
Organisational resources and tools	Resources to change the systemic processes and culture of health organisations and strengthen their capacity to engage in father-inclusive practices	0
Father-specific intervention components	Interventions or initiatives that target the engagement or inclusion of fathers that have been embedded into standard care or interventions that are typically provided to mothers	13
Father-focused interventions	Interventions that target fathers only	6
Co-parenting interventions	Interventions provided to couples or all parents in the family that focus on strengthening the co-parenting relationships, father involvement, and/or parent mental health in the perinatal period	14

It is important to note that only three intervention studies specifically assessed father engagement in health services. One RCT found a positive intervention effect for increased father engagement in health services, as well as health professionals' use of father-inclusive strategies. The remaining two studies descriptively reported positive findings at post-test only. The vast majority of interventions

examined other important parent, family or child outcomes such as parent mental health, co-parenting, birth and breastfeeding outcomes. The findings for these outcomes were mixed, likely due to the variation in interventions, study methods used and quality of the study designs.

Because of the variation in interventions, target populations and outcomes, the following sections are organised by intervention type. Each section presents an overall summary of the interventions, the results and the quality of the evidence base.

1. Professional developmental and training in father-inclusive practice

Summary of interventions

We identified three studies evaluating professional development and training in father-inclusive practice, which are summarised in Table 3. All interventions were delivered to health professionals in child and family health settings. All delivered a face-to-face group workshop of varying lengths (all ≤1 day training), using a combination of didactic presentations, discussion and active skills practice. One study also included online training for individual learning and reflection[19] and another offered staff ongoing supervision in working with fathers.[20] The content varied across interventions but generally focused on the importance of working with fathers and strategies for engaging with fathers (see Appendix 3).

Summary of results and evidence grading

The study with the highest level of evidence (Level II, RCT) trialled the most intensive and comprehensive professional development and training, including an all-day face-to-face workshop, a booster session and ongoing supervision sessions.[20] Compared to the control group who did not receive the training, health professionals who received the father-inclusive practice training reported greater use of the father-inclusive strategies and content in home visits with families, and greater father involvement in the sessions. The study found no intervention effects for the quality of the relationship between the home visitor and fathers. The remaining studies, with lower levels of evidence (single group pre-post), were of less intensive interventions, and noted increases in knowledge, attitudes and/or confidence in working with fathers and/or use of father-inclusive strategies.[19, 21]

Based on the NHMRC Grading of Evidence, we assessed the overall quality of evidence for professional development and training in father-inclusive practice as Poor, indicating the body of evidence is weak and must be applied with caution. See Appendix 4 Table 12 for the evidence matrix.

Table 3—Summary of included studies for professional development and training in father-inclusive practice

Publication, country Evidence level Sample size, population	Health setting		Intervention characteristics					Intervention outcomes					
	Antenatal care	Child & family health	Face-to-face workshop	Online training	Super-vision	Didactic present-ations	Active skills practice	Know-ledge	Attitudes	Confid-ence	Use of strategies	Father engagement / participation	Quality of professional–father relationship
Bellamy et al. 2020[20] US Evidence level: II N=131 home visitors		✓	✓		✓	✓	✓	–	–	–	●	●	●
Burn et al. 2019[19] Australia Evidence level: IV N=224 health professionals		✓	✓	✓		✓	✓	–	–	●	●	●	–
Humphries et al. 2015[21] UK Evidence level: IV N=134 health professionals		✓	✓			✓	✓	●	●	–	–	–	–

● Intervention effect reported (RCT, significance test conducted)
● Positive change reported (pre-post, significance testing conducted)
● Positive change reported (post-only, descriptive, significance testing not conducted)
● No significant change reported (either RCT or pre-post, significance testing conducted)
– Not assessed

2. Father-specific intervention components

Summary of interventions

We identified one systematic review of RCTs and 12 primary studies evaluating father-specific intervention components. These are summarised in Table 4. The systematic review was of 11 RCTs evaluating the effects of childbirth education for partners of pregnant women on improving paternal postnatal mental health.[22] The vast majority of interventions in the review were father-specific or inclusive components embedded into routine antenatal education and care. They were typically provided as face-to-face groups delivered by antenatal educators, covering childbirth education, couple relationships, infant care and postnatal psychosocial issues.

Similarly, the vast majority of interventions identified in the primary studies for this Evidence Check were delivered as a group embedded in routine antenatal education and/or care. This typically involved a father-specific session, workshop series and resources as an adjunct to antenatal education sessions for couples. Most interventions offered multiple sessions, providing psychoeducation and opportunities for facilitated discussion about the transition to parenthood, the early days after having a baby, breastfeeding and parent mental health. Some interventions also provided opportunities to learn skills such as massage or relaxation strategies.[23, 24] Several interventions continued to provide psychoeducational resources via a mobile app, text messaging or email following the groups.[23, 25] One breastfeeding-focused group intervention provided in a child and family health service included access to a professional who facilitated referrals and support for fathers experiencing psychosocial health issues.[26]

Summary of results and evidence grading

The study with the highest level of evidence (Level I—systematic review of RCTs) found five of 11 trials of childbirth education for fathers demonstrated intervention effects for reducing fathers' parenting stress and anxiety.[22] It is worth noting these authors rated the overall quality of evidence as low to very low.

With respect to the four RCTs (Level II evidence), one study with a large sample of expectant couples (N=699) demonstrated intervention effects for two out of four breastfeeding outcomes (e.g. any breastfeeding at follow-up; and lower rates of formula feeding)[27], while in contrast, another study with a large sample (N=1426) found no intervention effect for breastfeeding.[25] Several studies assessed parent mental health. An intervention effect for the reduction of anxiety, but not depressive symptoms, was found in a study with a large sample of fathers (N=533) participating in single hospital-based father-specific antenatal groups with five weeks of psychoeducational materials mailed out in the postnatal period.[28] In a smaller RCT of 41 expectant parents, there was no intervention effect for maternal mental health.[23]

Two quasi-experimental or comparative studies were identified (Level III). Guterman et al. compared the Dads Matter home-visiting program with families receiving usual care (non-randomised).[29] Significance testing was not possible because of the small sample size (N=24), although a reduction in mother- and father-reported stress associated with a moderate effect size was noted for the intervention group. The study also reported greater father involvement for the intervention group (small effect size). In another study, a group pregnancy care intervention involving male partners of young pregnant mothers was compared to care without father involvement.[30] Although there was no

overall intervention effect for perceived partner support as reported by mothers, they did report that partners were more involved in the pregnancy and assisted with money, other aid and transportation.

The remaining six studies with lower levels of evidence (Level IV—single group pre-post or post-only) yielded consistent findings for reductions in mothers' and fathers' mental health difficulties, associated with small to moderate effect sizes.[24, 31-33] It is worth noting sample sizes for several studies were quite small (e.g. N=12[32] and N=30[24]). Three studies reported perceived benefits for breastfeeding outcomes such as knowledge, attitudes and confidence at post-test using study designed questions.[26, 31, 34] Only one study assessed fathers' engagement in health services at post-test only, reporting that 75% of 66 fathers had taken up a referral for another health service following the Breast for Success group psychoeducational intervention for fathers.[26]

Based on the NHMRC Grading of Evidence, we assessed as Satisfactory the overall quality of evidence for father-specific intervention components, indicating that the body of evidence provides some support but care should be taken in its application. See Appendix 4 Table 13 for the evidence matrix.

Table 4—Summary of included studies for father-specific intervention components

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode		Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Antenatal education	Breast-feeding	Psycho-education	Active skills practice	Referral /case manage-ment	Face-to-face	Group / individual	Father Involve-ment in health services	Parent mental health	Breast-feeding	Partner support
Furman et al. 2016[26] US Evidence level: IV Perinatal fathers (N=66)		✓	✓		✓	✓		✓	✓	G	● 75% uptake of other health services	–	●	–
Guterman et al. 2018[29] US Evidence level: III-2 Families (N=24)		✓	✓			✓	✓		✓	I	–	● Mo & Fa stress (mod effect)	–	–
Hall et al. 2021[23] Australia Evidence level: II Expectant parents (N=41)	✓		✓			✓	✓		✓	G, I	–	● Mo	–	●
Kuliukas et al. 2019[31] Australia	✓		✓	✓	✓	✓	✓		✓	G	–	●	●	–

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode		Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Antenatal education	Breast-feeding	Psycho-education	Active skills practice	Referral /case manage-ment	Face-to-face	Group / individual	Father Involve-ment in health services	Parent mental health	Breast-feeding	Partner support
Evidence level: IV Expectant fathers (N=697)														
Maycock et al. 2013[27] Australia Evidence level: II Expectant couples (N=699)	✓				✓	✓			✓	G, I	–	–	● 2 out of 4 out-comes	–
Scott et al. 2021[25] Australia Evidence level: II Expectant couples (N=1426)	✓			✓	✓	✓			✓ +app	G, I	–	–	●	●
Smith et al. 2016[30] US Evidence level: III-3 Expectant mothers (n=249); fathers (n=92)	✓			✓		✓	✓	✓	✓	G	●	–	–	●

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode		Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Antenatal education	Breast-feeding	Psycho-education	Active skills practice	Referral /case manage-ment	Face-to-face	Group / individual	Father Involve-ment in health services	Parent mental health	Breast-feeding	Partner support
Suto et al. 2017[22] Evidence level: I Studies (N=11) representing expectant fathers (n=3000); mothers (n=2000)	✓		✓	✓		✓			✓	G	–	5 out of 11 trials	–	–
Tandon et al. 2021[24] US Evidence level: IV Perinatal couples (N=30)		✓	✓			✓			✓ + phone	I	–	Mo & Fa: 1 out of 3 out-comes (mod effect)	–	●
Thomas et al. 2019[32] US Evidence level: IV Expectant couples (N=12)	✓		✓	✓		✓	✓		✓	I	–	Mo: 2 out of 3 out-comes (large effect)	–	–

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode		Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Antenatal education	Breast-feeding	Psycho-education	Active skills practice	Referral /case manage-ment	Face-to-face	Group / individual	Father Involve-ment in health services	Parent mental health	Breast-feeding	Partner support
Tohotoa et al. 2011[34] Australia Evidence level: IV Perinatal fathers (N=342)	✓			✓	✓	✓			✓	G	–	–	●	–
Tohotoa et al. 2012[28] Australia Evidence level: II Expectant fathers (N=533)	✓		✓		✓	✓	✓		✓	G	–	●Anx ●Dep	–	–
Warriner et al. 2018[33] UK Evidence level: IV Expectant couples (N=100)	✓		✓	✓		✓	✓		✓	G	–	●Mo & Fa: 3 out of 3 out-comes (small to mod effect)	–	–

● Intervention effect reported (RCT, significance test conducted; systematic review)
● Positive change reported (pre-post, significance testing conducted)
● Positive change reported (post-only, descriptive, significance testing not conducted)
● No significant change reported (either RCT or pre-post, significance testing conducted)
– Not assessed
Fa — Fathers; Mo — Mothers; Mod — Moderate; Anx — Anxiety; Dep — Depression

3. Father-focused interventions

Summary of interventions

We identified one systematic review of RCTs and five primary studies evaluating father-focused only interventions. These are summarised in Table 5. The systematic review was of 14 RCTs evaluating interventions targeting father mental health in the perinatal period.[35] These were delivered in a range of health settings with either individual fathers, couples or in groups. Generally, all interventions provided psychoeducation about the transition to parenthood, changes in family relationships and father mental health, and skills building in emotion regulation and coping.

Fathers participating in the primary studies were either recruited from, or received their intervention in, antenatal care or child and family health settings. The vast majority of interventions focused on father mental health, with all delivering psychoeducation. The interventions delivered as face-to-face groups also provided opportunity for facilitated discussion, peer support and active skills building in coping strategies or other skills such as massage.[36-38] The two interventions delivered via a mobile app or text messaging only provided psychoeducation.[39, 40]

Summary of results and evidence grading

The study with the highest level of evidence (Level I, systematic review of RCTs) found a positive intervention effect for reduction in fathers' mental health difficulties in six out 14 studies.[35] No overall rating of evidence quality was provided, but the study noted that interventions with significant intervention effects were: (i) delivered across the ante- and postnatal period, (ii) addressed issues related to men's lifestyle and wellbeing, and (iii) involved practical skill development such as partner or infant massage.

The remaining studies with lower levels of evidence (single group pre-post) yielded inconsistent findings for fathers' mental health outcomes. Fletcher's 'SMS4dads' reported no significant pre-post intervention change in fathers' psychological distress[39] and a group program with a very small number of fathers (n=19) also found no change in mental health.[38] The two evaluations of the 'Working Out Dads' six-week group program found consistent significant pre-post reductions in fathers' depressive and stress symptoms and increases in parenting self-efficacy.[36, 37] These changes were maintained at a three-month follow-up.[37] Finally, despite the large sample size and positive outcomes for breastfeeding, the 'Milk Man' mobile app providing breastfeeding psychoeducation was assessed using a post-only design and employed study designed survey questions only[40], limiting the strength of these findings.

Based on the NHMRC Grading of Evidence, we assessed the overall quality of the evidence for father-focused interventions as Satisfactory, indicating that the body of evidence provides some support but care should be taken in its application. See Appendix 4 Table 14 for the evidence matrix.

Table 5—Summary of included studies for father-focused interventions

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Family relation-ships	Breast-feeding, infant care	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face / other	Group or indiv-dual	Phone app / SMS	Involve-ment in health service	Father mental health	Family relation-ships	Parent-ing, breast-feeding
Fletcher et al. 2017[39] Australia Evidence level: IV N=90 postnatal fathers	✓	✓	✓	✓	✓	✓				I	✓	–	●	●	–
Giallo et al. 2018[36] Australia Evidence level: IV N=57 fathers of children (0–4yrs)		✓	✓	✓		✓	✓	✓	✓	G		–	● Dep (mod effect size) ● Stress (mod effect size) ● Anx	–	●
Giallo et al. 2020[37] Australia Evidence level: IV		✓	✓	✓		✓	✓	✓	✓	G		–	● (mod effect size)	–	●

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes			
	Ante-natal care	Child & family health	Mental health	Family relation-ships	Breast-feeding, infant care	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face / other	Group or indiv-dual	Phone app / SMS	Involve-ment in health service	Father mental health	Family relation-ships	Parent-ing, breast-feeding
N=53 fathers of children (0-4yrs)															
Goldstein al. 2020[35] Evidence level: I N=14 studies of fathers in perinatal period	✓	✓	✓			✓	✓	✓	✓	I, G	✓	–	●	–	–
Rayburn et al. 2021[38] US Evidence level: IV N=19 perinatal fathers	✓		✓	✓	✓	✓	✓	✓	✓	G		–	●	–	–
White et al. 2019[40] Australia Evidence level: IV N=585 expectant fathers	✓					✓				I	✓	–	–	–	●

● Intervention effect reported (RCT, significance test conducted)
● Positive change reported (pre-post, significance testing conducted)
● Positive change reported (post-only, descriptive, significance testing not conducted)
● No significant change reported (either RCT or pre-post, significance testing conducted)
– Not assessed
Mod — Moderate; Anx — Anxiety; Dep — Depression

4. Co-parenting interventions

Summary of interventions

We identified two systematic reviews of RCTs and 12 primary studies evaluating co-parenting interventions. These are summarised in Table 6. The two systematic reviews synthesised evidence from studies evaluating co-parenting interventions delivered in a range of antenatal and child and family health settings.[41, 42] The vast majority of interventions in the reviews were delivered as face-to-face groups, targeting co-parenting, parent mental health and partner support for breastfeeding. They offered psychoeducation and opportunities for discussion and active skills building in emotion-regulation, coping, communication and problem-solving.

Similarly, the vast majority of interventions identified in the primary studies were delivered as a group in antenatal services or child and family health settings. Most interventions offered multiple sessions (4–16 sessions), providing psychoeducation and opportunities for discussion and active skills building in emotion regulation, coping, communication and problem-solving. Several of these programs are manualised, including Family Foundations[43-46], CARE for Parents[47] and the Young Parenthood Program.[48] A small number of interventions were brief (e.g. single workshop; individual consultation with couples during hospital stay), and these were typically embedded in routine antenatal education classes or usual antenatal care.[49, 50] These interventions tended to provide psychoeducation only.

Summary of results and evidence grading

The two studies with the highest levels of evidence (Level I, systematic review of RCTs) both reported mixed findings for co-parenting and parent mental health. One review found 50% of trials demonstrated positive intervention effects for father-reported co-parenting[41], while the other found limited intervention effects for parent-reported co-parenting and stronger effects for observational measures of co-parenting.[42] For parent mental health, Pilkington et al. (2019)[41] reported no intervention effect for fathers' stress, but one of two trials reported a reduction in father depressive symptoms. Xiao and colleagues' meta-analysis[42] reported intervention effects for a reduction in maternal depressive symptoms. Only one review synthesised findings for father involvement in parenting and with their infants, with the majority of trials reporting a positive intervention effect.[41] It is important to note that the overall quality of evidence reported in both systematic reviews was low to moderate.

Ten primary studies employed an RCT design (Level II evidence) to assess the effect of co-parenting interventions on a broad range of parent and child outcomes. Consistently, all six RCTs that assessed co-parenting demonstrated positive intervention effects for most co-parenting outcomes. Three RCTs assessed parent mental health, with mixed results. The Family Foundations RCT demonstrated significant intervention effects for two of four mental health outcomes for both mothers and fathers[43]43, while another study found intervention effects for father mental health but not mother mental health.[49] Shapiro et al. reported no intervention effects for parent mental health.[51] Two RCTs assessed father involvement in parenting and family life[51, 52], with some positive intervention effects. Positive breastfeeding outcomes were demonstrated in one RCT focused on increasing partner support for breastfeeding[50] while another study reported intervention effects on child outcomes.[45]

The remaining two studies had lower levels of evidence (single group pre-post). In a small study of 35 couples, there were significant increases in breastfeeding outcomes (e.g. breastfeeding knowledge, attitudes and self-efficacy) but no significant changes in co-parenting.[53] In another small study of 70

mothers and 21 fathers, there were significant decreases in parent psychological distress and increases in parenting self-efficacy, both associated with small to moderate effect sizes.[54]

Based on the NHMRC Grading of Evidence, we assessed the overall quality of the evidence for co-parenting interventions as Good, indicating the body of evidence can be trusted to guide practice in most situations. See Appendix 4 Table 15 for the evidence matrix.

Table 6—Summary of included studies for co-parenting interventions

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes					
	Ante-natal care	Child & family health	Mental health	Co-parent-ing	Breast-feeding	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face	Group / indiv-dual	Oth-er	Father Involve-ment in parenting	Co-parent-ing / couple relation-ship	Parent mental health	Birth out-comes	Breast-feeding	Child mental health
Abbass-Dick et al. 2015[50] Canada Evidence level: II Expectant couples (N=214)	✓			✓	✓	✓	✓		✓	I	✓	–	1/2 out-comes	–	–	2/4 out-comes	–
Abbass-Dick et al. 2017[55]Canada Evidence level: IV Expectant/post-natal couples (N=35)	✓	✓		✓	✓	✓				I	✓	–	●	–	–	6/6 out-comes	–
Daley-McCoy 2015[49] U K Evidence level: II	✓			✓		✓	✓		✓	G		–	2/4 out-comes	Fa (mod effect) Mo	–	–	–

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes					
	Ante-natal care	Child & family health	Mental health	Co-parent-ing	Breast-feeding	Psycho-educat-ion	Discuss-ion	Active skills practice	Face-to-face	Group / indiv-dual	Oth-er	Father Involve-ment in parenting	Co-parent-ing / couple relation-ship	Parent mental health	Birth out-comes	Breast-feeding	Child mental health
Expectant couples (N=63)																	
Feinberg et al. 2014[45] US Evidence level: II Expectant couples (N=98)	✓		✓	✓		✓	✓	✓	✓	G		–	–	–	–	–	●3/6 out-comes
Feinberg et al. 2015[46] US Evidence level: II Expectant couples (N=147)	✓		✓	✓		✓	✓	✓	✓	G		–	–	–	●4/8 out-comes	–	–
Feinberg et al. 2016a[44] US Evidence Level: II	✓		✓	✓		✓	✓	✓	✓	G		–	–	–	●2/2 out-comes	–	–

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes					
	Ante-natal care	Child & family health	Mental health	Co-parent-ing	Breast-feeding	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face	Group / indiv-dual	Oth-er	Father Involve-ment in parenting	Co-parent-ing / couple relation-ship	Parent mental health	Birth out-comes	Breast-feeding	Child mental health
Expectant couples (N=259)																	
Feinberg et al. 2016b[43] US Evidence level: II Expectant couples (N=304)	✓		✓	✓		✓	✓	✓		G		–	●7/11 out-comes (small effect)	●2/4 out-comes (small effect)	–	–	●4/4 out-comes (small effect)
Florsheim et al. 2012[48] US Evidence level: II Expectant couples (N=84)	✓			✓		✓	✓	✓	✓	I		–	●4/5 out-comes	–	–	–	–
etch et al. 2012[47] Australia Evidence level: II	✓			✓		✓	✓	✓	✓	I, G	✓	–	●2/6 out-comes (small	–	–	–	

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes					
	Ante-natal care	Child & family health	Mental health	Co-parent-ing	Breast-feeding	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face	Group / indiv-dual	Oth-er	Father Involve-ment in parenting	Co-parent-ing / couple relation-ship	Parent mental health	Birth out-comes	Breast-feeding	Child mental health
Expectant couples (N=250)													to mod effect)				
Pilkington et al. 2019[41] Evidence level: I	✓	✓	✓	✓		✓	✓	✓	✓	I, G		●4/7 trials	●8/16 trials	●0/4 trials (stress) ●1/2 trials (dep)	–	–	–
Raouna et al. 2021[54] UK Evidence level: IV Parents (N=91)		✓	✓	✓		✓	✓	✓	✓	G		●	–	●small effect	–	–	–
Shapiro et al. 2011[52] US Evidence level: II	✓			✓		✓	✓	✓	✓	G		●small effect	–	–	–	–	–

Publication, country Evidence level Sample size, population	Health setting		Intervention focus			Intervention activities			Intervention mode			Intervention outcomes					
	Ante-natal care	Child & family health	Mental health	Co-parent-ing	Breast-feeding	Psycho-educat-ion	Discus-sion	Active skills practice	Face-to-face	Group / indiv-dual	Oth-er	Father Involve-ment in parenting	Co-parent-ing / couple relation-ship	Parent mental health	Birth out-comes	Breast-feeding	Child mental health
Parents (N=181)																	
Shapiro et al. 2020[51] US Evidence Level: II Expectant couples (N=136)	✓			✓		✓	✓	✓	✓	G		●1/2 out-comes	●	●	–	–	–
Xiao et al. 2021[42] Evidence level: I N=12 studies	✓	✓	✓	✓		✓	✓	✓	✓	I, G			●mixed	●			

- ● Intervention effect reported (RCT, significance test conducted; systematic review)
- ● Positive change reported (pre-post, significance testing conducted)
- ● Positive change reported (post-only, descriptive, significance testing not conducted)
- ● No significant change reported (either RCT or pre-post, significance testing conducted)
- – Not assessed

Fa — Fathers; Mo — Mothers; Mod — Moderate; Dep — Depression

Question 2: What have been the barriers and enablers to implementing effective father-inclusive practices to engage fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

The studies we have used to answer Question 2 are predominantly drawn from those that were included in the search for Question 1. Three additional qualitative studies[14, 16, 18] that were known to the reviewers and were considered highly relevant to the research question were also included. It is important to note that relatively few studies reported specifically on the barriers and enablers to the *implementation* of effective father-inclusive practices. As such, the barriers and enablers we identified are mostly related to the engagement/participation of fathers in services and intervention programs.

Twenty-eight studies identified barriers and/or enablers to the implementation of father-inclusive practices and/or the engagement/participation of fathers in services and intervention programs. Of these studies, 26 identified enablers and 13 identified barriers (11 studies identified both). For the purposes of this Evidence Check, we summarised these barriers and enablers into five categories, outlined in the text below and in Table 7. Categories included: client/family factors, setting factors, intervention factors, staff factors, systemic/structural factors. See Appendix 3 for detailed information on the barriers and enablers identified in each study.

Client/family factors: Nine studies identified factors relating to the father or family. These included: time constraints and the impact of work commitments, partner support, quality of parental relationship, cultural background, language barriers, level of health literacy, level of awareness about available support among fathers, fathers' willingness and motivation to engage with support, and endorsement of the program from others who had previously completed it.

Setting factors: Ten studies identified factors relating to the setting of the intervention delivery. These included: type of health setting (hospital; community health setting), enhanced/additional interventions offered in place of usual care (e.g. antenatal services), flexible delivery (e.g. prenatal clinics, community settings or participants' homes).

Intervention factors: Twenty-four studies identified factors relating to the intervention or service itself. These included: the content and length of the program, mode of delivery (e.g. group-based, face-to-face/online/SMS), inclusive communication and father-friendly language, timing of program or service delivery (e.g. during business hours, after hours, flexible; during pregnancy, immediately following birth), and costs associated with training staff and delivering the program.

Staff factors: Ten studies identified factors relating to the staff who were responsible for delivering the intervention program or service. These included: the gender and professional training (e.g. midwife, lay facilitator) of staff, staff attitudes and confidence relating to the engagement of fathers, and capacity to work after hours.

Systemic/structural factors: Ten studies identified factors relating to broader systemic and structural matters within the healthcare system and broader society. These included: organisational culture, professional development/training and support provided, strategies to address social health barriers (e.g. childcare arrangements, transport), hospital practices and models of care (e.g. midwife-led continuity of care model), societal stigma and stereotyped gender roles, and level of staff turnover in the organisation/industry.

Table 7—Barriers and enablers to implementing father-inclusive practice and/or engaging fathers in services

	Client/ family factors	Setting factors	Intervention factors	Staff factors	Systemic/ structural factors
Professional development and training					
Bellamy et al. 2020[20]	🔴		🟢	🔴	🔴
Burn et al. 2019[19]			🟢🔴		🔴
Humphries et al. 2015[21]			🟢		🟢🔴
Father-specific intervention components					
Furman et al. 2016[26]		🟢	🟢	🟢	🟢
Hall et al. 2021[23]	🟢🔴		🟢		
Kuliukas et al. 2019[31]			🟢	🟢🔴	🟢
Scott et al. 2021[25]	🔴		🟢🔴		
Smith et al. 2016[30]	🔴		🟢	🟢	🟢
Tandon et al. 2021[24]		🟢	🟢		
Thomas 2019[32]			🟢		
Tohotoa et al. 2011[34]	🔴		🟢	🟢	
Tohotoa et al. 2012[28]			🟢	🟢	

Father-focused interventions					
Fletcher et al. 2017[39]		●			
Giallo et al. 2018[36]	●	●	●	●	
Giallo et al. 2020[37]		●	●		
Rayburn & Coatsworth 2021[38]			●		
Seymour et al. 2021[16]*	●●		●	●	●
White et al. 2019[40]			●		
Co-parenting interventions					
Abbass-Dick et al. 2015[50]			●		
Abbass-Dick et al. 2017[55]			●		
Daley-McCoy et al. 2015[49]		●		●	
Feinberg et al. 2016b[43]		●			
Florsheim et al. 2012[48]		●			
Raouna et al. 2021[54]			●		●
Shapiro et al. 2011[52]		●	●		
Shapiro et al. 2020[51]		●	●		
Qualitative studies focused on engaging fathers					
Rominov et al. 2017[18]*	●●		●	●	●●
Rominov et al. 2018[14]*	●		●●		●

● Enablers ● Barriers

Note: *Study was qualitative and was not included in the search for Question 1 but was known to reviewers and deemed highly relevant to the research question.

Gaps in the evidence

Although this Evidence Check found a range of interventions that seek to engage or involve fathers in antenatal, birthing and community child health settings, we identified significant gaps in the evidence for both Questions 1 and 2. The key gaps and areas that require further research attention are:

- **Assessment of father participation and engagement in health services as an intervention outcome**

The Evidence Check identified interventions that include or focus on fathers, yet only four studies assessed whether they promoted or increased fathers' participation or engagement in antenatal, birthing and community child health settings. The data synthesis for Question 2 identifying enablers of fathers' participation and engagement provides some insight into strategies that may be useful, but these are yet to be rigorously evaluated. There is a clear need for future evaluations of interventions to specifically assess fathers' participation and engagement in health services with their children and families, and identification of barriers and enablers to the implementation of these interventions.

- **High-quality evaluations to assess the effectiveness of father-inclusive practices**

There have been few high-quality studies to evaluate father-inclusive practices. We did not find any studies that evaluated tools or resources to build the capacity of organisations to engage and involve fathers in their child's or family's healthcare. Only three studies, one of which employed an RCT design, assessed professional development and training to build the capacity of health professionals to engage fathers. Although we identified several studies evaluating father-specific intervention components, there was marked variation in interventions provided, study methods and quality. This made it difficult to determine their effectiveness, or to identify which intervention components were most effective. High-quality evaluation research is needed to determine the effectiveness of different models or approaches in engaging fathers in health services with their children and families.

- **Effective interventions for engaging partners, non-birthing parents and other caregivers who do not identify as fathers or with a fathering role**

The importance of engaging partners, non-birthing parents and other caregivers who are not fathers, or who do not identify as a father or with a fathering role, is increasingly being acknowledged. Yet all the interventions identified in this Evidence Check focused on fathers or male partners. Further research is urgently needed to better understand the needs and preferences of partners, non-birthing parents, other caregivers and LGBTQI+ families accessing health services with their children and families. Addressing assumptions about gender binaries and roles, heteronormative two-parent families and non-birthing parents as intimate partners is needed in both research and healthcare provision to children and their families.

- **Effective interventions for engaging First Nations and culturally diverse fathers, partners, non-birthing parents and other caregivers**

Although several studies in the US included culturally diverse fathers and fathers of colour, it is unlikely these findings are applicable and generalisable to cultural diversity in Australia. No studies focused on fathers, partners, non-birthing parents and caregivers from First Nations communities or those of migrant and refugee backgrounds in Australia. Research is urgently needed to understand the needs and preferences of First Nations fathers, partners and other caregivers and those from

diverse cultural backgrounds in accessing health services with their children and families. A better understanding is needed of how structural and societal barriers (including the impacts of colonisation, historical and intergenerational trauma, ongoing structural violence and racism) affect fathers and other carers in terms of their equitable access to healthcare with their children and families.

- **Identification of the healthcare system factors required to support the implementation of father-inclusive practice in healthcare settings**

There are recognised barriers to father/partner engagement and involvement in healthcare services with their children and families, and these were synthesised for Question 2. Few studies in the Evidence Check, however, specifically reported on barriers and enablers to the *implementation* of father-inclusive practice by health professionals and in healthcare settings. A better understanding is needed of what is required of the broader healthcare system to support father-inclusive practice. Not only does this refer to education and training for health professionals, but changes to health policy, models of care and funding models that will support practice change towards more father- and family-inclusive care.

- **Economic impact**

There were no economic evaluations of the interventions identified in this Evidence Check. Economic evaluations assessing the cost-effectiveness of father-inclusive interventions or models of care are needed to determine potential costs and value for money to the healthcare system in both the short and longer term. Determining the incremental and accumulative cost–benefits of promoting father/partner engagement and involvement in healthcare with their children in their first 2000 days of life in the longer term is critical.

Discussion

Question 1: What interventions or father-inclusive practices have been shown to be effective in engaging fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

Twenty-six different interventions that aimed to engage fathers in the health setting where their child and/or family was receiving care were represented across the 36 studies identified in the Evidence Check. Studies evaluating co-parenting interventions were the most common (38.9%), followed by father-specific components embedded into standard care or interventions typically focused on mothers (36.1%). A small number of studies evaluated father-focused interventions (16.7%) and professional development and training in father-inclusive practice for health professionals (8.3%). The Evidence Check did not identify any evaluations of organisational resources or tools targeting the systemic processes or culture of health organisations. All studies primarily focused on fathers or male partners. We were unable to identify studies that focused on other non-birthing parents or other caregivers.

Given the marked variation in interventions and that few studies assessed father engagement or participation, the evidence is unclear as to how to most effectively engage fathers in health settings where their child or family is receiving care. Only one high-quality RCT of a professional development and training package for home-visiting staff reported a positive intervention effect for increased father engagement in health services, as well as health professionals' use of father-inclusive strategies.[20] This study, conducted in the US, looked at vulnerable families receiving home visits and may not be directly applicable to home-visiting services provided by maternal and child health nurses in Australia. We assessed the overall quality of evidence for professional development and training interventions as Poor because there were so few high-quality studies available.

The vast majority of studies examined other important outcomes such as father and/or mother mental health, co-parenting, birth and breastfeeding outcomes. The findings were mixed, likely due to the variation in intervention types, study methods used and quality of the study designs. However, the strongest level of evidence was found for co-parenting interventions that focused on strengthening communication and support in the co-parenting relationship or parenting partnership. Most studies were high level (systematic reviews of RCTs or RCTs), yielding consistent intervention effects for co-parenting, father involvement in parenting and breastfeeding outcomes. With respect to father-specific intervention components improving outcomes such as parent mental health and breastfeeding, we found the evidence satisfactory because of the limited number of high-quality studies and inconsistency across studies. Similarly, we also deemed the evidence for father-focused interventions improving father mental health outcomes satisfactory because of the limited number of high-quality studies and inconsistency across studies.

Question 2: What have been the barriers and enablers to implementing effective father-inclusive practices to engage fathers in community and acute care settings where their child/family is receiving care from conception up to age five years?

Although research is needed to identify the specific interventions, practices and strategies that are effective in engaging fathers in services with their children and families, the results for Question 2 do provide some insight into what may enable their participation. Several characteristics of the interventions themselves were identified as enablers including:

- Provision of a father-specific or father-only intervention such as an antenatal session for fathers only or a psychoeducational resource or mobile application specifically for fathers
- The provision of flexible services provided after hours or out of business hours to enable working fathers to participate.

Characteristics of the health professionals delivering the interventions and services were important in enabling father engagement, for example, having a male health professional or a lay facilitator (e.g. a father trained as a peer facilitator) delivering or co-delivering interventions. The attitudes and confidence of staff were also important, as were the specific strategies they implemented to engage fathers. Some specific enabling strategies included:

- Referring to fathers by name and involving them in conversations
- Explicitly inviting fathers to attend appointments or be involved
- Taking fathers' schedules into consideration when making appointments
- Leaving information, notes or activities for fathers who do not attend visits, or following up with fathers by phone or email.

The capacity for health professionals to engage with fathers does appear to be linked to health setting factors as well as societal and structural factors within the broader healthcare system. Healthcare system and broader structural barriers were the most frequently reported barriers in six studies contributing to Question 2, and were present in all three studies evaluating professional development and training for health professionals. Several studies noted that the integration of fathers into appointments or the provision of father-specific interventions (e.g. breastfeeding classes just for fathers) were more likely when these were integrated in routine antenatal care provided in the hospital setting. The degree to which this is possible depends on health service policies, organisational culture, models of care, staff training and funding to support the involvement of fathers in the healthcare provided to their children and families.

Finally, it is worth noting that father/family related factors were also among the most frequently reported barriers in seven studies contributing to Question 2. These primarily related to fathers' negative attitudes to help-seeking, an unwillingness to participate, and inflexible work conditions and other commitments making it difficult to access services. This further underscores the importance of health services and the broader healthcare sector enabling the implementation of father-inclusive practice to overcome such barriers to fathers' participation.

Implications

- **Research**

This Evidence Check has identified key gaps in the evidence base for father-inclusive practice. High-quality research is recommended to determine the effectiveness (and cost-effectiveness) of:

  - Different models or approaches to engaging fathers and increasing their participation in health services with their children and families. This is particularly so for professional development and training, and tools and resources designed to support organisational change and culture
  - Father-specific intervention components and father-inclusive interventions to support health outcomes of children and mothers
  - Broader family-inclusive practices and family-centred care for engaging partners, non-birthing parents and other caregivers who do not identify as fathers or specifically with a fathering role
  - Approaches to engaging First Nations and culturally diverse fathers, partners, non-birthing parents and other caregivers
  - Identification of the healthcare system factors to support the implementation of father- and family-inclusive practice in healthcare settings.

- **Health systems change and policy**

Various Australian health policies stress the importance of involving fathers, partners and other caregivers in health services with children and families.[11, 12] However, little is known about the extent to which father-inclusive and family-centred practices are implemented across the health sector, and their effectiveness and cost-effectiveness in promoting outcomes for children and families. This Evidence Check has identified barriers in health settings and the broader health system that may undermine the practice change needed for successful implementation of father-inclusive practices. Recommendations for policy development and health systems change to support the implementation of father-inclusive practice include:

  - Development and evaluation of a comprehensive implementation framework that enables health services to assess their strengths, gaps and opportunities for further development in providing father-inclusive practice. The strategic framework should consider: (a) health service policy that explicitly conveys commitment to, and resourcing for, father-inclusive practice, (b) the organisational culture that recognises and supports the engagement and inclusion of fathers in their models of care, (c) the physical environment that welcomes and includes fathers and other carers, (d) staff training and ongoing professional development to strengthen their knowledge, skills and confidence to engage with and work with fathers and other carers, and (e) provision of father-specific or father-focused interventions and support. While some tools may already exist, our Evidence Check demonstrated that none have been formally evaluated. Existing tools must be assessed for applicability to the Australian healthcare context
  - Strategic investment and funding to expand existing health services to embed father-inclusive practices into their models of care, and a commitment to evaluate their effectiveness
  - Further research into the cost-effectiveness and economic impact of father-inclusive practices to the Australian healthcare system.

- **Education and professional development**

The Evidence Check identified lack of knowledge, skills and confidence among health professionals as barriers to implementing father-inclusive practices and interventions. Without specific education and training, there are likely to be missed opportunities to engage and work with fathers and promote optimal outcomes for children and their families. We recommend pre-service education and professional development opportunities for health professionals in settings that provide services to children in the first 2000 days and their families, but with appropriate evaluation to assess their effectiveness. Potential areas of focus and content include:

- Building a stronger understanding of family diversity and roles within families, including fathers, partners, non-birthing parents and important people in children's lives who do not identify as a father or with the fathering role
- An increased understanding of how family structures and roles can vary across cultures and how this may affect engagement in health services in the early years
- Developing a stronger understanding of the health and wellbeing issues faced by fathers, partners, non-birthing parents and other carers in the early years of parenting to increase the sensitivity and responsiveness of health professionals to their needs
- Strengthening awareness and understanding of the social health issues (e.g. racism, discrimination, intergenerational trauma, structural violence) commonly experienced by First Nations, migrant and refugee and LGBTQI+ families, and how this affects engagement of all family members in health services in the early years
- Specific training in trauma- and violence-informed care to ensure healthcare is provided in a culturally, socially and emotionally safe way for all children and their families
- Strengthening knowledge and positive attitudes towards father-inclusive and family-centred practices
- Building skills, confidence and capacity to implement specific father-inclusive and family-centred practices
- Ways to embed fathers, partners, non-birthing parents and other carers into routine care provided to children and mothers, while holding issues of privacy, confidentiality and safety (e.g. in situations where there is family violence) in mind.

We recommend that the delivery of education and professional development incorporates opportunities for discussion, experiential and engaging activities and active skills building (e.g. rehearsal, practice) in addition to psychoeducation and independent self-paced learning (e.g. online training). Opportunities for ongoing peer learning, mentoring and support could be facilitated by developing local networks or communities of practice to discuss and problem-solve issues regarding the implementation of father-inclusive practices and family-centred care.

- **Practice**

There is a broad range of initiatives, models of care, interventions and other initiatives that could be considered father-inclusive. There is sufficient evidence to suggest the following recommendations for practice, alongside further research evaluation:

  - Embedding of co-parenting interventions into models of care or existing services and interventions for mothers (and other birthing parents). The Evidence Check highlighted that the quality of the evidence base is strongest for interventions that aim to strengthen the co-parenting relationship or parenting partnership. This often involves psychoeducation and active skills practice to strengthen positive communication and mutual partner support, manage conflict and increase capacity for problem-solving communication. The focus can vary (e.g. general co-parenting relationship, specifically for breastfeeding, specifically for the transition to parenthood and promoting parent mental health) as can the modality (e.g. individual or group), and length (single session to multiple sessions)
  - Embedding of father-specific components into models of care or existing services and interventions for mothers. This could involve: (a) the active inclusion of fathers in appointments for antenatal care or child health appointments, (b) father-specific resources such as online information and mobile apps, (c) group programs delivered by a male facilitator such as an antenatal session just for fathers as an adjunct to usual care, and (d) provision of services outside business hours to engage working fathers
  - Provision of father-focused interventions and supports that aim to promote their health and wellbeing, which can have indirect flow-on effects to children and families. Women and children are traditionally viewed as the clients of antenatal, maternal-child health and child and family community health services. There are opportunities to extend services to fathers, partners, non-birthing parents and other carers where appropriate to ensure their healthcare needs are also met during the critical early years of their children's lives.

Conclusion

This Evidence Check highlights that father-inclusive practice is a very broad term that can encompass a diverse range of initiatives, interventions and actions by health professionals and health organisations to engage and involve fathers. Few studies have evaluated the effectiveness of father-inclusive strategies or interventions to increase father/partner involvement in health services with their children and families receiving care. There is a clear need for high-quality research about how best to engage and work with fathers, partners, non-birthing parents and other caregivers who do not identify as a father or with the fathering role.

Despite this, there was satisfactory evidence from relatively high-quality studies indicating that a range of interventions that are inclusive of fathers, partners and other carers could be effective in promoting a range of health outcomes for fathers, mothers, children and families. These include co-parenting interventions, father-specific components embedded into routine healthcare provided to women and children and father-focused interventions. The successful provision of such interventions will depend on overcoming common barriers to implementation including limited knowledge, skills and confidence of staff to engage and work with fathers, inflexible models of care and funding models that will not allow for the inclusion of fathers and other carers.

There is a clear need for the development and evaluation of: (a) frameworks, tools and resources to build the capacity of health services to implement a range of father-inclusive practices, and (b) education, training and professional development for health professionals. This would be an essential step towards more father-inclusive practices and family-centred care for children and families accessing health services in the first 2000 days from conception and through early childhood. Not only is this important for fathers and their partners/mothers, but crucial to optimising health outcomes for children in the critical early years of their development.

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Appendices

Appendix 1—Search strategy

Table 8 —Database search for MEDLINE, 2011 to October 2021

#	Searches	Results
1	((Father? or Dad? or Paternal or Partner? or Husband? or Spouse or Co-parent or coparent or Parent?) adj5 (Engage* or Participat* or Involv* or attitude* or knowledge or capacity or health)).tw,kf,hw.	44014
2	evaluation studies as topic/ or program evaluation/	187300
3	(inclusive-practice* or training-course* or Professional-development or Organi#ational-practice* or Tool* or Intervention* or Workshop* or Seminar* or Program*).tw,kf.	2706179
4	exp *child health services/ or *community health nursing/ or *home health nursing/ or exp *maternal health services/	64163
5	*Nurse Midwives/	5689
6	(Prenatal or Postnatal or Post-natal or Antenatal or Ante-natal or Perinatal or Pregnac* or Pregnant or Birth or Birthing or Early-childhood).tw,kf.	958253
7	(newborn* or new-born* or baby or babies or neonat* or neo-nat* or infan* or toddler* or child* or paediatric or pediatric*).tw,kf,hw.	3433848
8	*Parenting/px [Psychology]	6932
9	parenting.tw,kf.	22326
10	1 and (2 or 3) and (4 or 5 or 6) and 7	2497
11	1 and (2 or 3) and (8 or 9)	1825
12	10 or 11	3930
13	limit 12 to (english language and yr="2011 -Current")	2829

Table 9—Database search for PsycINFO, 2011 to October 2021

#	Searches	Results
1	((Father? or Dad? or Paternal or Partner? or Husband? or Spouse or Co-parent or coparent or Parent?) adj5 (Engage* or Participat* or Involv* or attitude* or knowledge or capacity or health)).ti,ab,id.	47276
2	evaluation/ or course evaluation/ or needs assessment/ or exp program evaluation/ or exp treatment effectiveness evaluation/	72606
3	(inclusive-practice* or training-course* or Professional-development or Organi#ational-practice* or Tool* or Intervention* or Workshop* or Seminar* or Program*).ti,ab,id.	916108
4	*health care services/ or exp *prenatal care/	39884
5	(Prenatal or Postnatal or Post-natal or Antenatal or Ante-natal or Perinatal or Pregnanc* or Pregnant or Birth or Birthing or Early-childhood).ti,ab,id.	151884
6	(newborn* or new-born* or baby or babies or neonat* or neo-nat* or infan* or toddler* or child* or paediatric or pediatric*).ti,ab,id,hw.	850064
7	parenting/ or exp childrearing practices/ or co-parenting/ or exp parent child relations/ or exp parental involvement/	104282
8	Parenting.ti,ab,id.	44413
9	1 and (2 or 3) and (4 or 5) and 6	1773
10	1 and (2 or 3) and (7 or 8)	6693
11	9 or 10	7643
12	limit 11 to (english language and yr="2011 -Current")	4096
13	limit 12 to peer reviewed journal	2854

Database: Cochrane Database of Systematic Reviews

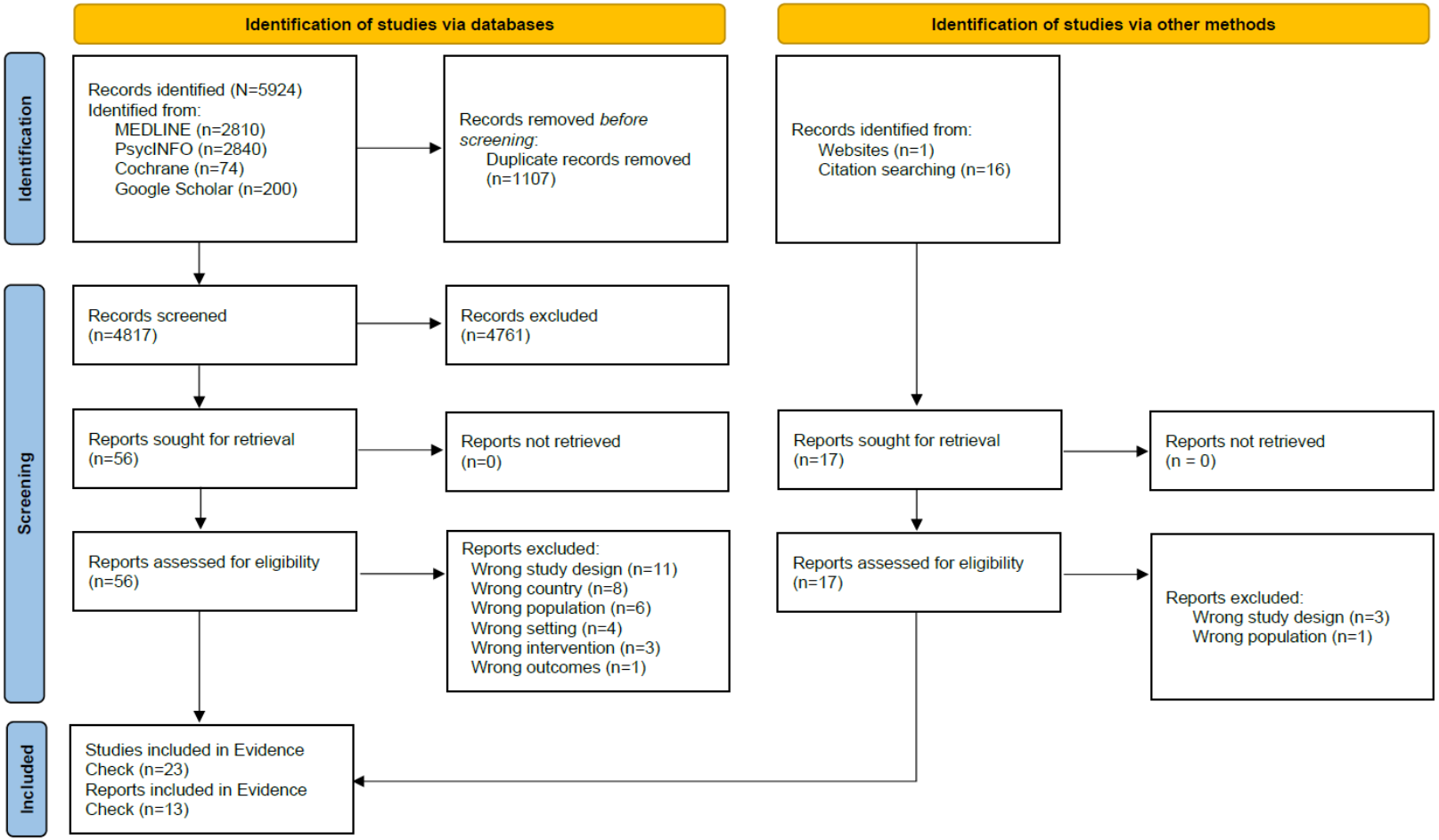
74 Cochrane Reviews matching **(“Father” OR “fathers” OR “Dad” OR “dads” OR “Paternal” OR “Partner” OR “partners” OR “coparent” OR “Parent” OR “parents”) AND (“Engage*” OR “Involv*” OR “health” OR “parenting”) in Title Abstract Keyword AND “Evaluat*” OR “inclusive-practice*” OR “training-course*” OR “Professional-development” OR “Organisational-practice*” OR “Organizational-practice*” OR “Tool” OR “tools” OR “Intervention*” OR “Workshop*” OR “Seminar*” OR “Program*” OR “needs-assessment” in Title Abstract Keyword AND “Child-health-service*” OR “community-health-nursing” OR “home-health-nursing” OR “maternal-health-service*” OR “midwife” OR “midwives” OR “Prenatal” OR “Postnatal” OR “Post-natal” OR “Antenatal” OR “Ante-natal” OR “Perinatal” OR “Pregnanc*” OR “Pregnant” OR “Birth” OR “Birthing” OR “Early-childhood” in Title Abstract Keyword AND “newborn*” OR “new-born*” OR “baby” OR “babies” OR “neonat*” OR “neo-nat*” OR “infan*” OR “toddler*” OR “child*” OR “paediatric” OR “pediatric*” in Title Abstract Keyword - in Cochrane Reviews (Word variations have been searched)**

Google Scholar search

(“father” OR “dad” OR “partner”) AND (“training” OR “program” OR “intervention”) AND (“engagement” OR “involvement” OR “health” OR “wellbeing” AND (“prenatal” OR “postnatal” OR “perinatal” OR “early childhood” OR “birth”)

Limit 2011-2021

Appendix 2—PRISMA flow chart



Appendix 3—Data extraction tables

Table 10—Summary of included studies

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
Abbass-Dick et al. 2015[50] Canada	Birthing services Couples (N=214; 188 fathers; 106 mothers) Early postpartum	To evaluate the effect of a co-parenting breastfeeding support intervention on exclusive breastfeeding	Two-group RCT Intervention (n=107); control (n=107) Study designed and validated surveys	II	**Co-parenting intervention** Focus: Breastfeeding Duration: 3 weeks Mode: Face-to-face 15 min in-hospital discussion after birth, emails (1 & 3wks postpartum) and phone call (2wks pp) Delivered by: Hospital staff Content: Psychoeducation booklet, website and video about co-parenting and breastfeeding	Breastfeeding duration: Intervention effect Partner support (mother report): Intervention effect Breastfeeding self-efficacy (father report): Intervention effect Exclusive breastfeeding: No intervention effect Co-parenting (mother report): No intervention effect Infant feeding attitude (father report): No intervention effect
Abbass-Dick et al. 2017[55] Canada	Antenatal care services; universal child health services	To explore the effectiveness, usability, content and design of a breastfeeding co-	Single group pre-and post-test	IV	**Co-parenting intervention** Focus: Breastfeeding Duration: Variable	Breastfeeding knowledge: Significant increases for mothers and fathers from pre- to post-intervention

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	Mothers (n=31); fathers (n=35) Antenatal & first year postpartum	parenting e-health resource	Validated surveys		Mode: e-health resource Content: Breastfeeding psychoeducation. Co-parenting topics on providing support, teamwork, joint goal setting, communication and problem solving. Father/partner topics on importance of role and involvement with breastfeeding and child. Uses video, games, quizzes and links to web-based resources	Breastfeeding self-efficacy: Significant increases for mothers and fathers from pre- to post-intervention Attitude towards breastfeeding: Significant increases for mothers and fathers from pre- to post-intervention Co-parenting: No significant changes for mothers and fathers
Bellamy et al. 2020[20] US	Child and family community health 204 families (202 fathers; 204 mothers); 131 home visitors Early childhood	To test the effectiveness of Dads Matter—Home Visiting on (a) home visitors' attitudes and expectations about working with fathers, b) fathers' participation in home visits, (c) home visitor relationships with	Two-group RCT Intervention (n=103 mothers, n=101 fathers); Control (n=101 mothers and fathers) Study designed and validated surveys	II	**Professional development or training** Focus: Home visiting in early childhood, co-parenting Duration: 16 weeks Mode: Face to face, individual Delivered by: Paraprofessionals with home-visiting training Content: Dads Matter is a service enhancement to standard home visiting programs to optimise father involvement. Home visitors provided with a manual, one-day training and	Amount of father-specific content delivered: Intervention effect Father participation in home-visiting program: Intervention effect. Mother participation: No intervention effect Parent-visitor relationship quality (father report): No intervention effect Parent-visitor relationship quality (mother report): No intervention effect

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
		parents			booster session, electronic reminders and tips for implementation, and regular supervision. Co-parenting modules and individual parent support modules for managing stress, emotions and help-seeking	
Burn et al. 201919 Australia	Antenatal to early childhood Healthcare professionals (N=224) Antenatal to early childhood	To examine the impact of a face-to-face and online training program for practitioners who deliver parenting interventions	Single group pre-and post-test (Study 1: Face-to-face training, n=111; Study 2: online training, n=113) Study designed and validated surveys	IV	**Professional development or training** Focus: Engagement of fathers in parenting interventions Duration: Face-to-face training (Study 1): 4.5-hour session Online training (Study 2): 2 hours Mode: Face to face (Study 1) or online (Study 2) Delivered by: Psychologists and child and family workers Content: Research into father engagement; exploring barriers to father engagement; developing positive engagement strategies; building confidence in managing conflict; and planning for future father-inclusive	**Study 1: Face-to-face training** Perceived confidence, competence and effectiveness in engaging fathers: Significant increases from pre to post with improvements maintained at 2 months follow-up (large effect size) Frequency of use of father engagement strategies: Significant increases in pre to follow-up (large effect size) Reported service use of father engagement strategies: Significant increases from pre to follow-up (large effect size) **Study 2: Online training** Perceived confidence, competence and effectiveness in engaging fathers: Significant increases from pre to post

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
					practice. Face-to-face training: interactive skills training workshop involving modelling, rehearsal and feedback of skills using didactic presentations, use of video vignettes, active skills training, group activities and discussions, with provision of workbook Online training: didactic presentations, use of video vignettes and workbook activities. No active skills training component	and from pre to follow-up (large effect size) Frequency of use of father engagement strategies: Significant increases in pre to follow-up (large effect size) Reported service use of father engagement strategies: Significant increases from pre to follow-up (large effect size)
Daley-McCoy et al. 2015[49] UK	Antenatal care services Expectant couples (N=63); mothers (n=31); fathers (n=31) Antenatal	To assess the feasibility of a low-intensity antenatal co-parenting intervention to enhance relationship functioning during the transition to parenthood	Two-group RCT Intervention (n=63 couples); Control (n=24 couples) Validated surveys	II	**Co-parenting intervention** Focus: Transition to parenthood and co-parenting relationships Duration: 1 session (2.5 hours) Mode: Face-to-face group Delivered by: Psychologist and antenatal care staff Content: Additional session embedded into standard antenatal care. Facilitated discussions about realistic	Relationship satisfaction (father report): No intervention effect Couple communication (father report): Intervention effect (small effect size) Psychological distress (father report): Intervention effect (moderate effect size) Relationship satisfaction (mother report): Intervention effect (small effect size)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
					expectations about becoming parents, communication skills and problem solving	Couple communication (mother report): No intervention effect Psychological distress (mother report): No intervention effect
Feinberg et al. 2014[45] US	Antenatal care services Couples (N=98; 98 children) Antenatal & first year postpartum	To examine long-term effects of a perinatal co-parenting intervention (Family Foundations) on children's mental health and school outcomes at 5–7 yrs	Two-group RCT Intervention (n=41 parents); Control (n=37 parents) Validated surveys	II	**Co-parenting intervention** Focus: Transition-to-parenthood and co-parenting relationships Duration: 9 weeks; 1 session/wk Mode: Face to face, group Delivered by: Male and female allied health professionals Content: Psychoeducation about transition to parenthood, adjustment and child temperament. Discussion, active skill-building exercises, video vignettes focused on emotional regulation, mutual support strategies, conflict resolution, communication and problem solving, communication, and mutual support strategies. Included standard childbirth education material	Child mental health difficulties (teacher report): Intervention effects for internalising problems (moderate effect size). No overall intervention effect for externalising problems, but intervention effect for boys (moderate to large effect size) Child mental health difficulties (parent report): No intervention effects for internalising and externalising problems. Intervention effects emotional problems for children whose parents reported high conflict at baseline Learning engagement and academic motivation (teacher report): No intervention effects

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
Feinberg et al. 2015[46] US	Antenatal care services Couples (N=147) Antenatal & first year postpartum	To examine the impact of a perinatal co-parenting intervention (Family Foundations) on adverse birth outcomes	Two-group RCT Intervention (n=71); Control, n=76) Maternal report birth outcomes; maternal salivary cortisol during pregnancy	II	**Co-parenting intervention** Focus: Transition-to-parenthood and co-parenting relationships Described above	C-section: Intervention effect Overall adverse birth outcomes: Intervention effect, reduced adverse birth outcomes for women with high levels of salivary cortisol during pregnancy (moderation) Birthweight: No intervention effect Gestational age: No intervention effect Pregnancy complications: No intervention effect Length of postpartum hospital stay for mothers and infants: No intervention effect
Feinberg et al. 2016a[44] US	Antenatal care services Couples (N=259) Antenatal & first year postpartum	To test the impact of a perinatal co-parenting intervention (Family Foundations) as a protective factor, buffering the negative impact of maternal mental	Two-group RCT Intervention (n=135); Control (n=124) Maternal report birth outcomes; validated surveys	II	**Co-parenting intervention** Focus: Transition-to-parenthood and co-parenting relationships Described above	Birthweight for pre-term infants: Intervention effect Birth outcomes: FF buffered the negative impact of mental health problems on birthweight and mother and infant length of postpartum hospital stay

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
		health problems on birth outcomes				
Feinberg et al. 2016b[43] US	Antenatal care services Couples (N=304) Antenatal & first year postpartum	To test the short-term efficacy of perinatal co-parenting intervention (Family Foundations) on parent, child and family outcomes at 10 months postpartum	Two-group RCT Intervention (n=169); Control (n=135) Validated surveys and observations	II	**Co-parenting intervention** Focus: Transition-to-parenthood and co-parenting relationships Described above	Co-parenting (observation): Intervention effect for 7 of 11 domains associated with small effect sizes Co-parenting (parent report)*: No intervention effect Quality of couple relationship*: Intervention effect associated with small effect size Parenting stress*: No intervention effect Parental depressive symptoms*: Intervention effect associated with small effect size Parental worry*: Intervention effect associated with small effect size Parental anxiety symptoms*: No intervention effect Family violence*: Intervention effects for interparental physical violence, parent-child psychological and physical

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
						violence associated with moderate effect sizes Infant outcomes*: Intervention effects for infant soothability, duration of orienting, number of night wakings and difficulty resettling *Combined mother-father report
Fletcher et al. 2017[39] Australia	Antenatal care services; child and family community health Fathers (N=520); 90 with pre-post-test evaluation data First year postpartum	To examine the feasibility and acceptability of delivering web-based text (SMS for dads) as a depression prevention program to men in their transition to fatherhood	Mixed methods with small single group pre- and post-intervention Validated survey	IV	**Father-focused intervention** Focus: Mental health, family relationships Duration: Variable Mode: Text messages, individual Delivered by: N/A Content: Brief text messages about father health and wellbeing, tips on being a supportive partner, and strengthening involvement and relationship with child. Links to online resources, mood tracker to assess mental health and option for a phone call from national helpline (PANDA)	Mental health: No significant change Study designed rating scales: Less isolation (83% agreed or strongly agreed); stronger relationship with child (65% agreed or strongly agreed); stronger relationship with partner (70% agreed or strongly agreed)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
Florsheim et al. 2012[48] US	Antenatal care services Expectant young adolescent couples (N=84) Antenatal	To test the efficacy of a antenatal co-parenting program (Young Parenthood Program) with young parents	Two-group RCT Intervention (n=40); Control (n=44) Validated surveys	II	**Co-parenting intervention** Focus: Co-parenting relationships Duration: 10 weeks; 1 session/wk Mode: Face to face, individual Delivered by: Counsellors Content: Psychoeducation about co-parenting and child development; communication and self-regulation skills; positive communication; negotiating role changes; future family planning. Skill development in positive, supportive co-parenting relationships, and providing stable, nurturing environment for children	Relationship quality (father report): Intervention effect Interpersonal bonding (father report): Intervention effect Quality of relationships (father report): Intervention effect Parent-child relationships/parenting (father report):Intervention effect Interpersonal bonding (mother report): Intervention effect Quality of relationships (mother report): No intervention effect Parent-child relationships/parenting (mother report): No intervention effect
Furman et al. 2016[26] US	Child and family community health Fathers/ Partners (N=66)	To pilot father-specific component of the Breast for Success intervention to promote and support breastfeeding	Single group post-test only Study designed survey	IV	**Father-specific intervention component** Focus: Breastfeeding Duration: 3 weeks; 1 session per week Mode: Face to face, group	Father knowledge about breastfeeding: ~60% 'a lot more' knowledgeable about benefits of breastfeeding; 60%–70% 'a lot more' knowledgeable about how to help during pregnancy and with breastfeeds Uptake of resource specialist: 75% accessed specialist for parenting

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	Antenatal and/or postnatal	among high-risk inner-city mothers			Delivered by: Male facilitator providing breastfeeding support; resource specialist to provide links to community health support Content: Psychoeducation about benefits of breastfeeding, how to integrate breastfeeding into lifestyle, good latch, how to know if infant is getting enough milk, increasing milk supply, how fathers can support breastfeeding, addressing misconceptions about diet, medications and lifestyle. Community health worker provided support for mental and social health issues, legal and financial problems during and between sessions	support, mental health concerns, employment assistance and child custody issues
Giallo et al. 2018[36]Australia	Child and family community health Fathers (N=57) Early childhood	To assess the short-term mental health outcomes of participation in WOD for fathers of young children (0–4 years)	Single group pre-and post-test Validated surveys	IV	**Father-focused Intervention** Focus: Mental health Duration: 6 weeks; 1 session/wk Mode: Face to face, group Delivered by: Male allied health professional and a personal trainer	Depressive symptoms: Significant decrease from pre- to post-intervention (moderate effect size) Stress symptoms: Significant decrease from pre- to post-intervention (moderate effect size) Anxiety symptoms: No significant change

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
					Content: Psychoeducation about health and wellbeing in early fatherhood, impact of mental health on family relationships, and strengthening relationships with children. Facilitated peer support group discussion. Mood and stress management strategies. Group personal training/exercise session	Parenting self-efficacy: Significant increases from pre- to post-intervention (moderate to large effect size)
Giallo et al. 2020[37] Australia	Child and family community health Fathers (N=53) Early childhood	To assess a mental, physical and social health outcomes for fathers of young children (0–4yrs), Working Out Dads	Single group pre-and post-test with 3-month follow-up Validated surveys	IV	**Father-focused intervention** Focus: Mental health Described above	Psychological distress: Significant decrease from pre- to post-intervention (moderate effect size) and from pre- to 3-month follow-up (moderate effect size). Significant decrease in the proportion of fathers reporting psychological distress in the symptomatic and clinical ranges from pre- to post-intervention, and from pre-test to follow-up Depressive, stress & anxiety symptoms: Significant decrease from pre- to post-intervention (small effect sizes)

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						Physical health and vitality: Significant increase from pre- to post-intervention (moderate effect sizes) Social support: Significant increase from pre- to post-intervention (moderate effect sizes) Parenting self-efficacy: Significant increase from pre- to post-intervention (moderate effect sizes)
Goldstein al. 2020[35]	Varied health settings Studies of RCTs (N=14) Antenatal and first year postpartum	To investigate the literature for randomised controlled trials (RCTs) of any biopsychosocial intervention that measured depressive symptomatology among fathers in the perinatal period	Systematic review of RCTs Validated surveys	I	**Father-focused interventions** Focus: Father mental health Duration: Varied Mode: Individual, couple or group Delivered by: Range of health professionals Content themes: Broad range of interventions including psychoeducation (i.e. childbirth, breastfeeding, newborn care, transition to parenthood, co-parenting) or a skill such as massage	No overall quality of evidence rating provided Depressive symptoms: 6 out of 14 studies reported an intervention effect Other findings: Interventions with significant intervention effects were delivered either pre- or postnatally, and brief father-only interventions including massage to partner to baby, skin-to-skin contact, men's lifestyle and wellbeing Interventions with no or limited change in depressive symptoms were primarily group or couple-based

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Guterman et al. 2018[29] US	Child and family community health Families (N=24) Antenatal and/or early childhood	To test the preliminary effectiveness of Dads Matter–Home Visiting on the quality of the mother-father relationship, father involvement, and child abuse and neglect risk	Comparative study with non-randomised control (intervention, n=12 families; control, n=12) Validated surveys	III-2	**Father-specific intervention component** Focus: Home-visiting in early childhood, co-parenting Described above in Bellamy et al.	*Note: No significant tests due to small sample size, Cohen's d effect sizes calculated to compare intervention and comparison group mean change scores Importance of father to mother and child: (father report): Intervention group reported greater perceived importance to the mother (large effect size) and child (small effect size) than control group Parenting stress (father report): Intervention group reported less parenting stress than control group (moderate effect size) Father involvement (mother report): Intervention led to greater reported father involvement than control group (small effect size) Parenting stress (mother report): Intervention group reported less parenting stress than control group (moderate effect size)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
Hall et al. 2021[23] Australia	Antenatal care services Expectant parents (N=41); mothers (n=27); fathers/partner (n=14) Antenatal	To test the feasibility and acceptability of a partner-delivered relaxation massage program and whether it reduces symptoms of antenatal anxiety, stress and depression for pregnant women	Two group RCT Intervention (n=14); control, (n=13) Validated surveys, online diary, interviews	II	**Father-specific intervention component** Focus: Massage, mental health Duration: 8–12 weeks, 1 session per week Mode: Group workshop, written information and training video for individual couples Content themes: Two-hour interactive workshop: psychoeducation, information about massage as stress and anxiety management technique, demonstration of massage techniques, discussion of risks and side effects, practice massage and feedback. Given written information and training video. At home, partner delivers massage techniques for pregnant woman	Maternal depressive symptoms: No intervention effect Maternal anxiety symptoms: No intervention effect Maternal stress symptoms: No intervention effect Mode of birth and other birth outcomes: No intervention effect Other: Mothers noted that massage had a positive influence on their connection and relationship with partner; helped partner feel they were making a positive contribution; was seen as a practical and adaptable skill.
Humphries et al. 2015[21] UK	Child and family health Health and community	To evaluate a one-day father-focused workshop with a supporting handbook for practitioners and	Single group pre-and post-test Study designed and validated	IV	**Professional development or training** Focus: Father engagement in healthcare settings	Knowledge in engaging fathers: Significant increase from pre- to post-intervention (moderate to large effect), maintained at 3-month follow-up (small to moderate effect)

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	practitioners (N=134) Antenatal and early childhood	to identify institutional and organisational barriers to engagement with fathers	surveys at pre- and post-training, and 3-month follow-up		Duration: 1 day Mode: Face to face, group workshop Delivered by: Facilitators from The Fatherhood Institute Content: Designed to help participants develop and implement a whole-team approach to engaging fathers. Content includes discussion about stereotypes and assumptions, impact on maternal mental health and child development, reflections on own experiences of being fathered, engaging fathers from separated families and developing systematic approached to father engagement	Attitudes toward fathers: Significant increase from pre- to post-intervention (moderate to large effect), maintained at 3-month follow-up (small to moderate effect) Commitment to engaging with fathers in practice: Significant increase from pre- to post-intervention (moderate to large effect), maintained at 3-month follow-up (small to moderate effect)
Kuliukas et al. 2019[31] Australia	Antenatal care services Expectant fathers (N=697) Total 697 participants in Father-	To conduct a process evaluation of a father-focused antenatal breastfeeding class (FFAB)	Single group post-test only Study designed survey questions	IV	**Father-specific intervention component** Focus: Breastfeeding Duration: Variable Mode: Face-to-face group Delivered by: Male/father peer-facilitator	Study designed rating scales at post-test: Intervention had led to: a better idea of what to expect in early days of breastfeeding (93%); feeling better informed about breastfeeding (94%); better expectations of becoming a father (90%); feeling more confident about managing problems (88%)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	Focused Antenatal Breastfeeding (FFAB) class Antenatal				Content: An additional one-off peer-facilitated class for fathers embedded in standard antenatal class. Topics include breastfeeding (importance, barriers, facilitators), becoming a new dad (roles, expectations). Classes include activities, problem-solving strategies	
Maycock et al. 2013[27] Australia	Antenatal care services Couples (N=699) Antenatal	To investigate the effects of an antenatal education package and postnatal support targeted to fathers on the initiation and duration of breastfeeding	Two-group RCT (Intervention, n=385; control n=314) Validated and study designed measures	II	**Father-specific intervention component** Focus: Breastfeeding Duration: 2-hour workshop plus 6-week support package Mode: Face-to-face group and printed information Delivered by: Male facilitator Content: Antenatal education workshop focused on the benefits of breastfeeding for infants and mother, common breastfeeding challenges such as engorgement and mastitis, and support that could be offered. Printed materials and promotional materials	Any breastfeeding: Intervention effect Full breastfeeding: No intervention effect Full formula feeding: Intervention effect Breastfeeding knowledge and attitudes (combined mother and father report): No intervention effect

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					related to breastfeeding. At birth a congratulatory card sent to fathers and at 4 weeks fathers received a beer holder with the study logo	
Petch et al. 2012[47] Australia	Antenatal or midwifery care Couples (N=250) Antenatal	To evaluate the effects of CARE for Parents (CCP) on parenting and the couple relationship; to test whether CPP was effective when delivered by midwives; to assess the long-term effects of CPP 2 years after program completion	Two-group RCT Intervention (n=125); control (n=125) Validated measures	II	**Co-parenting intervention** Focus: Couple relationship and parenting Duration: 6 sessions Mode: Individual, hybrid (1 face-to-face workshop, 2 home visits and 3 phone calls) Delivered by: Midwives Content: Communication, conflict management, expectations about household chores, parenting, and infant care knowledge and skills	Conflict (mother report): Intervention effect (small to moderate effect size) Conflict (father report): No intervention effect Invalidation (mother report): Intervention effect (moderate effect size) Invalidation (father report): No intervention effect
Pilkington et al. 2019[41]	Varied health settings Studies of RCTs (N=16 representing	To evaluate the impact of co-parenting interventions on father report co-	Systematic review of RCTs	I	**Co-parenting interventions** Focus: Co-parenting relationships and parent mental health	Overall quality of evidence reported as low

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	14 programs and N=9282 parents) Antenatal, first year postpartum, and early childhood	parenting relationships and support, and other paternal outcomes			Duration: Varied, most weekly Mode: Majority face-to-face, individual and group Delivered by: Range of health professionals including lactation specialists, midwives, childbirth educators Content themes: Psychoeducation about strengthening the couple relationship, co-parenting goals, conflict management, positive communication and problem-solving, the division of labour, emotion regulation and stress management, work-family balance, father involvement, parent-child bonding and infant care	Co-parenting (father report): 8/16 trials reported an intervention effect on at least one measure of co-parenting Paternal stress: 0/4 trials reported no intervention effect Parental depressive symptoms:1/2 trials reported an intervention effect Father involvement: 4/7 trials reported a positive intervention effect
Raouna et al. 2021[54] UK	Child and family community health Parent-baby dyads (N=91);	To assess the outcomes of a co-parenting intervention (Mellow Babies) with parents experiencing psychosocial	Single group pre-and post-test Validated surveys; parent-	IV	**Co-parenting intervention** Focus: Mental health, parenting Duration: 14 weeks, 1 session/week Mode: Face to face, group Delivered by: Trained facilitators	Psychological distress: Significant decrease from pre- to post-intervention (small effect) Parenting self-efficacy: Significant increase from pre- to post-intervention (small to moderate effect)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	70 mothers; 21 fathers First year postpartum and early childhood	difficulties with children (0–18 months)	child observation		Content: Parent groups with CBT strategies, joint lunchtime activities for parent-child relationship, free childcare groups, homework, strength-based video feedback, interactive tasks, provision of transport and meals	Father involvement: Drop out for fathers lower (9.1%) than for mothers (28.6%)
Rayburn et al. 2021[38] US	Antenatal care services Expectant and first-time fathers (N=19) Antenatal and first year postpartum	To test the efficacy of the Becoming Fathers intervention for altering expectant and new fathers' wellbeing and attitudes about involvement with their child	Single group pre-and post-test Validated surveys	IV	**Father-focused intervention** Focus: Mental health, family relationships, infant care Duration: 5 weeks, 1 session/week Mode: Face to face, group Delivered by: Not clear Content themes: Mindfulness practices, self-reflection, group discussions about topics specific to fatherhood, and skills-based education on the topics of infant care, partner communication and mental health	Stress: No significant change Depressive symptoms: No significant change Mindfulness: No significant change Father involvement attitudes: No significant change
Scott et al. 2021[25] Australia	Antenatal care services	To evaluate the effectiveness of two father-focused	Four group RCT Father-focused antenatal	II	**Father-specific intervention component**	Exclusive breastfeeding: No intervention effect

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	N=1426 couples Antenatal	breastfeeding interventions: (1) a face-to-face father-focused antenatal breastfeeding class, and (2) the Milk Man breastfeeding smartphone app	breastfeeding class (n=263); Milk Man smartphone app (n=299); combination (n=259); control (n=271) Study designed and validated measures		Focus: Breastfeeding *Antenatal breastfeeding class* Duration: 1 session Mode: Face to face, group Delivered by: Trained peer facilitator Content: What it means to be a new father, the importance of breastfeeding, barriers and facilitators to breastfeeding and anticipatory problem-solving strategies for addressing common breastfeeding problems *Milk Man smartphone app* Duration: 6 months Mode: Smartphone app Delivered by: N/A Content: Smartphone app that uses gamification, social connectivity in the form of a conversation, and twice weekly push notifications linking to polls and conversation starters to engage fathers with breastfeeding	Risk of stopping breastfeeding: No intervention effect Any breastfeeding: No intervention effect Maternal breastfeeding confidence: No intervention effect Perceive support from father/partner: No intervention effect

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					information contained within the information library	
Shapiro et al. 2011[52] US	Antenatal care services Couples (N=181) Antenatal	To examine the impact of Bringing Baby Home, a transition-to-parenthood intervention for co-parenting in intact families	Three-group RCT Intervention; Intervention + support group; control group Observations	II	**Co-parenting intervention** Focus: Co-parenting and the transition to parenthood Duration: Workshop—1 session; Support group—12 meetings Mode: Face to face, group Delivered by: Nurses, social workers and other birth preparation teachers Content: Bringing Baby Home psychoeducational workshop focused on strengthening the couple relationship, facilitating father involvement and promoting co-parenting. Comprised lectures, demonstrations, role-plays, videotapes and exercises The support group focused on presenting issues raised by couples at the time and emotions surrounding them, drawing on lessons from the	Father-baby engagement: Intervention effects between the intervention groups and control group, and between the workshop only group and control group (small to moderate effect sizes) Mother-baby engagement: Intervention effect (p=.06; with small effect size) Calm and complementary play: No intervention effect

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					workshop and emotional support from other couples	
Shapiro et al. 2020[51] US	Antenatal care services Couples (N=136) Antenatal and first year postpartum	To test the efficacy of the Bringing Baby Home couple-focused psycho-educational program for promoting father involvement	Two-group RCT Intervention (n=85); control (n=34) Validated surveys	II	**Co-parenting intervention** Focus: Transition-to-parenthood and co-parenting relationships Duration: 1 workshop session Mode: Face to face, group Delivered by: Birth education staff in hospital Content: Psychoeducational intervention for promoting father involvement during transition to parenthood. Addresses positive family formation, transition to parenthood, quality parenting and co-parenting, and father involvement. Lectures, demonstrations, role-plays, videotapes and exercises designed to help couples work on issues related to transition to parenthood	Father involvement in parenting tasks (father report): Intervention effect Partner support (father report): Intervention effect Father mental health: No intervention effect Father involvement (mother report): No intervention effect

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Smith et al. 2016[30] US	Antenatal care services Mothers (n=249); fathers & other male partners (n=92) Antenatal	To examine the impact of a group pregnancy care intervention (Centering Pregnancy; CP involving male partners of young pregnant mothers (aged 15–18yrs)	Comparative study without concurrent controls Assigned to CP or case management without father/partner involvement, based on clinic location (non-randomised) Study designed survey	III-3	**Father-specific intervention component** Focus: Antenatal education Duration: Not clear Mode: Face to face, group Delivered by: Not clear Content: Group pregnancy care with case management for young women (aged 15–18yrs) and their male partners integrating health assessment, education and support. Curriculum covers nutrition, exercise relaxation, childbirth preparation, infant care and feeding, postpartum care, communication, relationships and parenting. Handouts, worksheets and skill-building exercises	Partner support (mother report): No intervention effect Specific domains of support (mother report): Intervention effects for fathers' help with pregnancy, providing money or other aid, and help with transportation Other findings: High attrition for both mothers and fathers; 57% of fathers engaged in CP
Suto et al. 2017[22]	Antenatal care services Studies of RCTs (N=11) representing 3000 fathers	To examine the effect of prenatal childbirth education for partners of pregnant women	Systematic review of RCTs Validated surveys	I	**Father-specific intervention component** Focus: Antenatal education, mental health	Overall quality of evidence rated as very low to low Parenting stress and anxiety: 5 out 11 trials reported intervention effects

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
	and 2000 mothers Antenatal	in improving paternal postnatal mental health			Duration: Varied Mode: Face-to-face group Delivered by: Antenatal educators Content themes: Range of interventions covering childbirth education, couple relationships, infant and parenting, and postpartum psychosocial issues	
Tandon et al. 2021[24] US	Child and family health Mother-father dyads/couples (N=30) Antenatal to first year postpartum	To pilot test the Fathers and Babies intervention for fathers whose partners were enrolled in home visiting	Single group pre-and post-test Validated surveys	IV	**Father-specific intervention component** Focus: Parent mental health Duration: 12 weeks (~1 session/week) Mode: Face-to-face individual, phone and text message Delivered by: Home visiting health professional Content themes: First session delivered in person or by phone by the home visitor working with the mother. Subsequent sessions were delivered via a combination of in-person and via text message with embedded links to	Father stress symptoms: Significant decrease from pre- to 3-month post-intervention and 6-month post-intervention (moderate effect sizes) Father anxiety symptoms: No significant change Father depressive symptoms: No significant change Father perceived social support from partner: Significant decrease from pre- to 3-month post-intervention and 6-month post-intervention Mother stress symptoms: Significant decrease from pre- to 3-month post-

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
					online content. Focus on cognitive behavioural principles including pleasant activities, thoughts and contacts with others. Provided concurrently with home-visiting sessions to mothers	intervention and 6-month post-intervention (moderate effect sizes) Mother anxiety symptoms: No significant change Mother depressive symptoms: No significant change Mother perceived social support from partner: No significant change
Thomas et al. 2019[32] US	Antenatal care services Couples (N=12) Antenatal	To investigate the effects of a chair massage on perinatal mood, anxiety and pain	Single group pre- and post-test Validated surveys	IV	**Father-specific intervention component** Focus: Maternal mental health and wellbeing Duration: 8 weeks, twice weekly massage Mode: Face-to-face individual Delivered by: Trained massage therapist Content themes: Safe massage skills, couple communication, recognising signs of stress and pain, relaxation strategies and providing support	Maternal depressive symptoms: Significant decrease associated with large effect size Maternal anxiety symptoms: Significant decrease associated with large effect size Maternal pain: No significant change

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Tohotoa et al. 2011[34] Australia	Antenatal care services Fathers (N=342) Antenatal period and early postpartum	To conduct a process evaluation of a perinatal education and support program for fathers to assist their partners to breastfeed	Single group post-test only Study designed survey	IV	**Father-specific intervention component** Focus: Antenatal education and breastfeeding Duration: 9 weeks Mode: Face-to-face group (4 weeks), psychoeducational material posted (5 weeks) Delivered by: Antenatal educator Content themes: Father-specific antenatal session offered as a supplement to existing antenatal education. Psychoeducation material on breastfeeding is posted to the fathers following birth	Study designed rating scales at post-test: Program helped with expectations about breastfeeding (96% agreed); helped with promoting the unique role of fathers (94% agreed); increased awareness and importance of breastfeeding (93% agreed); identified what supports breastfeeding (93%)
Tohotoa et al. 2012[28] Australia	Antenatal care services Fathers (N=533) Early postpartum	To identify the impact of a father-inclusive intervention on perinatal anxiety and depression	Two-group RCT Intervention (n=289); control (n=244) Validated surveys	II	**Father-focused intervention** Focus: Mental health Duration: 6 weeks Mode: Face-to-face group session in hospital & psychoeducational materials posted after birth	Anxiety symptoms: Intervention effect Depressive symptoms: No intervention effect

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					Delivered by: Male antenatal educator Content themes: Consisted of an antenatal education session led by a male facilitator. Main topics included role of the father, importance and benefits of breastfeeding, first 4 weeks at home with baby. Social and educational information support on developmental milestones, stress reduction strategies and postnatal depression	
Warriner et al. 2018[33] UK	Antenatal care services Expectant parents (N=100); mothers (n=64); fathers (n=36) Antenatal	To explore the feasibility of implementing a brief Mindfulness-Based Childbirth and Parenting (MBCP) course	Single group post-test only Validated surveys	IV	**Father-specific intervention component** Focus: Antenatal education and mental health Duration: 4 weeks, 1 session/week Mode: Face-to-face group Delivered by: Not clear Content: Combination of traditional antenatal teaching with mindfulness based skills, including formal and informal mindfulness meditations	Father stress symptoms: Decrease from pre- to post-intervention approaching significance (p=.057, small effect size) Father anxiety symptoms: Significant decrease from pre- to post-intervention (small effect size) Father depressive symptoms: Significant decrease from pre- to post-intervention (moderate effect size)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
						Mother stress symptoms: Significant decrease from pre- to post-intervention (moderate effect size). Mother anxiety symptoms: Significant decrease from pre- to post-intervention (moderate effect size) Mother depressive symptoms: Significant decrease from pre- to post-intervention (moderate effect size)
White et al. 2019[40] Australia	Antenatal care services Fathers (N=586) Antenatal	To describe the process evaluation of the Milk Man app, and investigate which of the app engagement strategies were effective in motivating and engaging users in app use	Single group post-test only Study designed survey	IV	**Father-focused Intervention** Focus: Breastfeeding Duration: Variable Mode: Individual, online phone application Delivered by: N/A Content: App designed to provide fathers with comprehensive evidence-based information and support about breastfeeding. Consisted of a discussion forum with other fathers. Gamification elements were integrated into the app, with fathers receiving	Study designed rating scales at post-test: App had led to greater awareness of what fathers can do to help with breastfeeding (54.6% agreed). App had led to discussions with partner about breastfeeding (54% agreed)

Publication, year, country	Setting Population Period	Research aim/question	Research design Data collection methods	NHMRC grade	Intervention details	Outcomes, results
					virtual rewards in the form of points for reading articles and commenting on forum posts	
Xiao et al. 2021[42]	Varied health settings Studies of RCTs (N=12) Antenatal and first year postpartum	To examine the effects of co-parenting interventions on co-parenting and parent mental health during the postpartum period	Systematic review of RCTs	I	**Co-parenting interventions** Focus: Co-parenting relationships and parent mental health Duration: Ranged 1–3 sessions, weekly to monthly Mode: Majority were face to face, varied individual and group Delivered by: Range of health professionals including nurses and midwives Content themes: Psychoeducation about strengthening the couple relationship, co-parenting goals, conflict management, positive communication and problem-solving, the division of labour, emotion regulation and stress management, work-family balance, father involvement; parent-child bonding and infant care	Overall quality of evidence rated as low to moderate Co-parenting (mother and/or father report): Majority of studies reported positive intervention effects in at least one domain of co-parenting Maternal depression (mother report): Intervention effects (meta-analysis) Co-parenting (mother and/or father report): Limited intervention effects Parenting self-efficacy (mother and/or father report): Limited intervention effects Baby feeding practices (mother and/or father report): Limited intervention effects Other findings: Co-parenting interventions covering both the antenatal and postnatal period with more than 5 sessions were more likely to show intervention effects

Table 11—Barriers and enablers to implementing father inclusive practice and/or engaging fathers in services for Question 2.

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Abbass-Dick et al. 2015[50]	Birthing services	Co-parenting intervention		• The intervention package was provided in the postpartum period, which may have limited the time parents had available to review the information
Abbass-Dick et al. 2017[55]	Antenatal care services; universal child health services	Co-parenting intervention	• Information specifically designed for/targeting fathers within the resource	
Bellamy et al. 2020[20]	Child and family community health	Professional development or training	• Explicitly inviting both mothers and fathers to visits • Taking both parents' schedules into consideration • Referring to fathers by name • Leaving information, activities or personal notes for fathers if they do not attend visits • Tell father that he is needed/important • Respect/acknowledge fathers' expertise • Use technology	• Lack of time on the part of workers and fathers due to competing demands • Feelings of discomfort or uncertainty about how to engage fathers among workers, often because they did not have experience working with men • Relationship problems between mothers and fathers often made working with both parents difficult • Fathers' lack of willingness to participate • High turnover rate of home visitors—need to keep delivering the training • Home visitors are positively inclined to work with fathers but lack the training, support or other structural opportunities to do so successfully

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Burn et al. 2019[19]	Antenatal and early childhood services	Professional development or training	• Online training formats have a number of benefits over face-to-face formats, in terms of reduced demands on practitioner time, ease of access and participation, ease of adaptation to specific groups of fathers and significantly lower cost of delivery. As such, online programs may represent a promising alternative to face-to-face programs	• Face-to-face training will not be accessible for all practitioners • There are costs for training delivery in terms of facilitator training and time, which may limit the dissemination of the program • Participants in the online training program had no direct opportunity for rehearsal of skills and feedback. This may have resulted in practitioners experiencing challenges in skill implementation, leading to reduced confidence, competence and perceived effectiveness in using the strategies • Fewer than 1 in 5 participants reported having received previous training regarding engaging fathers
Daley-McCoy, 2015[49]	Antenatal care services		• The session was developed to be delivered by midwifery staff to negate any cost implications of other professional time. Anecdotal information suggested high levels of enthusiasm about the content from midwives • The intervention was deemed feasible in terms of pragmatic delivery in routine NHS settings	
Feinberg et al. 2016b[43]	Antenatal care services	Co-parenting intervention	• Intervention provided in hospital setting with standard antenatal education	

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Fletcher et al. 2017[39]	Antenatal care services, and child and family community health	Father-focused intervention	• Antenatal clinics were key in engaging fathers for programs of this nature (twice the rate of recruitment through antenatal clinics compared to other recruitment sources such as partner referral)	
Florsheim et al. 2012[48]	Antenatal care services	Co-parenting intervention	• Flexible delivery of the intervention with sessions occurring at prenatal clinics, community settings or participants' homes, depending on preference and logistics	
Furman et al. 2016[26]	Child and family community health	Father-specific intervention component	• Based in the community rather than at a health facility or hospital • Evening timing for groups • Use of a lay facilitator rather than a healthcare professional • Use of a curriculum that referred directly to fathers rather than focusing solely on the mother • Inclusion of a resource specialist for men who was available at each session in person, and by telephone at all times between sessions, whose role was to provide non-breastfeeding resources and support relevant to the fathers • Low-cost program	

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Giallo et al. 2018[36]	Child and family community health	Father-focused intervention	• Peer support from other fathers • Provision of intervention in a gym environment • The group personal training session • Delivery of the intervention by a male facilitator • Partner encouragement to attend	
Giallo et al. 2020[37]	Child and family community health	Father-focused intervention	• Focus on physical health • Group program helped to reassure and normalise fathers' own experiences and challenges, particularly about parenting • Implementation within a more neutral setting than a healthcare setting • Delivery of sessions outside business hours	See Seymour et al. (2021) in this table
Hall et al. 2021[23]	Antenatal care services	Father-specific intervention component	• The prompt of the weekly email • The workshop • Planning ahead • Using given resources • Partner's support	• Lack of time • Exhaustion • The impact of other commitments • Difficulty finding time with partner to do the massage • Partner being too tired
Humphries et al. 2015[21]	Child and family health	Professional development or training	• For many participants, receiving information about current research, as well as quotes from parents, was reported to be very useful • Networking with other professionals and listening to others' views on the subject	• Female-dominated workforce • Longstanding focus within services on mothers, which has resulted in fathers expecting to be excluded • Lack of commitment and support from managers and leaders to implement father-inclusive practice • Problems contacting/engaging fathers due to overlap between their own and fathers' working hours

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
				• Systems for recording information had not been updated to include fathers, so that children's records and routine letters referred only to mothers
Kuliukas et al. 2019[31]	Antenatal care services	Father-specific intervention component	• Opportunity to interact with other fathers • Fathers having their role in breastfeeding validated and the potential difficulties that can be encountered • Experienced male peer facilitators • Peer facilitators valued being well prepared by program coordinators to lead the classes and for the ongoing support throughout their role in conducting the classes	• Facilitators spoke about challenges associated with juggling the time involved in facilitating sessions with other aspects of their lives, made particularly challenging as they had their own parenting duties
Raouna et al. 2021[54]	Child and family community health	Co-parenting intervention	• Parallel to parent groups, childcare groups are also offered for free for participants' young children • Provision of transport and meals • Free or inexpensive materials for parent-child activities • Group setting with parents who have similar experiences	
Rayburn & Coatsworth, 2021[38]	Antenatal care services	Father-focused Intervention		• Having a baby while the intervention was ongoing was the primary reason participations missed class sessions

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Rominov et al. 2017[18]*	Antenatal care services	–	• Midwives described using basic interpersonal skills to engage fathers when they attended appointments (e.g. eye contact, asking the father's name and occupation), and speaking to expectant and new parents as couples who are experiencing pregnancy and parenthood, rather than just the mother • Eliciting fathers' learning styles (e.g. engagement with written materials vs demonstrations) • Encouragement from midwives for fathers to attend all appointments with their partner. If a father could not attend, several midwives described how they ensured the father received their contact details and understood that they were welcome to call the midwife directly if they had any questions or concerns • During labour and birth, midwives described how engaging fathers through inclusive communication and regular updates on progress was important • Although fathers were not the 'patient' in hospital, recording fathers' details on hospital paperwork, such as their name, age, occupation and relationship status was identified as a key strategy to promote father inclusiveness and facilitate engagement by midwifery teams • Encouraging the development of new parent groups • Communicating to fathers about the important role that they play in supporting their partner through pregnancy, labour, birth and breastfeeding, and infant caregiving • Giving fathers 'jobs' to do during labour and birth (e.g. rubbing their partner's back and holding their hand, and	• The majority of midwives (83%) reported that they had not received any formal training about working with fathers • Time and funding constraints in the public health sector, which have led to shorter appointments that do not allow for sufficient time to engage with fathers • All midwives identified a lack of father-focused training as a barrier to effective engagement of fathers in their services • For midwives working in the public sector, a lack of flexibility with the scheduling of appointment times was highlighted as a common barrier to engaging fathers • When there is evidence of a poor couple relationship (e.g. absent fathers, hostile communications between the couple, a dominating partner) • Differing cultural beliefs about fathers' parenting roles and particular customs that can impact family dynamics • Language barriers

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
			providing instructions to lead breathing exercises) may help men to connect with their father role • Involving fathers in discussions about breastfeeding, and helping the father understand that he has an important role in feeding • Actively including fathers when providing education and demonstrations about infant caregiving • Midwife-led continuity of care model—increased opportunities for midwives to build rapport and trust with families, and consequently facilitating higher levels of father engagement • The provision for fathers to be able to stay the night in hospital with their partner and baby was identified as a significant factor associated with father engagement • Where there was evidence of a supportive couple relationship, midwives noticed a significant increase in opportunities to engage fathers	
Rominov et al. 2018[14]*	Antenatal care services	-	• Informal support and conversations about fathers' general emotional wellbeing and parenting experiences with people they felt close to • Inclusion: several fathers discussed how the incorporation of father-specific information into standard antenatal classes would facilitate their receptiveness to information and encourage them to be more involved • Awareness: several fathers acknowledged their lack of awareness about the availability of support during the perinatal period. They discussed how a heightened	• A perceived lack of father-specific information in antenatal classes • Mother-centric language in written resources, such as pamphlets, did not provide enough detail about father experiences • Stigma and help-seeking: stigma about men's mental health and help-seeking that emerged from the fathers' own beliefs as well as from perceptions of external attitudes about masculine norms • Work: inflexible work arrangements and limited time off after their baby is born were significant barriers for fathers accessing resources and support, and

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
			awareness would facilitate their engagement with resources and support services • Support that is tailored to the specific stages of the perinatal period (e.g. antenatal period—resources about supporting their partner during pregnancy and information pertaining to the wellbeing of their unborn baby; early parenting period—support to assist with the multitude of challenges a newborn baby brings, such as developing a sleep routine, coordinating work schedules, renegotiating social commitments and managing changes in the couple relationship) • Information and support provided in a multitude of formats (e.g. fathers' groups, antenatal classes being facilitated by a father, services being provided outside of normal business hours, visual demonstrations, online information and hard copy resources)	engaging with their parenting role during the perinatal period. The majority of perinatal services operate during business hours and fathers described how this made it difficult for them to attend appointments and engage with support services due to their commitments
Scott et al. 2021[25]	Antenatal care services	Father-specific intervention component	• Fathers in the face-to-face father-focused antenatal breastfeeding class appreciated the validation of their role and valued the opportunity to interact with other fathers • Online forum to facilitate social support and shared information and experiences with other fathers • Digital technologies such as smartphone apps provide the opportunity to deliver cost-effective, safe and scalable breastfeeding interventions to geographically dispersed populations	• It is possible that individuals with lower health literacy may be less willing and able to engage in programs that rely on digital technology • Face-to-face interventions are costly and difficult to sustain

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Seymour et al. 2021[16]*	Child and family health services	Father-focused intervention	• Making social connections with other fathers • Motivation to be the best father they can be • Desire to learn more about parenting, child development and how to support their partners and manage life stress • Support and encouragement from partners • Program being run outside of business hours • Consistent date and time for the program • Male facilitator who was also a father • Endorsement and advocacy of fathers who had previously completed the program • Inclusion of an exercise component • Father-specific advertising material and intervention content	• Pressure on fathers' time, with work commitments affecting some fathers' ability to attend intervention sessions • Time away from their family and increased childcare and domestic work for their partner at a time they would normally be available to provide support or give their partner a break in the evening • Apprehension prior to participating, with uncertainty about what the intervention would involve and what the benefits to fathers would be • Travel required to attend the program for some fathers • Lack of awareness among fathers about programs targeting their health and wellbeing • Stereotyped gender roles
Shapiro et al. 2011[52]	Antenatal care services	Co-parenting intervention	• Cost-effective to deliver psychoeducational content to a class of couples • Delivery of intervention in hospital setting	
Shapiro et al. 2020[51]	Antenatal care services	Co-parenting intervention	• Single psychoeducation workshop—easy to deliver and engage parents, limited attrition • Delivered in hospital where antenatal care was being received • Flexibly provided in pregnancy or early postpartum to meet needs of parents	

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Smith et al. 2016[30]	Antenatal care services	Father-specific intervention component	• Provision of gift cards for participation, money for fathers, and food during groups • Male social worker to help run groups • Ensuring other young fathers would be present in group sessions • Offering supplemental services, such as help finding employment or completing high school or college degrees	• Reasons for fathers' lack of participation in group sessions was due to work conflicts, imprisonment or lack of contact
Tandon et al. 2021[24]	Child and family health	Father-specific intervention component	• Integration of the Fathers and Babies intervention into an existing service—home visiting • Flexibility in the delivery of the intervention—majority of sessions are able to be delivered in-person, via text message with embedded links to online content, or a mix of both in-person and text messages, depending on the preference and availability of the father	
Thomas, 2019[32]	Antenatal care services	Father-specific intervention component	• Low cost, easy to deliver the training to partners	
Tohotoa et al. 2011[34]	Antenatal care services	Father-specific intervention component	• The use of a gender-specific group was seen as a positive strategy for the men • Male facilitator	• Work commitments including working away was the main reason cited for not attending the class

Publication, year	Setting	Intervention details	Enablers of implementation and/or father/partner engagement or participation	Barriers to implementation and/or father/partner engagement or participation
Tohotoa et al. 2012[28]	Antenatal care services	Father-focused Intervention	• 99% of fathers responded positively to the male facilitator • Discussions around the importance of early infant contact, the different roles fathers play in the parenting arena and shared experiences by the facilitators increased the opportunity for the participants to reflect on their own fathering practice	
White et al. 2019[40]	Antenatal care services	Father-focused intervention	• Incorporating regular push notifications that are carefully timed and linked to new content can be an effective way of encouraging engagement with a mobile app • Web-based conversation forum that included polls and conversation starters • Evidence-based information library that included information about a wide variety of breastfeeding-related and broader parenting topics • Incorporating user consultation throughout the app development process and working in partnership with app developers are important steps • Fathers were placed into a group with others at a similar perinatal stage to facilitate relevant conversations	

Note. *Study was qualitative and was not included in the search for Question 1 but was known to reviewers and deemed highly relevant.

Appendix 4—Evidence grading

Table 12—Quality assessment matrix for professional development and training in father-inclusive practice

Component	Rating	Description
1. Evidence base	C Satisfactory	One Level II study was conducted but was likely to have moderate bias. It was conducted in a real-world setting and was likely have some threats to internal validity. Furthermore, there was high attrition due to high turnover of staff
2. Consistency	B Good	Given the small number of studies assessing different outcomes, it was difficult to determine consistency. Any inconsistencies can be explained by differences in study methods and outcomes assessed
3. Clinical impact	D Poor	Determining the clinical impact of the professional development and training interventions was restricted. Not all studies assessed the main outcome of interest in the Evidence Check (i.e. the engagement of fathers in health services). The only high-quality study (Level II evidence) used study designed survey measures to assess outcomes. The remaining were Level IV studies and we were unable to determine whether outcomes were the result of the intervention or some other factor
4. Generalisability	C Satisfactory	Evidence may not be directly generalisable to the target population but could be sensibly applied given that all health professionals trained were working with parents/families in the first 2000 days of life despite working in a wide range of child and family health settings
5. Applicability	C Satisfactory	Evidence was probably applicable to Australian healthcare context with some caveats related to cross-country differences regarding health setting and organisational factors (e.g. different qualifications and backgrounds of home visitors in Australia and the US) and the socioeconomic backgrounds of families
Overall rating	D Poor	Body of evidence is weak and must be applied with caution

Table 13—Quality assessment matrix for father-specific intervention components

Component	Rating	Description
1. Evidence base	B Good	This rating is given because there are several relatively high-quality studies including Level I (n=1), Level II (n=4), and Level III (n=2). There are varying levels of bias; this is likely to be low for some studies because of small sample sizes, underpowered designs, use of basic study designed measures and a threat to internal validity
2. Consistency	B Good	There was consistency for outcomes related to father involvement. There were inconsistent findings for parent mental health and breastfeeding outcomes, but these could likely be explained by differences in interventions, study design and methods including measures used
3. Clinical impact	C Satisfactory	The clinical impact is estimated to be moderate. Only two studies (both Level IV) assessed the primary outcome of interest in the Evidence Check (engagement of fathers in health services) and this was assessed at post-test with study designed measures. Although there were some inconsistent findings for parent mental health across studies of all evidence levels, small to moderate effect sizes were reported
4. Generalisability	B Good	The evidence is likely directly generalisable to the target population with some caveats related to differences in populations and clinical settings across countries
5. Applicability	B Good	The evidence is probably applicable to the Australian healthcare context with some caveats related to cross-country and cross-study differences. Most father-specific sessions/interventions were embedded into routine antenatal care and provided by antenatal staff, which matches the populations and health settings of interest in the Evidence Check
Overall Rating	C Satisfactory	The body of evidence provides some support but care should be taken in its application

Table 14—Quality assessment matrix for father/partner-focused interventions

Component	Rating	Description
1. Evidence base	C Satisfactory	Only one Level I study was conducted, but no quality rating or level of bias was reported. The majority of studies were Level IV with moderate to high levels of bias
2. Consistency	B Good	There was some consistency for father mental health outcomes across studies of evidence of levels. Where there were inconsistences, these could likely be explained by differences in interventions (particularly intensity/dose), and the study methods and measures used
3. Clinical impact	C Satisfactory	The clinical impact is estimated to be moderate. No studies assessed the main outcome of interest in the Evidence Check (i.e. the engagement of fathers in health services). The only Level I study was not able to determine the overall clinical impact of interventions, but was able to identify stronger intervention effects for particular intervention components (i.e. interventions that (a) were delivered across the perinatal period, (b) addressed men's lifestyle and wellbeing, and (c) involved skill development. One Level IV study reported moderate effect sizes for mental health
4. Generalisability	B Good	The evidence was likely directly generalisable to the target population with some caveats related to cross-country differences in populations
5. Applicability	B Good	The evidence was probably applicable to the Australian healthcare context with some caveats related to differences in health settings in which the interventions were implemented. The interventions were delivered in varied child and family health settings and may not always be well matched to the health settings of interest to the Evidence Check
Overall rating	C Satisfactory	The body of evidence provides some support but care should be taken in its application

Table 15—Quality assessment matrix for co-parenting interventions

Component	Rating	Description
1. Evidence base	A Excellent	The vast majority of studies were high level including Level I (n=2) and Level II (n=10)
2. Consistency	B Good	No studies assessed the primary outcome of interest in this Evidence Check (i.e. father engagement in health services). Most studies yielded consistent findings for co-parenting outcomes, father involvement in parenting/family life and breastfeeding. There were some mixed findings for parent mental health. Where there were inconsistences, these could likely be explained by differences in interventions (particularly intensity/dose), and the study methods and measures used
3. Clinical impact	A Excellent	The clinical impact is estimated to be very large. The vast majority of studies used RCT designs and have reasonable confidence that the clinical impacts were due to the interventions and not unknown factors. Moderate to large effect sizes were reported in several studies
4. Generalisability	B Good	The evidence is likely directly generalisable to the target population with some caveats related to cross-country differences in populations
5. Applicability	B Good	The evidence is probably applicable to the Australian healthcare context with some caveats related to cross-country differences, despite only one study being conducted in Australia
Overall rating	B Good	The body of evidence can be trusted to guide practice in most situations