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England

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# Rapid Review to Update Evidence for the Healthy Child Programme 0–5

## Summary



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## Introduction

The Healthy Child Programme (HCP) is the key universal public health service for improving the health and wellbeing of children through health and development reviews, health promotion, parenting support, screening and immunisation programmes. The current programme for 0-5 year-olds is based on the evidence available at the time of the last update of the HCP 0-5 years in 2009. As local authorities take on the commissioning of the HCP 0-5 years and its delivery via the universal health visiting service, it is important that it is underpinned by the latest evidence.

The purpose of this rapid review is therefore to update the evidence. Specifically, the aim is to synthesise relevant systematic review level evidence about 'what works' in key areas: parental mental health; smoking; alcohol/drug misuse; intimate partner violence; preparation and support for childbirth and the transition to parenthood; attachment; parenting support; unintentional injury in the home; safety from abuse and neglect; nutrition and obesity prevention; and speech, language and communication. In addition, the review seeks to draw out key messages in relation to:

- identifying families in need of additional support; the delivery/effective implementation of interventions at the programme/service level and individual practitioner level
- workforce skills and training
- the economic value/cost benefits of the HCP, including both health and wider societal costs

The rapid review includes systematic review level evidence published from 2008 to mid-2014, and focuses on promotion, universal, selective, and indicated interventions. Searches for primary evidence (notably randomised controlled trials (RCTs)) were also undertaken on four outcomes where it was considered that significant new data had been published since the most recent systematic review: obesity prevention for 0-3 year-olds; attachment; parenting support; and speech, language and communication. The study only included reviews published in English and did not include the following:

- aspects of the HCP that will continue to be commissioned by NHS England (ie immunisation/vaccination and screening programmes)
- the HCP delivered during pregnancy by midwives that is commissioned by clinical commissioning groups (except where there is new evidence regarding the interface between the health visiting services and the midwifery services, especially in relation to pre-delivery visits by the health visitor and handover between the services)
- targeted programmes that are delivered in conjunction with health visitors but not necessarily led by them (eg families involved in multi-agency interventions in relation to safeguarding)
- the Family Nurse Partnership programme

An additional focused search was undertaken to identify relevant papers in relation to implementation, identifying families in need of additional support and workforce skills and training. With the exception of the four outcome areas identified above, the review does not include evaluations of interventions that have not yet been synthesised in systematic reviews. The review also excludes systematic reviews that do not address effectiveness.

In order to identify relevant systematic reviews, relevant databases were searched, including those of key organisations (eg Cochrane Collaboration, NICE, EPPI Centre, Campbell Collaboration) and key electronic health, social science and education databases (eg PubMed, PsychInfo, CINAHL). The following inclusion criteria were used: study design (systematic reviews and reviews of reviews); years (2008 to circa July 2014); outcomes (related to the list above); and population (children aged 0-5 and/or parents/carers, and focusing on promotion, universal, selective and indicated interventions). A similar procedure operated in the search for primary studies, except that the timeframe was 2009 to circa November 2014. In both cases the standard searches were supplemented with other sources.

Suitably qualified and trained reviewers reviewed studies that met the inclusion criteria in order to extract key information and critically appraise study quality (different forms were used for the systematic reviews and primary studies respectively). Reviews were checked for accuracy and consistency. Experts were consulted to ensure that the search had identified the main relevant studies, and to review the critical appraisal and interpretation of findings in order to ensure that the results presented accurately reflect the available evidence.

The review includes evidence from 160 systematic reviews. A further 50 RCTs were included as part of the primary reviews.

The economic analysis is based on a review of the systematic reviews conducted by the Washington State Institute for Public Policy that analyse the effects of short-term outcomes in the 0-5 age range on longer-term outcomes. These reviews inform cost-benefit analyses of discrete interventions. For interventions that focus on 0-5 year-olds for which the Social Research Unit has conducted cost-benefit analysis, the report provides information about whether effects on short-term outcomes result in monetary benefits in the longer term.

The summaries below summarise key messages from the research for each topic and indicate whether this is new evidence in relation to the earlier review of the evidence (Barlow et al 2008). Where relevant, reference is made to NICE guidance, which contains systematically-developed recommendations based on the best available evidence. A brief overview of areas for further research is also provided at the end.

## Maternal mental health

### Identification of ante/postnatal anxiety and depression

The NICE guidance on antenatal and postnatal mental health (NICE 2014a, guideline CG192), which is based on a series of systematic reviews, recommends that at the first contact with primary care or the booking visit, and all contacts after, the health visitor and other healthcare professionals who have regular contact with a woman in pregnancy and the postnatal period (first year after birth) should consider asking the two Whooley depression identification questions and the GAD-2 as part of a general discussion about her mental health and wellbeing and using the EPDS or the PHQ-9 as part of monitoring. [NEW]

### Identification of severe mental illness and alcohol/substance dependency

NICE (2014a) recommends that a woman's first contact with services in pregnancy and the postnatal period should also include identification of severe mental illness. If alcohol misuse is suspected, the Alcohol Use Disorders Identification Test (AUDIT) should be used as an identification tool in line with recommendation 1.2.1.4 of the guideline on alcohol-use disorders and preventing harmful drinking (NICE guideline CG115) [NEW], and if drug misuse is suspected, the practitioner should follow the recommendations on identification and assessment in section 1.2 of the guideline on psychosocial interventions for drug misuse (NICE guideline CG51). [NEW]

### Prevention of antenatal/postnatal depression

There is currently insufficient evidence of the benefits of feedback during ultrasound and a variety of alternative therapies in preventing maternal anxiety or stress during pregnancy.

Women who receive a psychosocial or psychological intervention during pregnancy or the post-partum period that is designed to prevent postnatal depression are significantly less likely to develop postpartum depression compared with those who receive standard care. Promising interventions include interpersonal psychotherapy, intensive home visiting by professionals, and peer-led telephone support (although evidence on the latter is inconsistent). Interventions that are not supported by the evidence currently (ie evidence of no impact, or uncertain evidence) include antenatal classes that address postnatal depression, lay-based home visiting, and in-hospital psychological debriefing. Group-based parenting programmes can improve a number of aspects of maternal mental health, including depression and anxiety, although they are not recommended as primary treatments for these conditions.

## Treatment of antenatal/postnatal depression

NICE (2014a) recommends that women with persistent subthreshold depressive symptoms, or mild to moderate depression, in pregnancy or the postnatal period should be offered facilitated self-help [NEW], and that where women with a history of severe depression initially present with mild depression in pregnancy or the postnatal period, a TCA<sup>1</sup>, SSRI<sup>2</sup> or (S)NRI<sup>3</sup> should be considered. [NEW]

For a woman with moderate or severe depression in pregnancy or the postnatal period, options should include a high-intensity psychological intervention, for example, cognitive behaviour therapy (CBT); or a TCA, SSRI or (S)NRI; or a high-intensity psychological intervention in combination with medication. [NEW]

Evidence from reviews of interventions other than pharmacological, psychosocial and psychological for treating antenatal/postnatal depression is inconclusive, and does not permit recommendations for depression-specific acupuncture, maternal massage, bright light therapy, or omega-3 fatty acids to treat antenatal depression.

There is no evidence to support the use of group CBT, exercise interventions, or omega-3 fatty acids for the treatment of postnatal depression.

## Treatment of antenatal/postnatal anxiety

NICE (2014a) recommends that a woman with persistent subthreshold symptoms of anxiety in pregnancy or the postnatal period should be offered facilitated self-help. This should consist of the use of CBT-based self-help materials over 2-3 months with support (either face to face or by telephone) for a total of 2-3 hours over 6 sessions. [NEW]

Women with anxiety disorders in pregnancy or the postnatal period should be offered a low-intensity psychological intervention (for example, facilitated self-help) or a high-intensity psychological intervention (for example, CBT) as initial treatment in line with the recommendations set out in the NICE guideline for the specific mental health problem. [NEW]

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<sup>1</sup> Tricyclic antidepressants (TCA)

<sup>2</sup> Selective serotonin reuptake inhibitor (SSRI)

<sup>3</sup> Serotonin and norepinephrine reuptake inhibitors (SNRIs)

## Treatment of other mental health problems

NICE (2014a) also makes a range of recommendations for women with eating disorders, alcohol and drug dependency (see section below on 'Drugs and alcohol'), and severe mental illness in pregnancy and the postnatal period.

## The mother-baby relationship

NICE (2014a) recommends that the nature of the mother-baby relationship should be assessed, including verbal interaction, emotional sensitivity and physical care, at all postnatal contacts. Practitioners should discuss any concerns that the woman has about her relationship with her baby and provide information and treatment for identified mental health problems. [NEW]

Practitioners are recommended to consider further intervention to improve the mother-baby relationship if any problems in the relationship have not resolved. [NEW]

## Identifying families in need of additional support

See section above on the identification of mental health problems.

## Implementation issues

Midwives and health visitors are in a key position to educate and support women about mental health and wellbeing, and to identify women at risk.

NICE (2014a) recommends that all interventions for mental health problems in pregnancy and the postnatal period are delivered by competent practitioners. Psychological and psychosocial interventions should be based on the relevant treatment manual(s), which should guide the structure and duration of the intervention. Practitioners should consider using competence frameworks developed from the relevant treatment manual(s) and for all interventions practitioners should: receive regular high-quality supervision; use routine outcome measures and ensure that the woman is involved in reviewing the efficacy of the treatment; and engage in monitoring and evaluation of treatment adherence and practitioner competence – for example, by using video and audio tapes, and external audit and scrutiny where appropriate. [NEW]

NICE (2014a) also recommends that managers and senior healthcare professionals responsible for perinatal mental health services (including those working in maternity and primary care services) should ensure that there are clearly specified care pathways so that all primary and secondary healthcare professionals involved in the care of

women during pregnancy and the postnatal period know how to access assessment and treatment

Further, interventions for mental health problems in pregnancy and the postnatal period should be provided within a stepped-care model of service delivery in line with recommendation 1.5.1.3 of the guideline on common mental health disorders (NICE guideline CG123). [NEW]

### Workforce skills and training

NICE (2014a) guidelines recommend that all healthcare professionals providing assessment and interventions for mental health problems in pregnancy and the postnatal period should understand the variations in their presentation and course at these times, how these variations affect treatment, and the context in which they are assessed and treated (for example, maternity services, health visiting and mental health services). [NEW]

Many psychological and psychosocial interventions to improve maternal mental health and wellbeing in the perinatal period require additional training of midwives and health visitors, but no intervention can currently be definitively recommended in clinical practice. It would therefore be premature to consider introducing any of the identified interventions into midwifery training and practice.

## Smoking

### Antenatal

Psychosocial interventions during pregnancy can increase the proportion of women who stop smoking in late pregnancy, and reduce low birthweight and preterm births. Incentive-based interventions show the largest effect, although caution is needed, because they were only effective with intensive delivery and studies were in the US.

Financial incentives to promote non-smoking during pregnancy show promise, and may meet the treatment needs of socio-economically disadvantaged women and heavy smokers. [NEW]

There is insufficient evidence to assess the efficacy, safety, or impact on birth outcomes of nicotine replacement therapy (NRT) when used to promote smoking cessation during pregnancy.

The provision to pregnant women of feedback on its own (ie not in conjunction with other strategies, such as counselling) about the effects of smoking on the unborn child and on their own health is not effective in smoking cessation.

Proactive telephone counselling is effective in helping to reduce smoking in smokers who seek help from quitlines.

Self-help smoking cessation interventions for pregnant smokers appear to be effective but it is unclear whether more sophisticated and intensive approaches increase intervention effectiveness. [NEW]

A review of smoking cessation relapse prevention interventions found no effect overall or by type or timing for behavioural relapse prevention interventions for pregnant or postpartum women.

The evidence for the efficacy of interventions to establish smoke-free homes in pregnancy and in the neonatal period is inconclusive.

Specific behavioural change components within effective behavioural smoking cessation interventions during pregnancy include: the provision of rewards based on smoking cessation; utilising carbon monoxide (CO) measures; facilitating relapse prevention (helping the smoker understand how lapses occur and how they lead to relapse and to develop specific strategies for preventing lapses or avoiding lapses turning into relapse); information on consequences of smoking and cessation; facilitating problem-solving; identifying relapse triggers; goal setting; assessing current and past smoking behaviour; assessing readiness to quit; appropriate written materials; and facilitating social support. [NEW]

## Postnatal

There is insufficient evidence to recommend one strategy over another to reduce the prevalence or level of children's environmental tobacco smoke exposure. [NEW]

A review of postpartum lifestyle interventions that may impact on modifiable cardiovascular risk factors found that half of the smoking cessation and relapse prevention interventions identified were effective. These included (i) office-based advice, education and discussion from a doctor postpartum, and (ii) home and telephone counselling interventions based on motivational interviewing techniques. [NEW]

## Identifying families with additional needs

The NICE guidance on quitting smoking in pregnancy and following childbirth (NICE 2010a, guideline PH26) recommends that pregnancy clinics implement routine Carbon Monoxide (CO) testing to help identify women who smoke. All current smokers and those who stopped in the previous two weeks should be referred to NHS Stop Smoking

services, as should those with a CO reading of 7 ppm or above, and light or infrequent smokers even if they register a lower reading (eg 3 ppm). [NEW]

In addition, NICE (2010a) recommends that health visitors and other health professionals (eg GPs, family nurses) should use any meeting to ask women who are pregnant if they smoke and, if they do, to advise them to stop, explain how NHS Stop Smoking can help and make a referral to the service (with consent). [NEW]

Women who quit smoking during pregnancy may demonstrate high rates of relapse after pregnancy, and consequently may need additional support.

### Implementation issues

Barriers to the implementation of smoking cessation interventions in healthcare settings include healthcare professionals having different perceptions of their respective role in smoking cessation and negative perceptions about intervention efficacy.

NICE (2010a) recommends that NHS Stop Smoking Service specialist advisers should undertake a range of activities, including discussing the benefits of smoking cessation for the mother and child, offering personalised information, advice and support throughout pregnancy and beyond, and regularly monitor the woman's smoking status. [NEW]

### Workforce and training

Based on evidence that professionals often perceive themselves to have limited knowledge and skills to deliver effective smoking cessation interventions, NICE (2010a) recommends that midwives who deliver intensive stop-smoking interventions (one-to-one or group support) should be trained to the same level as specialist NHS Stop Smoking advisers (and receive ongoing support). Health visitors and other health professionals (including midwives) should understand: the risks of smoking to women and children / unborn babies; the significant role of partners; and what NHS Stop Smoking Services provide and how to make a referral to them. [NEW]

An assessment of the presence of effective behavioural change techniques within English Stop Smoking services concluded that only a limited number were used in practice. [NEW]

## Drugs and alcohol

### Antenatal

#### *Antenatal education*

See section below on 'Preparation and support for childbirth and the transition to parenthood'.

#### *Brief interventions<sup>4</sup>*

NICE (2014a) guidance on antenatal and postnatal mental health recommends that if hazardous drug or alcohol misuse is identified in pregnancy or the postnatal period, the woman should be referred or offered brief interventions in line with section 1.3.1 of the guideline on psychosocial interventions for drug misuse (NICE 2007b, guideline CG51) or the guideline on alcohol-use disorders and preventing harmful drinking (NICE 2010b, guideline PH24). These brief interventions typically provide information and advice, and seek to motivate participants to change their behaviour (eg covering potential harms of their behaviour, reasons to change, barriers to change, strategies, setting goals).

#### *Psychosocial / psychological interventions<sup>5</sup>*

NICE (2014a) further recommends that if harmful or dependent drug or alcohol misuse is identified in pregnancy or the postnatal period, the woman should be referred to a specialist substance misuse service for advice and treatment. This may entail the use of psychosocial or psychological interventions (it may also require other forms of treatment, including assisted alcohol withdrawal and detoxification).

NICE (2007b) states that a range of psychosocial interventions are effective in treating drug misuse, including contingency management, behavioural couples therapy for drug-specific problems, and various evidence-based psychological interventions, such as CBT, for common comorbid mental health problems.

For harmful levels of drinking and mild alcohol misuse, NICE guidance on the diagnosis, assessment and management of harmful drinking and alcohol dependence (NICE 2011, guideline CG115) recommends the use of psychological interventions (eg cognitive behavioural therapies, behavioural therapies or social network and environment-based therapies) focused specifically on alcohol-related cognitions, behaviour, problems, and social networks. For harmful drinkers and people with mild alcohol dependence who have a regular partner who is willing to participate in treatment, behavioural couple's therapy is recommended.

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<sup>4</sup> The evidence in this category is not specific to women in pregnancy or the postnatal period.

<sup>5</sup> The evidence in this category is not specific to women in pregnancy or the postnatal period.

[For pregnant women who are dependent on alcohol or opioids, it is important to note that NICE (2014a) recommends offering assisted alcohol withdrawal and detoxification respectively.]

#### *Integrated and non-integrated interventions*

There is some evidence that both integrated (eg comprehensive services that address substance abuse as well as maternal and child wellbeing through prenatal services, parenting programmes, child care, and/or other child-centred services in a centralised setting) and non-integrated (eg standalone substance treatment) programmes can improve some birth outcomes for infants of women who have substance misuse problems during pregnancy. Integrated programmes showed a small improvement in parenting, but not on child protection outcomes. [NEW]

There is some evidence that substance abuse programmes integrated with onsite pregnancy, child or parenting services are effective in reducing maternal substance use, but no evidence that they are more effective at reducing substance use than standalone interventions. [NEW]

## Postnatal

#### *Brief interventions*

As above.

#### *Psychosocial interventions*

As above.

#### *Home visiting*

There is little evidence for the effectiveness of home visiting interventions that address substance misuse during the postnatal period.

#### *Integrated programmes*

As above.

## Identifying families in need of additional support

NICE (2014a) guidance on antenatal and postnatal mental health recommends that if alcohol misuse is suspected, the Alcohol Use Disorders Identification Test (AUDIT) should be used as an identification tool in line with recommendation 1.2.1.4 of the guideline on alcohol-use disorders (NICE 2011, guideline CG115). [NEW]

NICE (2014a) further recommends that if drug misuse is suspected, the recommendations on identification and assessment in section 1.2 of the guideline on psychosocial interventions for drug misuse (NICE 2007b, guideline CG51) should be

used. This involves asking questions about drug misuse (the nature of the questions depends on the setting), making an assessment and agreeing a care plan, and using biological testing as part of a comprehensive assessment of drug misuse.

## Implementation

NICE (2007b) guidance on psychosocial interventions for drug misuse states that staff should discuss with people who misuse drugs whether to involve their families and carers in assessment and treatment plans, and to support families as appropriate.

## Workforce skills and training

NICE (2007b) states that all interventions for people who misuse drugs should be delivered by staff who are competent in delivering the intervention and who receive appropriate supervision.

NICE (2010b) guidance on alcohol misuse states that managers of NHS-commissioned services should ensure that staff have enough time and resources to carry out screening and brief intervention work effectively, and that staff have access to recognised, evidence-based packs.

## Intimate partner violence

### Prevention and identification of Intimate Partner Violence (IPV)

There is insufficient evidence on the benefit of interventions to justify universal screening for intimate partner violence in healthcare settings.

While screening programmes increased screening, disclosure and identification rates, referrals to specialist agencies and services did not increase. There is no evidence that screening impacts on levels of violence or positive health outcomes.

Self-administered screening instruments were more likely to encourage disclosure than face-to-face screening interviews. It was not possible to identify any particular screening tool as more effective at identification than another, given the variability in studies.

Prevention and screening efforts for female genital mutilation (FGM) are best framed in relation to benefits for women's health, rather than opposing traditional practices or beliefs about women's rights. Training local healthcare staff may be beneficial if developed and sustained. [NEW]

The NICE guidance on domestic violence and abuse (NICE 2014b, PH50) reported that while insufficient evidence was found to recommend screening or routine enquiry within healthcare settings, routine enquiry is viewed as best practice by some professionals. The review of evidence underpinning the NICE (2014b) guidance found insufficient evidence for the efficacy of primary prevention programmes relating to IPV.

### Interventions to support pregnant women at high risk of IPV

The evidence supports the use of multi-session psychological therapy, based on CBT, during pregnancy for women who at risk or who have experienced IPV. Women who receive such support are less likely to have recurrent episodes of abuse compared to those receiving standard care. [NEW]

Perinatal HV programmes that screen for IPV can identify significant numbers of cases, but are unlikely to reduce IPV and improve maternal and infant health unless effective interventions are implemented.

Intensive advocacy may be effective in reducing physical violence for women leaving shelters two years later but not within the first year. There is insufficient evidence to support less intensive advocacy interventions.

There is no evidence to support interventions to respond to pregnant women who have experienced FGM. Alternative evaluation designs should be considered. [NEW]

### Preventing further IPV and the adverse consequences of IPV

There is evidence for the effectiveness a range of different types of intervention concerned with preventing IPV, or re-abuse, and the adverse consequences of IPV (eg for parent mental health). These include advocacy services, skill building, counselling, therapy, and multi-component interventions. [NEW]

NICE (2014b) recommends that practitioners in specialist domestic and sexual violence services should provide all those currently (or recently) affected by domestic violence and abuse with advocacy and advice services tailored to their level of risk and specific needs. It further recommends that practitioners in primary, mental health and related care services should provide people who experience domestic violence and abuse and have a mental health condition with evidence-based treatment for that condition.

There is evidence for the effectiveness of single component therapeutic interventions aimed at the mother and child (including young children) in improving child behaviour, mother-child attachment and stress and trauma-related symptoms in mothers. [NEW]

NICE (2014b) recommends providing specialist domestic violence and abuse services for children affected by domestic violence and abuse, matching the support to the child's developmental stage and seeking to address the emotional, psychological and physical harms arising from a child or young person being affected by domestic violence and abuse, as well as their safety.

### Group-based interventions for perpetrators of IPV

There is insufficient evidence to draw clear conclusions about the effectiveness of CBT with men who had physically abused their female partner.

A review of a broader range of interventions, including CBT, psychoeducational and pro-feminist (Duluth) models, found a number of positive outcomes but was unable to attribute these results to particular intervention programmes.

The effectiveness of perpetrator programmes is largely limited to an assessment of their impact on criminal justice outcomes, such as arrest, assault and aggression. There is scope to extend evaluation work to include other measures of behaviour change.

NICE (2014b) recommends that health and wellbeing boards and commissioners who commission perpetrator interventions should commission and evaluate tailored interventions for people who perpetrate domestic violence and abuse in accordance with national standards.

### Identifying families in need of additional support

NICE (2014b) recommends that trained staff in antenatal, postnatal, reproductive care, sexual health, alcohol or drug misuse, mental health, children's and vulnerable adults' services ask service users whether they have experienced domestic violence and abuse. This should be a routine part of good clinical practice, even where there are no indicators of such violence and abuse.

### Implementation issues

NICE (2014b) recommends that practitioners in specialist domestic and sexual violence services should provide all those currently (or recently) affected by domestic violence and abuse with advocacy and advice services tailored to their level of risk and specific needs. The support should be offered (although not necessarily delivered) in settings where people may be identified or may disclose that domestic violence and abuse is occurring.

## Workforce skills and training

NICE (2014b) recommends that frontline staff in all services are trained to recognise the indicators of domestic violence and abuse and can ask relevant questions to help people disclose their past or current experiences of such violence or abuse.

NICE (2014b) further recommends that health and social care professionals are trained in how to respond to domestic violence and abuse. Health visitors and various other professionals (eg GPs, children's centre workers) should be trained to ask about domestic violence and abuse in a way that makes it easier for people to disclose it. Health visitors with additional domestic violence and abuse training should be trained to provide an initial response that includes risk identification and assessment, safety planning and continued liaison with specialist support services.

## Preparation and support with childbirth and the transition to parenthood

### Antenatal education

Although there is insufficient evidence to show that the techniques taught in traditional childbirth classes can reduce pain in labour, there is evidence that participation in such classes can increase satisfaction with the birth experience. [NEW]

For antenatal education there is: no evidence of impact on low birthweight; limited evidence of impact on parental health behaviours, including personal responsibility for healthcare, exercise, and nutrition; and no evidence of impact on the onset of depression, but some evidence to show that group-based social support, including antenatal preparation for parenthood classes, can be effective in supporting women with sub-threshold symptoms of depression and anxiety. Antenatal group work which has an interactive component and involves local experienced breastfeeders as volunteers is among a range of effective interventions to support the initiation and continuation of breastfeeding.

No studies were found for the effectiveness of group-based antenatal education involving drug-dependent pregnant women.

There is limited evidence (from three studies, including one RCT) of the effectiveness of multimodal programmes for adolescent parents that included a combination of nurse home visiting and/or enhanced Doula programmes with group-based social support.

Parents from minority ethnic groups value information about potential conflicts that may arise between cultural mores and messages communicated in antenatal classes. Limited evidence has found that parents from some minority ethnic groups also value

the opportunity to attend classes in community-based settings rather than city centre hospitals. [NEW]

While there are numerous studies highlighting the increased health and mental health risks to women in prison, there is limited research on antenatal preparation for this vulnerable population.

### Antenatal preparation for parenthood programmes

Antenatal programmes that focus on the transition to parenthood in high-risk couples and aim to alleviate pressures on the couple's relationship are effective in reducing relationship deterioration and strengthening parenting roles after the birth of a first child. The strongest effect is for home-based interventions for couples with multiple difficulties, so since they are expensive they are recommended as part of a stepped care approach (ie moving from practice-based assessment and advice to more intensive support). [NEW]

### Antenatal education for fathers

Review-level evidence of the impact of antenatal classes on men's preparation for their partner's labour, birth, and early fatherhood, shows that fathers-to-be benefit from participation in adjunctive, men-only sessions within standard antenatal classes, and that adolescent fathers benefit from participation in men-only preparation for fatherhood groups.

### Identifying families with additional needs

Psychoeducation for the transition to parenthood might only be necessary for couples assessed as being high-risk for future adjustment problems, suggesting that a stepped care approach is warranted.

### Implementation issues

There is a wide range of formats for the delivery of antenatal preparation for childbirth and parenthood. Care needs to be taken to provide support that is accessible and attractive to expectant parents in higher-risk groups (eg teenage mothers) and in minority groups. Qualitative studies with fathers show that men value preparation for parenthood that includes a focus on fatherhood, which may involve men only sessions or sessions led by experienced fathers.

A review of prenatal education that is designed to enhance couple relationship functioning or parenting, or to prevent relationship deterioration after the birth of a first

child, found that the best outcomes are achieved with programmes that are: designed for couples with high level of needs due to a combination of social, personal and relational difficulties; involve skills training; and are delivered in the couple's own home.

### Workforce skills and training

The delivery of home visiting programmes by professional staff (usually nurses) produces more positive effects on parent and child outcomes than delivery by para-professionals or volunteers.

## Attachment

### Preparation for parenthood programmes

As above (section on 'Preparation and support for childbirth and the transition to parenthood').

### Kangaroo Mother Care (KMC) and skin-to-skin care (SSC)

KMC in LBW infants can increase some measures of infant growth, breastfeeding, and mother-infant attachment.

Early SSC appears to benefit breastfeeding outcomes and cardio-respiratory stability, and decrease infant crying, with no apparent short- or long-term negative effects.

### Infant massage

There is no evidence to support the use of infant massage on a population basis, [NEW] but some evidence to support its use with disadvantaged and depressed mothers of babies.

### Mentalisation-based programmes

There is some evidence (from two RCTs) to suggest that mentalisation-based programmes are effective in reducing rapid subsequent childbearing, reducing the risk of child abuse, improving mental health, and improving maternal reflective functioning. [NEW]

### Video-feedback

There is good evidence to suggest that video-feedback and Video-feedback Intervention to promote Positive Parenting (VIPP) can improve parental sensitivity and

improve secure attachment. There is also evidence of improvement in both internalising and externalising problems in older children. VIPP can also improve emotional availability, child behaviour, and family environment. There is also evidence of improved attachment security in highly (but not moderately) irritable infants.

### Home visiting programmes

There is evidence from one review supporting the use of home visiting to improve maternal behaviours, including sensitivity, and limited evidence to support its use with preterm infants.

### Sensitivity-focused interventions for preterm infants

Evidence from two systematic reviews suggests that some brief sensitivity-focused interventions (eg Mother-Infant Transaction Programme; Nursing Systems Towards Effective Parenting-Preterm; Guided Interaction) may be effective in improving maternal sensitivity in mothers of preterm infants. [NEW]

### Parent-infant/toddler psychotherapy

There is evidence from one systematic review to suggest that parent-infant/toddler psychotherapy can improve infant attachment security, and limited evidence from one RCT to show improvements in a range of aspects of child functioning in traumatised children (eg child depression, co-occurring diagnoses, child behaviour, maternal post-traumatic stress disorder (PTSD), and maternal depression). [NEW]

### Attachment and Biobehavioural Catchup (ABC)

There is limited evidence (two RCTs) for ABC to show reduced negative affect expression, and higher levels of secure attachment and reduced disorganised attachment, although the findings for attachment were not sustained over time. [NEW]

### Group-based programmes

There is limited evidence (one small RCT) to show that a group-based programme with adjunctive components can improve maternal depression and some aspects of parent-infant interaction. [NEW]

### Identifying families in need of additional support

No specific issues were identified.

## Implementation issues

One robust review concludes that the most effective programmes for promoting attachment are shorter in duration, provide direct services to the parent-child dyad, use interveners with professional qualifications, and assess parent-child interactions with free-play tasks.

Recent reviews on the promotion of attachment security in preterm infants recommend routine inclusion of psychosocial support for the infants' mother. One study found different effects among families of higher and lower educational groups, and recommends additional reinforcement sessions for mothers in lower educational groups.

Infant massage programmes are most effective with parents in the middle tier of need, and should not be used on their own with parents who are high risk. A total of 14 mechanisms need to be present to promote the likelihood of massage programmes being effective, including consistency of facilitator, small groups that are provided in appropriate settings, the teaching of infant cues, and opportunities for parental socialisation.

## Workforce skills and training

International Association of Infant Massage (IAIM) training provides practitioners with better preparation to deliver infant massage training compared with other training programmes.

## Parenting support

### Preparation for parenthood programmes

As above (section on 'Preparation and support for childbirth and the transition to parenthood').

### Kangaroo Mother Care (KMC) and skin-to-skin care (SSC)

As above (section on 'Attachment').

### Parenting programmes

A review of targeted self-administered programmes for parents of children aged 2-9 years found that self-administered programmes led to outcomes similar to those achieved with more intensive therapist input. [NEW]

The evidence supports the use of targeted group-based parenting programmes to improve the emotional and behavioural adjustment of children aged 0-3 years and reduce conduct problems in that age-group. The relative effectiveness of different parenting programmes (eg group-based versus self-administered) requires more research.

There is also strong evidence to support the use of group-based parenting programmes, such as Incredible Years, to treat early signs of behavioural problems.

For children with or at high-risk of developing ADHD there is strong evidence for the effectiveness of behavioural interventions in reducing child behaviour problems.

There is evidence for the effectiveness of Stepping Stones Triple P as an intervention for improving child and parent outcomes in families of children with disabilities. [NEW]

There is some evidence that group-based parenting programmes targeting adolescent parents are effective in improving a number of aspects of parent-child interaction both in the short- and long-term, but further research is needed.

There is evidence that parent training interventions (including one-to-one, home-based, and small group) can improve the parenting knowledge and targeted skills of parents with intellectual disabilities/learning difficulties, and also improve child behaviour and health. However, there is a need for more and larger studies and for more evaluation of the impact on child outcomes and the generalisation of parenting skills.

Recent RCT studies – not included in the systematic reviews – provide further evidence for the impact of parenting programmes in terms of reducing behaviour problems. They also provide evidence for the effectiveness of individual or group-based parent training on reducing child maltreatment in families at risk, and for the positive impact on behaviour of parenting programmes that address specific challenges (eg ‘fussy eating’/mealtime difficulties, and divorce). [NEW]

### Postnatal education programmes

Behavioural interventions for infant sleep in the first six months have not been shown to decrease infant crying, prevent sleep and behavioural problems in later childhood, or protect against postnatal depression. In addition, behavioural interventions for infant sleep that are used during the first weeks and months are associated with unintended outcomes, including increased amounts of problem crying, premature cessation of breastfeeding, increased maternal anxiety, and, if the infant is required to sleep either day or night in a room separate from the caregiver, an increased risk of sudden infant death syndrome (SIDS). [NEW]

For older children, both family-based and pharmacological interventions that target sleep and eating problems are effective in the short term, but only systemic interventions have positive long-term effects on young children's sleep problems. [NEW]

### Identifying families in need of additional support

One review of self-help parenting programmes found evidence to support the application of the Eyberg Child Behaviour Inventory in order to identify children with conduct disorders exceeding the clinical range. [NEW]

### Implementation issues

The implementation programmes with fidelity is an important component of clinical effectiveness in relation to the use of behavioural and cognitive-behavioural group-based parenting programmes. Authorised workshops, a group leader certification/accreditation process, a detailed treatment manual, and checklists can all help achieve a high level of treatment fidelity.

Key barriers to engaging fathers in parenting programmes are: cultural (eg relevance to co-parents); institutional (eg how father-friendly the organisation is); professional (eg staff capabilities, attitudes); operational (eg disaggregation of data by sex); content (eg relevance to fathers); resource (eg sufficiency for implementing changes needed); and policy (eg clear recognition of co-parents in strategies, action plans). [NEW]

### Workforce skills and training

Several included studies draw attention to the need to train practitioners in the delivery of manualised programmes.

### Keeping safe

#### SIDS (sudden infant death syndrome)

Evidence for the impact of home monitoring systems on preventing SIDS is inconclusive owing to the dearth of studies with a comparison group and the difficulty of drawing conclusions from the cohort studies that have been conducted (eg owing to different inclusion criteria, and different types of device). However, observational studies of interventions show that advice on avoiding prone sleeping position and tobacco exposure markedly reduces the incidence of SIDS. [NEW] NICE guidance on postnatal care (NICE 2014c, guideline CG37) recommends informing parents and

carers that: there is an association between co sleeping (parents or carers sleeping on a bed or sofa or chair with an infant) and SIDS; the association between co sleeping and SIDS is likely to be greater when they, or their partner, smoke; and the association may be greater with (a) parental or carer recent alcohol consumption, or (b) parental or carer drug use, or (c) low birth weight or premature infants. (These NICE recommendations cover the first year of the infant's life.)

## Unintentional injury

Parenting interventions, most commonly provided within the home, are effective in reducing child injury and improving home safety. [NEW]

Home safety education increases the use of home safety practices and there is some evidence that it can reduce overall injury rates. There is conflicting evidence regarding the provision of home safety equipment in terms of its impact on safety practices and injury rates. [NEW]

There is a general lack of evidence about the impact of education to prevent dog bites in children. [NEW]

There is evidence that interventions to promote the prevalence of smoke alarms or the use/maintenance of fire alarms in households with children that include education, the provision of equipment, and home inspection are effective in increasing the household possession of a functioning smoke alarm. More intensive interventions that include the fitting of equipment in addition to education, the provision of equipment, and home inspection are most effective. [NEW]

Home safety interventions improve poison-prevention practices such as the safe storage of medicines and cleaning products.<sup>6</sup>[NEW]

Home-safety interventions are effective in increasing stair-gate use and reducing baby-walker use. However, the evidence does not show an increase in the possession of window locks, screens or windows with limited opening, or nonslip bath mats. Only two studies measured falls, and these found no effect on baby-walker related falls. There is limited evidence (one cohort study) that the provision of home safety information by

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<sup>6</sup> Home safety interventions improve poison-prevention practices such as the safe storage of medicines and cleaning products, the possession of syrup of ipecac, and having poison control centre numbers accessible, but the impact on poisoning rates is unclear. [NEW]

However, it is not recommended in the UK for parents to give children syrup of ipecac to induce vomiting after the ingestion of poisonous substances, so the findings of the relevant reviews on this issue may therefore only be relevant to countries where it is still recommended that parents keep ipecac at home for such use. In addition, rather than having poison control centre numbers accessible, in the UK members of the public are recommended to call NHS 111.

health professionals and relatives can also reduce falls and fall-related injuries, and more research is needed on this subject. [NEW]

There is limited evidence of the effectiveness of interventions that modify the home environment in terms of injury reduction (eg the provision of free/low-cost home safety equipment, advice/information, and home-based hazard-assessment). [NEW]

### Abuse and neglect

There is insufficient evidence to support the use of one-to-one and group-based parenting programmes to prevent the reoccurrence of physical abuse or neglect in families where there is a history of this, although there is some, albeit limited, evidence that some parenting programmes improve outcomes associated with physically abusive parenting.

There is evidence that home visiting interventions in early childhood for at-risk families lead to reductions in Child Protective Services (CPS) reports, accident and emergency visits, hospitalisations and self-reports of abuse, as well as improved adherence to immunisations, although there is some inconsistency in results across the programmes identified. Home visitation by paraprofessionals holds promise for socially high-risk families with young children, including in the area of reducing harsh parenting. [NEW]

### Identification of families with additional needs

Objective risk assessments are the best way to identify families at risk of child abuse and neglect, and clinicians in contact with families during early child years (ie paediatricians, health visitors) are well positioned to conduct these. [NEW] Risk factors include: young age; single/first-time mother; history of child maltreatment; substance misuse; unemployment; and low socioeconomic status. Attention needs also to be paid to specific features of the family's physical environment. NICE provides guidance on when to suspect child maltreatment (NICE 2009a, guideline CG89), and the associated care pathway outlines the actions health visitors should take if child maltreatment is suspected.

NICE guidance on preventing unintentional injuries in the home among under-15s (NICE 2010d, guideline PH30) recommends that local authorities, safeguarding children services, and health and wellbeing boards should prioritise households at greatest risk, through the assessment of local needs, priority delivery, and equipping professionals with relevant materials/knowledge. [NEW]

NICE (2010d) recommends that home safety is integrated into home visits (including by health visitors). Specifically, those undertaking the home visits should provide home safety advice and, if the family or carers agree, refer them to agencies that can

undertake a home safety assessment and can supply and install home safety equipment that complies with recognised standards. Parents/carers should be encouraged to conduct their own home safety assessment using an appropriate tool. [NEW] High-risk families regarding child safety include, among others, those in rented or overcrowded accommodation with high levels of turnover.

## Implementation issues

There are numerous facilitators (eg home visits, requiring families to make minimal changes) and barriers (eg socio-economic constraints, parental habits, cultural norms, issues of trust or a lack of control over the home environment) regarding the implementation of injury prevention interventions for children aged under five. [NEW]

NICE (2010d) recommends that education, advice and information about safety are provided during both a home safety assessment and the supply and installation of home safety equipment. Home safety assessments and interventions should be followed up to see if there are any new requirements, and to assess whether the equipment installed is still functional and appropriate. [NEW]

The timing regarding the provision of injury prevention information and the cost of safety equipment are important considerations in relation to injury prevention. [NEW]

## Workforce skills and training

The most effective home visiting interventions to reduce unintentional injury for children in the home are delivered by trained healthcare professionals (eg social workers, child health nurses, qualified family support workers, and family nurses).

Where home safety equipment requires skilled fitting, it is essential in socio-economically deprived communities that it is installed by technicians in order for it to remain installed in the longer term. [NEW]

## Nutrition and obesity prevention

### Promotion of breastfeeding

Effective strategies to promote breastfeeding include peer support, either one-to-one or as part of a group, and structured support from professionals. Strategies that rely mainly on face-to-face support are significantly more likely to begin and sustain breastfeeding than advice offered from a distance (eg via telephone).

There is some new evidence that online interventions may also contribute to breastfeeding initiation and duration. The duration of effective online support is unclear.

A review of workplace interventions to support and promote breastfeeding in an employment context (on-site or outside of the workplace) among women returning to paid work after the birth of a child found no RCT or quasi-RCT studies.

No form of antenatal breastfeeding education has been found to be significantly more effective than another in increasing breastfeeding initiation or duration.

### Prevention and treatment of child overweight and obesity

The most effective interventions for the prevention and treatment of overweight and obesity in children involve a multi-component and holistic approach that aims simultaneously to improve diet and physical activity in the multiple domains of children's lives. Specifically, they involve parents/the whole family, physical activity, nutritional education, and – for children in school/preschool – support from teachers. Attention to social and environmental factors is important and often given insufficient attention. Narrow interventions focusing on single aspects of behaviour are unlikely to achieve long-term change in efforts to tackle obesity. [NEW]

The following have been identified as effective components of interventions: decreasing preschoolers' screen time; decreasing consumption of high fat/calorie drinks/foods; increasing physical exercise; increasing sleep; modifying parental attitudes to feeding; and promoting authoritative parenting. [NEW]

Interventions to reduce children's sedentary behaviour have a small but significant effect on reducing time spent in these behaviours and/or improvements in anthropometric measurements. Parent training can have a significant effect on reducing children's screen time. There is evidence to recommend the use of electronic TV monitoring devices in order to achieve this. [NEW]

While there is evidence to support a positive relationship between increased or higher physical activity and favourable measures of adiposity in preschoolers, there is a need for more rigorous research designs in this age group. [NEW]

In terms of the promotion of healthy eating, the most effective strategies to increase children's acceptance of unfamiliar (and healthy) foods are: intensive; incorporate behavioural strategies; give a clear message; and are tailored to the educational level and material resources of families.

There is strong evidence that the involvement of whole families (parents and children) in interventions that promote both healthier diet and more exercise can have an impact on reduction of BMI. [NEW]

Interventions to increase fruit and vegetable consumption in children aged under 6 years show no, or at best mixed, effects.

There is evidence that general parenting programmes that include lifestyle components such as physical activity and nutrition have small-to-moderate effects on weight-related measures.

There is a relative lack of evidence about what is effective with children under the age of six years in terms of lifestyle weight management for overweight and obese children.

Findings from recent RCTs not included in the systematic reviews, but including children in the 0-3 years age range, and addressing effective methods of preventing obesity in young children indicate that some home visiting programmes delivered during the postnatal period have positive effects on family/parental nutritional practices (eg increased duration of breastfeeding, later introduction of solid foods, less use of food as a reward or to make children feel better), and – in one study – on children's intake of water, vegetables and healthy snacks. These programmes focus on diet and/or exercise. [NEW]

There is also emerging evidence – again from recent RCTs that include some children in the 0-3 years age range – to support the use of group-based interventions with mother-infant dyads in altering maternal feeding practices (eg reduced sweet snack intake, increased consumption of water and fruit/vegetables) and reducing the time that children spend watching television. [NEW]

Findings from recent RCTs (as above) of multi-component and anticipatory guidance interventions are also promising, with evidence of impact on, for example, television viewing and family nutritional practices. [NEW]

### Infant feeding problems

There is evidence that family-based behavioural programmes are effective in ameliorating severe feeding problems in children under the age of five.

### Identifying families with additional needs

Universal healthcare checks in the early years provide an opportunity for health professionals to identify families who may need additional support.

Several socio-demographic factors are associated with a lack of physical activity, indicting groups of children and families to be given special attention.

NICE guidance on managing overweight and obesity in children and young people (NICE 2013, guideline PH47) recommends that if health professionals (including health visitors) have concerns about a child's weight they should measure their BMI and use UK-WHO growth charts to determine if children are overweight or obese. They should tell parents or carers of children who have been identified as being overweight or obese about local lifestyle weight management programmes and make a referral if it is clinically appropriate and the family is ready. [The guidance notes that programmes specifically aimed at children aged under six are excluded from the recommendation owing to no evidence about the effectiveness of these interventions being identified.]

### Implementation issues

NICE guidance on maternal and child nutrition (NICE 2008, guideline PH11) recommends a co-ordinated programme of interventions across different settings to increase breastfeeding rates: raising awareness of the benefits; giving information about the barriers and how to overcome them; providing training for professionals; offering peer support programmes; providing education and information for pregnant women on how to breastfeed; offering proactive support during the postnatal period; and implementing structured programmes that encourage breastfeeding – with the UNICEF 'Baby Friendly Initiative' as a minimum standard.

Greater efforts should be made to deliver parent interventions to address obesity in an accessible format (eg online), since for young children parents are the primary agent of change and parents can find it hard to attend face-to-face sessions owing to time commitments.

### Workforce skills and training

NICE (2008) recommends that health professionals who provide advice and support to breastfeeding mothers have the required knowledge and skills, and that support workers are also adequately trained and receive ongoing support.

Interventions that involve physical activity should be delivered by trained staff in order to ensure intervention efficacy.

### Oral health

### Evidence-based guidance

There is strong evidence to for interventions that contribute to the oral health of children aged 0-5 years, for example in relation to feeding practices, diet, and tooth-brushing with fluoride toothpaste. Public health interventions for this age group should follow these guidelines.

### Access to fluoride

The targeted and timely provision of toothbrushes and fluoride toothpaste reduces tooth decay.

There is high-quality evidence from a number of systematic reviews that fluoride varnish is effective in preventing caries. There is evidence that targeted fluoride varnish programmes are effective in reducing caries. [NEW] NICE guidance on oral health (NICE 2014e, guideline PH55) recommends that local authorities and health and wellbeing commissioning partners should consider fluoride varnish programmes for nurseries in areas where children are at high risk of poor oral health.

### Oral health education/promotion

There is inconclusive evidence for the impact on child oral health outcomes of person-centred counselling based on motivational interviewing, for example with new mothers. [NEW]

One-off education by dental staff in the general population (eg dental staff providing education to new mothers or visiting schools annually) has limited effects on clinical outcomes. [NEW]

There is a lack of RCT evaluations of providing training to health, education and social care professionals to help them deliver oral health interventions as part of their daily professional role. However, there is some evidence of effectiveness (eg on maternal tooth-brushing behaviour, child tooth decay). The success of such interventions will depend largely on the extent to which the education provided by practitioners is evidence-based. [NEW]

There is evidence from comparison group studies that integrating oral health advice into home visits by health/social care workers, targeted at families at higher risk of oral disease can reduce tooth decay. This requires building the capacity of health and social care workers to provide such support and providing regular update training. [NEW]

### Supervised tooth-brushing

Supervised tooth-brushing (with fluoride toothpaste) in targeted childhood settings is effective in reducing tooth decay. Targeting is important: programmes are more effective in areas with high rates of tooth decay and less effective when children are already brushing their teeth twice a day with fluoride toothpaste. [NEW] NICE (2014e) recommends that local authorities and health and wellbeing commissioning partners should consider commissioning a supervised tooth-brushing scheme for early years settings in areas where children are at high risk of poor oral health.

### Healthy food and drink policies in childcare settings

Reviews did not identify any comparison group studies of healthy food and drink policies in childcare settings but it is argued that this intervention has value for other reasons (eg reducing inequalities by creating a health-promoting atmosphere, low cost/resource implications, potential for sustainability).

### Multi-component strategies

There is evidence from one interrupted time-series evaluation that oral health promotion campaigns delivered through multiple venues and targeting several aspects of oral health may be associated with a reduced risk of dental decay in children under the age of five living in deprived communities. [NEW]

### Identifying families with additional needs

The main risk factors for poor oral health in children are well established. Tools that help health visitors and other professionals to assess risk are available, although as yet there is no consensus on which one is best. [NEW]

### Implementation issues

Where possible, high quality oral health advice should be integrated into health programmes. [NEW] NICE (2014e) recommends that frontline health and social care staff are able to give parents, carers and other family members advice on the importance of oral health and how to promote it (eg promoting breastfeeding, healthy food/drink, the use of fluoride toothpaste).

Targeting high-risk families is important to achieve the best effects, as is good engagement with parents, schools and dental practices. [NEW]

Public health approaches need to provide education that is in line with evidence-based guidelines. [NEW]

### Workforce skills and training

All frontline staff in early years services, including education and health, should receive training at their induction and at regular intervals, so they can understand and apply the principles and practices that promote oral health. [NEW] NICE (2014e) recommends that health and social care staff working with children at high risk of poor oral health should receive training on a range of issues, including how good oral health contributes to people's overall health and well-being, the consequences of poor oral health, how to prevent tooth decay, techniques for maintaining good oral hygiene (eg the use of fluoride toothpaste), and what advice to give carers.

## **Promotion of child development, including speech, language and communication**

### **Speech, language and communication**

Speech and language interventions that take place in preschool settings have a significant effect on mainly cognitive outcomes, but also social skills and progress within school.

Interventions aimed at improving vocabulary through instruction, such as dialogical reading and storybook reading, have a large effect on vocabulary measures, especially when delivered by trained professionals. However, middle- and upper-income at-risk children are significantly more likely to benefit from vocabulary interventions than those children also at risk and poor. [NEW]

Early childhood education and care programmes aimed at young children from socially disadvantaged backgrounds have considerable positive short-term effects and somewhat smaller long-term effects on cognitive development. However, they cannot compensate completely for developmental deficits that are due to children's socio-economic background.

Parent-implemented language interventions are effective for young children with language impairments, showing a positive impact on children's receptive and expressive language skills, receptive and expressive vocabulary, expressive morphosyntax, and rate of communication. [NEW]

Speech and language therapy (SLT) interventions for children with primary speech or language delay or disorder have mixed effects, which include a positive effect for children with expressive phonological and expressive vocabulary difficulties. [NEW]

There is limited evidence of the effectiveness of home-based interventions (such as home visiting programmes) that are specifically targeted at improving developmental outcomes, such as cognition and intrapersonal development, for preschool children

from socially disadvantaged families. The Nurse Family Partnership seems to be an exception to this statement. [NEW]

Recent RCTs (not included in the systematic reviews) that evaluated the effectiveness of interventions aimed at improving young children's speech, language and communication show evidence of a positive impact for some (though not all) interventions aimed at helping parents to read to and use enriched language with their children. They also show a generally positive effect for interventions aimed at supporting teachers to work more effectively (through training and/or new curricula). The interventions are mostly targeted, either at socio-economically disadvantaged children or at children with signs of difficulties in the areas of speech, language or literacy. [NEW]

### Social, emotional and cognitive development

There is evidence that programmes that aim to improve young children's self-control are effective for improving self-control and reducing problem behaviours.

Home visiting interventions for at-risk families show positive benefits, including for parent-child interaction, parenting behaviour and children's cognitive and socio-emotional development. NICE guidance on social and emotional wellbeing in the early years (NICE 2012, guideline PH40) recommends that health visitors or midwives should offer a series of intensive home visits by an appropriately trained nurse to parents assessed to be in need of additional support. Activities should be based on a set curriculum and cover issues such as maternal sensitivity, home learning and parenting skills.

There is moderate evidence that programmes in educational and day care settings for young children can have a positive impact on various outcomes, including cognitive development, school readiness, behaviour and attainment. NICE (2012) recommends that children's services (including health visitors) should ensure that all vulnerable children can benefit from high-quality childcare outside the home on a part- or full-time basis and can take up their entitlement to early childhood education, where appropriate. Services should aim to enhance children's social and emotional wellbeing and build their capacity to learn.

### Identifying families with additional needs

A range of factors indicate that children may need additional support with language and communication in the early years, including low income, low level of maternal education, low birthweight, and parental substance misuse.

A range of factors indicate that children may need additional support with socio-emotional development in the early years, including speech and communication difficulties, parental substance misuse, and intimate partner violence. Relevant professionals (including health visitors) should engage in outreach activities to reach vulnerable families.

NICE (2012) recommends that health professionals in antenatal and postnatal services should identify factors that may pose a risk to a child's social and emotional wellbeing (including factors that could affect the parents' capacity to provide a loving and nurturing environment). They should discuss with the parents any problems they may have in relation to the father or mother's mental health, substance or alcohol misuse, family relationships or circumstances and networks of support.

### Implementation issues

There needs to be a closer relationship between speech and language therapists, teachers and parents to increase the chances of speech and language interventions being successful.

Barriers to involving parents in interventions to improve young children's social, emotional and cognitive development include a lack of parental knowledge about the content and potential benefits of services and a lack of programme flexibility.

A range of approaches can enhance parents' ongoing commitment to home visiting interventions, including home visitors being flexible to parental needs in terms of delivery, and tailoring programme content based on parental needs.

NICE (2012) recommends that health and early years practitioners are systematic and persistent in their efforts to encourage vulnerable parents to use early years services. Examples of recommended activities are targeted publicity campaigns, sending out repeat invitations, and home visits by family support workers.

### Workforce skills and training

Speech, language, and communication interventions need to be implemented by individuals who have received appropriate training.

For home visiting programmes, the more structured and intensive interventions (with a focus on child-mother interaction) delivered by specially trained nurses during the first 18 months appear to be more effective in terms of impact on vulnerable children's social and emotional wellbeing than lower intensity and less structured interventions involving lay providers.

## Implementation issues

### Identifying families with additional needs

Early identification takes place over a period of time as the child develops and the parent builds trust in the practitioner, and as the practitioner is able to assess and analyse the information from an ecological perspective.

Identifying families with additional needs involves the following: universal assessment points being used as an opportunity to promote wellbeing as well as to identify risk; the use of a partnership model of working; training the workforce, for instance to undertake promotional interviews and use a range of standardised assessment tools alongside their professional skills; and infrastructure arrangements to enable reviews to take place.

### Matching needs and services

Not all families are able to benefit from services being provided, so it is important to match needs and services.

### Reaching the 'hard to reach'

Difficulties in engaging families, including both recruitment and retention, are one of the main reasons for interventions failing.

There is evidence from the evaluation of parenting and child mental health programmes to suggest that brief, intensive engagement interventions that target both practical (eg schedules, transportation) and psychological (eg family members' resistance, beliefs about the treatment process) barriers, at the point of entry to treatment, can be effective in improving engagement in early sessions.

### Working with families, and family readiness to change

One of the key factors in facilitating behaviour change is the relationship that programme staff are able to establish with the participating families. Such relationships

need to be based on a partnership model of working – that is, they need to be supportive, guiding, motivating, strengths-based, and consistent.

A number of interventions have been developed to promote parent engagement with programmes by providing practitioners with core sets of skills to enable partnership and collaborative working.

In addition to partnership working, the evidence suggests the importance of continuity in terms of the extent to which pregnant women and new mothers/parents are provided with the opportunity to establish a small number of key relationships.

### Practitioner readiness and motivation to change

A range of factors can affect a practitioner's readiness to take on board the practices involved with the delivery of new ways of working and new services. This has implications for recruitment, training, and supervision.

The design and introduction to practice of evidence-based ways of working need to take account of practitioners' motivations (eg concern for social injustice, professional autonomy, desire to build relationships with families).

### Fidelity

Some local adaptation or co-construction to ensure that a programme is delivered in a culturally sensitive way can result in the most effective delivery. However, adaptation that involves core programme components being delivered suboptimally or not at all, is likely to diminish the impact.

Various strategies are recommended to help strengthen implementation fidelity, including training, coaching and monitoring.

### Workforce development

Good recruitment, training and supervision are all core to the effective delivery of interventions.

Further training will be required for many of the evidence-based ways of working that have been identified in this review. Skills training for the workforce on an ongoing basis should therefore be a major part of investment plans for trusts.

### Economic analysis

Systematic reviews of the links between short-term outcomes in trials (eg child abuse/neglect, conduct problems) and longer-term outcomes (eg school completion, test scores, crime) form the foundation for estimates of the monetary benefits of interventions over the life course for a wide range of areas. Three reviews focus specifically on predictors measured before the age of five.

Cost-benefit data are presented for 11 interventions for children in the 0-5 age range for which UK cost-benefit data exists. There is a positive cost-benefit ratio for 8 of the 11 programmes analysed. These include parent training, early education and home visiting interventions.

In many cases, improvement in one early outcome can yield future benefits in many different areas in a child's life. In addition, some outcomes lead to benefits via multiple other intermediate steps. For example, a reduction in child abuse and neglect can lead to increased earnings via subsequent improved test scores, attainment of higher levels of education, or reduced depression.

Similarly, multiple early outcomes can contribute in combination to the same benefit, such as reductions in disruptive behaviour, ADHD symptoms, and internalising symptoms, all leading to children's increased projected earnings as adults.

## Research recommendations

This review did not explicitly seek to identify areas for new research. However, some areas where research is needed to help enhance the delivery of the Healthy Child Programme can be identified. The data extraction and critical appraisal tables contain additional information on this subject.

### General

Further research is needed to:

- examine how effective promotional interviews are in identifying women in need of further support, and improving outcomes
- establish if it possible to develop integrated targeted care pathways to improve outcomes across a range of domains (eg nutrition, attachment, learning)

### Maternal mental health

Further research is needed to:

- identify interventions that can be delivered by midwives and health visitors as part of the Healthy Child Programme, and that are effective in supporting women experiencing anxiety and depression in the antenatal period

- address the gap in the literature on effective interventions in maternal mental health and wellbeing in pregnancy
- explicitly address the benefits for fathers
- examine the comparative effectiveness of different types of programmes, along with the mechanisms by which such programmes bring about improvements in parental psychosocial functioning

## Smoking

Further research is needed to

:identify the most effective smoking cessation and relapse prevention interventions for women in pregnancy and postpartum

- test for longer-term effects, and use nicotine monitors and cotinine measures as well as behavioural outcomes

## Drugs and alcohol

Further research is needed to:

- identify effective methods of working with substance-dependent women in pregnancy to support the mother and protect the foetus
- test the effectiveness of integrated programmes that combine substance treatment with a focus on parenting
- test the effectiveness of home visiting with higher-quality, larger-scale trials

## Intimate partner violence

Further research is needed to:

- identify effective methods of supporting couples experiencing 'situational' violence, that address both the inter-partner violence and the parenting
- protect women and children exposed to extreme controlling violence
- determine whether interventions prevent or reduce domestic violence episodes during pregnancy, or have any effect on maternal and neonatal mortality and morbidity outcomes, using high-quality RCTs with adequate statistical power
- establish the most effective interventions for women who are identified at risk of domestic violence during pregnancy
- compare screening versus case finding (with or without advocacy or therapeutic interventions) for women's long-term wellbeing, to better inform future policies in healthcare settings

## Preparation and support for childbirth and the transition to parenthood

Further research is needed to:

- establish the most effective ways of supporting pregnant women and their partners to prepare for birth and parenting
- test the impact on health outcomes of health promotion interventions that aim to identify and modify risk factors before pregnancy

## Attachment

Further research is needed to:

- evaluate the effectiveness of targeted preparation for parenthood programmes
- assess whether video feedback can be effectively delivered by health visitors as part of the Healthy Child Programme
- investigate the mechanism of change in interventions on outcomes for both mothers and preterm infants
- isolate the effects for fathers
- study whether interventions targeting preterm infants within existing programmes may strengthen the impact and cost benefits of home visiting in at-risk populations

## Parenting support

Further research is needed to:

- assess the impact of media-based, universal methods of supporting parenting (eg apps, websites, leaflets)
- evaluate the impact of parenting interventions that are designed specifically to support fathers
- assess the long-term effectiveness of parenting support
- evaluate the impact of parent training interventions for parents with intellectual disabilities/learning difficulties on child outcomes and the generalisation of parenting skills
- consider what dose of home visiting interventions is most beneficial and address retention issues

## Keeping safe

Further research is needed to:

- determine what works to reduce falls and fall-related injuries
- identify ways of integrating effective methods of protecting children from unintentional injuries
- identify effective methods of supporting parents who are at risk of child abuse
- identify effective poisoning prevention interventions

- assess the effectiveness of home safety education using objective measures of injury

## Nutrition and obesity prevention

Further research is needed to:

- identify primary methods of preventing obesity during the perinatal period
- evaluate some of the innovative family-based methods of working to support healthy diet and exercise, and to address early signs of obesity
- establish the benefits of various types of workplace interventions to support, encourage and promote breastfeeding among working mothers
- examine interventions targeting different types of sedentary behaviours and the effectiveness of specific behaviour change techniques across different contexts and settings
- investigate the impact of food advertising on food choices made by preschool children and their parents, the impact of widening choice in the range of confectionery marketed in shops and supermarkets for young children, the effectiveness of programmes such as Five-a-Day, printed information such as Birth to Five, and the effectiveness of the re-structured Healthy Start programme
- study the effectiveness and cost-effectiveness of interventions to reduce inequalities in childhood obesity

## Promotion of child development, including speech, language and communication

Further research is needed to:

- assess the effectiveness of both universal and group-based targeted methods of supporting early language and learning
- assess the effectiveness and cost-effectiveness of home visiting compared with centre-based methods of providing targeted support
- investigate interventions targeting areas that enhance cognitive function, such as joint attention, imitation, memory, problem solving and decision making

## Oral health

Further research is needed to:

- identify the best ways of identifying children who need targeted support
- test different methods for promoting effective oral health behaviours in the family, especially multi-component, community-based strategies