

Promotion of breastfeeding initiation and duration

Evidence into practice briefing

*Lisa Dyson, Mary Renfrew, Alison McFadden, Felicia
McCormick, Gill Herbert and James Thomas*

This work was undertaken by the Public Health Collaborating Centre on Maternal and Child Nutrition on behalf of the Health Development Agency (HDA), but published after the functions of the HDA were transferred to the National Institute for Health and Clinical Excellence (NICE) on 1 April 2005.

This document does not represent NICE guidance.

Foreword

This evidence into practice briefing represents the culmination of work commissioned by the former Health Development Agency (HDA). It presents a series of evidence-based actions for promoting the initiation and continuation of breastfeeding, particularly among population groups where breastfeeding rates are low. These have been formulated through the integration of published scientific literature with practitioner expertise and experience. The briefing includes characteristics of effective programmes for specific settings and population sub-groups. Strategies for overcoming barriers to implementation and change are suggested.

The HDA was established in 2000 to build the evidence base in public health with an emphasis on getting what works into practice. As part of its Evidence into Practice (EIP) work, the HDA commissioned several collaborating centres, including the Public Health Collaborating Centre (PHCC) on Maternal and Child Nutrition to review the evidence and, through fieldwork with practitioners, present it in a meaningful and useful way to other practitioners, commissioners, managers and researchers. This briefing is the outcome of that process.

The work was undertaken by the PHCC on Maternal and Child Nutrition on behalf of the HDA.

However, it is being published after the HDA's functions were transferred to the National Institute for Clinical Excellence to form the National Institute for Health and Clinical Excellence (NICE).

This briefing does not represent NICE guidance.

Professor Michael P Kelly
Director of the Centre for Public Health Excellence (CPHE)
National Institute for Health and Clinical Excellence

Acknowledgements

We would like to thank the following individuals and organisations for their valuable input and support throughout the process of conducting this work:

Louise Wallace (Health Services Research Centre, Coventry University); Amanda Sowden and Julie Glanville (Centre for Reviews and Dissemination, University of York); and Janet Cade (Nutritional Epidemiology Group, University of Leeds), supported the work of the Collaborating Centre throughout the last year.

Fiona Dykes and Sue Burt (University of Central Lancashire), and Lalitha D'Souza and Helen Spiby (Mother and Infant Research Unit, University of York), who supported the consultation process.

Cheryll Adams (Community Practitioners and Health Visitors Association), Sue McDonald and Janet Fyle (Royal College of Midwives), National Childbirth Trust, La Leche League, Breastfeeding Network, Association of Breastfeeding Mothers, Tam Fry (Child Growth Foundation) and Brigid McConville all contributed to the consultation process in a range of ways.

Our sentinel sites each involve the organisations and individuals working in areas that can have an impact on maternal and child nutrition – hospitals, primary care trusts, social services, local authorities and others. These sites supported the consultation process described here. Sites are based in areas of deprivation, including both rural and urban areas, and include Leeds, the West Midlands and North East London, and we are grateful to all staff who have been involved in our work there. In particular we would like to thank the local facilitators and organisers of the field meetings and workshops in these sites: Susan Wallis, Catherine Stone, Kath Lane, Helen Onions, Sarojini Ariyanayagam, Sue Burt, Sue Cerclay and Joy Hastings.

We extend our gratitude to all those who shared their expertise, knowledge and experience with us through responding to the electronic consultation or participating in the fieldwork meetings and workshops. The two rounds of consultation with stakeholders produced extensive and valuable comments which have improved the final document.

We thank colleagues in NICE, Mike Kelly, Tricia Younger, Caroline Mulvihill, for their ongoing input and support.

Finally, we thank Liz Jefferson, Jill Hunt and Jenny Brown for their expert secretarial support.

Glossary

1. Initiation of breastfeeding: the mother is defined as having initiated breastfeeding if, within the first 48 hours of birth, either she puts the baby to the breast or the baby is given any of the mother's breast milk (Department of Health 2005) www.dh.gov.uk/assetRoot/04/07/16/96/04071696.pdf

2. Predominant breastfeeding: the infant's predominant source of nourishment is breast milk. The infant may also receive water or water-based drinks (such as sweetened or flavoured waters, teas and infusions); fruit juice; oral rehydration salts (ORS); drop and syrup forms of vitamins, minerals and medicines, and folk fluids (liquids used for non-nutritional purposes, such as oil to relieve constipation) in limited quantities. With the exception of fruit juice and sugar water, no food based fluid is allowed under this definition (WHO 1991).

3. Exclusive breastfeeding: the infant has received only breast milk from his/her mother or a wet nurse, or expressed milk and no other liquids, or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines (WHO 1991).

4. Formula milk: modified cow's milk or modified soy liquid used for infant feeding in lieu of breast milk. Also referred to as 'breast milk substitutes', 'artificial feeding', or 'bottle feeding'.

5. Peer support: support offered by women who have themselves breastfed, are usually from similar socio-economic backgrounds and locality to the women they are supporting and who have received minimal training to support breastfeeding women. Peer supporters may provide breastfeeding support services voluntarily or receive basic remuneration and/or expenses.

NB: North American terminology generically refers to 'peer supporters' as 'peer counsellors'. This term has not been used for the purposes of this report, regardless of the country of study and terminology used in the primary paper.

6. Volunteer support: breastfeeding support offered by women who have themselves breastfed and who have received minimal training to support breastfeeding women. Volunteer supporters may provide breastfeeding support services voluntarily or receive basic remuneration and/or expenses.

7. Breastfeeding counsellors: women who have themselves breastfed and who have completed an accredited training with one of the four recognised UK volunteer organisations, namely, National Childbirth Trust (NCT), La Leche League (LLL), Breastfeeding Network (BfN) and Association of Breastfeeding Mothers (ABM). This training equips counsellors with listening and counselling skills in line with counselling ethics to provide mother-centred support to breastfeeding women. Breastfeeding counsellors fulfil a range of support and advocacy roles including breastfeeding counselling support to mothers, training of peer supporters and health professionals and political lobbying to promote and protect breastfeeding.

8. 'Hands off' approach to positioning and attachment: providing assistance to a mother to help her position and attach her baby effectively, so feeding is pain-free and effective; while supporting the mother to handle her baby herself, avoiding the use of the carers hands to position the baby.

9. Teenager: under 20 years, as defined by the 'Infant feeding survey 2000' (Hamlyn et al. 2002) and the Office for National Statistics 'Birth statistics' (ONS 1999).

10. Health visitor: this term is widely recognised by health professionals and families. It is now being replaced in formal documents by the term 'SCPHN', specialist community and public health nurse (which also includes school nurses and occupational health nurses), though this term does not seem to be in common use yet in professional or service user settings. While respecting this development therefore, we use the term health visitor throughout this document.

Contents

Foreword.....	2
Acknowledgements.....	3
Glossary.....	4
Executive summary.....	7
Evidence-based actions	8
1. Introduction.....	11
1.1 What is this evidence into practice briefing about?.....	11
1.2 Who is it for?.....	11
1.3 How was it developed?.....	11
2 Background.....	12
2.1 Why focus on breastfeeding promotion?	12
2.2 What is the policy context within England?.....	14
2.3 Policy and cultural context	15
2.4 What factors influence participation in breastfeeding?	16
3 The evidence base for effective interventions.....	18
3.1 Review-level findings: summary of effective, ineffective and harmful interventions.....	18
3.2 Gaps in the evidence base for intervention studies	19
3.3 Methodological weaknesses in the evidence base	20
3.4 Moving from the evidence base to evidence-based actions	20
4 Evidence-based actions.....	22
4.1 The UNICEF Baby Friendly Initiative (BFI) in the maternity and community services.....	22
4.2 Education and/or support programmes.....	26
4.3 Changes to policy and practice within community and hospital settings.....	31
4.4 Complementary telephone peer support.....	35
4.5 Education and support from one professional	36
4.6 Education and support for one year.....	37
4.7 Media programmes.....	38
5 Interventions which have been shown to be ineffective at increasing breastfeeding rates	39
5.1 Breastfeeding literature alone.....	39
6 Effective interventions: key attributes	40
7 Monitoring the impact of effective interventions	41
8 From evidence to action.....	42
APPENDIX A: The evidence base for effective interventions: review-level findings	55
APPENDIX B: Overview of 'short list' of evidence-based actions	60
APPENDIX C: The UNICEF UK Baby Friendly Initiative 'best practice' standards	67
APPENDIX D: References	69

Executive summary

Breastfeeding has a major role to play in public health, promoting health in both the short and long term for baby and mother. The UK has one of the lowest rates of breastfeeding worldwide, especially among families from disadvantaged groups and particularly among disadvantaged white young women. The 2000 infant feeding survey (Hamlyn et al 2002) found that 62% of women in the UK initiated breastfeeding¹. There has been no real increase in initiation rates in England since 1980, although there has been an increase in Scotland and Northern Ireland. Similarly, there has been no improvement in the sharp decline in breastfeeding after birth in England and Wales. Only 43% were still breastfeeding at all at 6 weeks after the birth, compared with 44% 5 years earlier. There is now strong policy support for breastfeeding, which contributes to several PSA targets, and is recognised as important in 'Choosing health' (Department of Health 2004a), 'Every child matters' (Department for Education and Skills 2004), and the 'National service framework for children and maternity services' (DH 2004b).

This document presents evidence based actions for promoting the initiation and/or duration of any and/or exclusive breastfeeding among full term, singleton, healthy babies. The evidence based actions include all population groups with a particular focus among population groups where breastfeeding rates are low. It provides an unprecedented opportunity to realise this policy commitment in practice and create real and sustained improvements in breastfeeding rates with resulting reductions in inequalities in health.

These actions have been formulated through the integration of published scientific literature with practitioner expertise and experience. Studies of effectiveness from four systematic reviews (Fairbank 2000; Protheroe 2003; Renfrew 2005; Tedstone 1998) were assessed against agreed criteria, including recognised quality appraisal criteria. A list of 'plausible evidence-based actions' for practice were drawn up based on the available studies considered to be of good quality (see appendix B). These were then used as the basis of a national consultation, the aim of which was to move from a list of 'what works from international research evidence' to 'what will really work in practice in England'. Full methodological details of the development of the evidence base are provided in the technical report (Renfrew et al. 2005), available on request from NICE.

The consultation process aimed to access the views of a broad range of mainstream practitioners and representatives of service users on both the impact of each evidence-based intervention and the feasibility of its implementation in practice. A questionnaire, distributed and completed electronically, was returned by 516 respondents for this purpose. A series of fieldwork meetings and workshops was then conducted to undertake a more detailed consideration of potential impact and feasibility ratings. This process included examination of barriers to effectiveness and feasibility and the identification of strategies for change. Full methodological details of the consultation process are provided in the fieldwork report (McFadden et al. 2005), available on request from NICE.

¹ This figure reflects the findings after appropriate corrections have been made to allow for the differing social class of the survey sample.

The actions given here are therefore based on an integration of the evidence base and the considered views of experienced practitioners and of user representatives (section 4). Characteristics of effective programmes and supporting suggestions for effective action, including a summary of the evidence base and generalisability issues to English settings, are also described in this section. Key attributes and strategic issues common to all evidence-based actions are detailed at section 5. Options for commissioners and service providers to implement the actions into public health programmes are given in section 6.

Evidence-based actions

The main aim of this briefing document is to increase initiation and duration rates of any breastfeeding among all women in England, with particular emphasis on population groups where breastfeeding rates are typically low. Priority groups are disadvantaged white women, particularly teenage women, first time mothers or lone parents – breastfeeding rates in the UK are particularly low among these groups.

This briefing process has identified a comprehensive set of interventions which have been shown to be effective at increasing the initiation and/or duration of any/and or exclusive breastfeeding among different population groups in different settings. The list of evidence-based actions below therefore needs to be read as a whole, and considered decisions made for each locality regarding the most relevant and important interventions to meet the diverse needs of local population groups.

When implementing interventions to increase breastfeeding initiation and continuation rates, each locality should consider the best **package** of interventions to address the diverse needs of their local population group(s).

- The decision should be informed by the views of practitioners and service users.
- Where appropriate, interventions should be targeted toward disadvantaged white women, with particular focus on those who are teenagers or lone parents.

Evidence-based action 1: Baby Friendly Initiative (BFI) in the maternity and community services

The UNICEF UK BFI should be implemented as routine practice across NHS hospital trusts in England. In particular:

- all maternity hospitals should be encouraged to attain the BFI Full Accreditation Award to increase initiation rates for all women
- hospitals with a BFI Certificate of Commitment should progress to the BFI Full Accreditation Award to increase breastfeeding initiation for all women.

The UNICEF UK BFI in the community provides a recognised and accredited framework for routine practice across NHS community trusts in England to increase initiation and duration of breastfeeding for all women.

Evidence-based action 2: Education and/or support programmes

An appropriate mix of the following education and support programmes should be routinely delivered by both health professionals/practitioners and peer supporters in accordance with local population needs.

- Informal, practical breastfeeding education in the antenatal period should be delivered in combination with peer support programmes to increase initiation and duration rates among women on low incomes.
- A single session of informal, small group and discursive breastfeeding education should be delivered in the antenatal period (including topics like the prevention of nipple pain and trauma) to increase initiation and duration rates among women on low incomes.
- Additional, breastfeeding specific, practical and problem solving support from a health professional/practitioner should be readily available in the early postnatal period to increase duration rates among all women.
- Peer support programmes should be offered to provide information and listening support to women on low incomes in either the antenatal or both the antenatal and postnatal periods to increase initiation and duration rates.

Evidence-based action 3: Changes to policy and practice within the community and hospital settings

In order to increase duration rates of any and exclusive breastfeeding among all women, routine policy and practice for clinical care in hospital and community should:

- support effective positioning and attachment, using a predominantly 'hands off' approach
- encourage unrestricted baby-led breastfeeding which helps prevent engorgement; and for women experiencing mastitis, encourage regular breast drainage and continued breastfeeding
- encourage the combination of supportive care, teaching breastfeeding technique, sound information and reassurance for breastfeeding women with 'insufficient milk'.

Evidence-based action 4: Changes to abandon specific policy and practice for clinical care in hospital and community

In order to increase the duration of any and exclusive breastfeeding among all women, routine policy and practice for clinical care in hospital and community settings should abandon or continue to abandon:

- restriction of the timing and/or frequency of breastfeeds during immediate postnatal care

- restriction of mother-baby contact from birth onwards during immediate postnatal care
- supplemental feeds given routinely or without medical reason in addition to breastfeeds (for example, in Baby Friendly Hospitals, The supplementation rate is usually below 10%)
- separation of babies from their mothers for the treatment of jaundice
- the provision of hospital discharge packs and any informational material given to mothers which contain promotion for formula feeding including the advertising of 'follow on' formula milks to mothers of new babies (this practice has for the most part disappeared from normal NHS care. It is important to ensure that it is not reintroduced).

**Evidence-based action 5:
Complementary telephone peer support**

Peer or volunteer support should be delivered by telephone to complement face-to-face support in the early postnatal period to increase duration rates among women who want to breastfeed.

**Evidence-based action 6:
Education and support from one professional**

Breastfeeding education and support from one professional should be targeted to women on low incomes to increase rates of exclusive breastfeeding.

**Evidence-based action 7:
Education and support for one year**

One-to-one needs-based breastfeeding education in the antenatal period combined with postnatal support through the first year should be available to increase intention, initiation and duration rates, particularly among white, low income women.

**Evidence-based action 8:
Media programmes**

Local media programmes should be developed to target teenagers to improve and shift attitudes towards breastfeeding.

1. Introduction

Breastfeeding has a major role to play in public health, promoting health in both the short and long term for baby and mother. The UK has one of the lowest rates of breastfeeding worldwide. This evidence into practice briefing presents actions for promoting the initiation, establishment and maintenance of breastfeeding, particularly among population groups where breastfeeding rates are low. These actions have been formulated through the integration of published scientific literature with practitioner expertise and experience. Characteristics of effective programmes for specific settings and population sub-groups, and strategies for overcoming barriers to implementation and change are described.

1.1 What is this evidence into practice briefing about?

This document provides a series of evidence- and practitioner-based actions for promoting the initiation and/or duration of any and/or exclusive breastfeeding among full term, singleton, healthy babies. The actions include all population groups with a particular focus among population groups where breastfeeding rates are low.

1.2 Who is it for?

The actions in this document are for any practitioners working in the public, private and voluntary sector who have either a direct or indirect role and/or responsibility for breastfeeding promotion and support. This includes commissioners and managers of clinical, public health, health promotion, primary care and social care services, clinical professionals in community and hospital settings, community based workers including Sure Start/Children Centre staff, pharmacists and child carers, educators of health and social care professionals, peer supporters, volunteer supporters and breastfeeding counsellors, lactation consultants, school staff, and clinical governance and audit managers and staff.

1.3 How was it developed?

This document is based both on a review of the evidence base and a consultation with key stakeholders and practitioners. The evidence base includes three systematic reviews and a review of reviews on the effectiveness of interventions to promote the initiation and duration of breastfeeding (Fairbank 2000; Protheroe 2003; Renfrew 2005; Tedstone 1998). The expert input of practitioners and other key stakeholders was based on an electronic consultation process and a series of fieldwork meetings and workshops.

Twenty-five 'plausible' actions on promoting breastfeeding were extracted from the findings of the four reviews cited above (see appendix B for details of each study and its quality rating). These actions were subjected to appraisal by practitioners and user representatives during a series of electronic and face-to-face consultations in the summer of 2005. This process was undertaken to draw on the knowledge and experience of breastfeeding promotion and support in order to determine the likelihood of success of these actions in practice.

Full methodological details of the development of the evidence base and the consultation process are provided in the technical and fieldwork reports respectively (Renfrew et al. 2005; McFadden et al. 2005), available on request from NICE.

2 Background

2.1 Why focus on breastfeeding promotion?

Evidence shows that breastfeeding has a major role to play in public health, as it promotes health and prevents disease in both the short and long term for both infant and mother.

As well as providing complete nutrition for the development of healthy infants, human breast milk has an important role to play in protection against gastroenteritis and respiratory infection (Cesar et al. 1999; Howie et al. 1990; Kramer et al. 2001; Wilson et al. 1998). There are also strong indications that breastfeeding has an important role to play in the prevention of middle ear infection (Aniansson et al. 1994; Duncan et al. 1993), urinary tract infection (Marild et al. 1990; 2004; Pisacane et al. 1992), atopic disease (Burr et al. 1989; Fewtrell 2004; Lucas et al. 1990; Saarinen and Kajosaari 1995), juvenile onset insulin-dependent diabetes mellitus (Mayer et al. 1988; Sadauskaite-Kuehne et al. 2004; Virtanen et al. 1991), raised blood pressure (Fewtrell 2004; Martin et al. 2004) and, to a lesser degree, obesity (Arenz et al. 2004; Dewey et al. 1992; Fewtrell 2004; Gilman et al. 2001; Owen et al. 2005; von Kries et al. 1999).

In addition to the nutritional and immunological superiority of breast milk over formula milk, formula feeding is associated with a number of specific health hazards to which breastfed babies are not exposed. These include the possibility of over- or under-concentrating formula milk during reconstitution, and the potential for infection introduced by using substitute milk products, bottles, teats, and other vessels (Renfrew et al. 2003, World Health Assembly 2005).

Breastfeeding is also beneficial to the mother's health. Women who do not breastfeed are significantly more likely to develop epithelial ovarian cancer (Gwinn et al. 1990; Rosenblatt and Thomas 1993) and breast cancer (Beral et al. 2002; Newcombe et al. 1994; United Kingdom National Case Control Study Group 1993;) than women who breastfeed.

There is an important public health question about the costs related to infant feeding, including broader issues such as absence from work because of childhood illness and the impact on the health of the population in the long term. Available studies have clearly demonstrated the increased costs of formula feeding in terms of the costs of excess ill health on health services (Ball and Wright 1999; Hoey and Ware 1997; Riordan 1997).

Despite the overwhelming health benefits and cost savings of breastfeeding, initiation rates in the UK are around the lowest in Europe, and worldwide, with rapid discontinuation rates for those who do start. The most recent national survey found a slight rise in breastfeeding initiation rates overall since 1980 (Hamlyn et al 2002). However, although figures appear to show a real increase, this is not apparent in England and Wales if appropriate corrections for the social class of the survey

sample are applied. Real increases have taken place in Scotland and Northern Ireland. The corrected rate for initiation for the UK overall is 62% (69% uncorrected).

There has similarly been no improvement in the sharp decline in breastfeeding following birth in England and Wales. Only 43% of women were still breastfeeding at all at six weeks after birth in the 2000 national survey compared to 44% in 1995. This contrasts with a real improvement in Scotland, where rates have risen from 36% in 1995 to 40% in 2000. Discontinuation usually results from problems rather than reflecting women's choice, and the majority of women who discontinue breastfeeding would have preferred to feed for longer (Hamlyn et al. 2002).

Exclusive breastfeeding rates are also among the lowest in Europe and worldwide. Current figures suggest that 25% of babies who are breastfed are breastfed exclusively at 6 to 8 weeks of age, and 16% at 3 to 5 months (Hamlyn et al. 2002). The real picture is likely to be even worse than this; these figures over estimate the number of babies being exclusively fed, as they reflect babies who did not receive formula milk but may have received water or solids.

Women from some minority ethnic groups living in the UK, namely, Asian and Black women, have been shown to have lower rates of exclusive breastfeeding despite relatively high rates of initiation and duration of any breastfeeding (Thomas and Avery 1997). The avoidance of feeding colostrum to newborn infants of Asian mothers is of particular concern given the significant immunological benefits of this milk to provide natural antibodies against infection at this critical time (for summary see: Lawrence 1994).

Initiation and duration rates of any breastfeeding are lowest among families from lower socio-economic groups (Hamlyn et al 2002), adding to inequalities in health and contributing to the perpetuation of the cycle of deprivation. There has been little change in the stark social class differences in rates over the past 25 years; the persistent gradient in initiation and duration rates mirrors social classification of the baby's parents, whether this is measured by classifying the occupation of the father (as was done until 1995) or the mother (as was done in 2000). This inherent inequality in health will be self-perpetuating unless the association between deprivation and low breastfeeding rates can be broken.

Initiation, and to a lesser degree, duration rates are particularly low among white women in the UK compared to women who are Asian, Black or mixed ethnicity (Griffiths et al. 2005; Hamlyn et al. 2002). The study by Griffiths and colleagues highlights that infants of white women are most disadvantaged in terms of breastfeeding initiation, however, for these women, having a partner of a different ethnic group can positively influence both the decision to start and continue breastfeeding. The influence of the community has also shown to be important for breastfeeding practices; white lone mothers are more likely to start breastfeeding if resident in areas with a predominantly ethnic minority community, indicating a peer-influence of living in a community of high breastfeeding prevalence.

Teenage or young mothers have also been identified as a vulnerable group as they are half as likely as older mothers to initiate any breastfeeding (Griffiths et al. 2005; Hamlyn et al. 2002). Griffiths and colleagues found that among white mothers in England, being younger, a first time mother and having lower academic qualifications was associated with being less likely to breastfeed for at least one month. Furthermore, maternal ethnic origin and educational attainment were more strongly associated with inequalities in breastfeeding initiation than socio-economic status.

2.2 What is the policy context within England?

Breastfeeding is a key strategy in tackling the fundamental policy goal of addressing inequalities in health (DH 1998; 1999; 2000; 2004a). Breastfeeding contributes to several public service agreement (PSA) targets, including:

- reduction of the infant mortality rate
- reduction of preventable infections and unnecessary paediatric admissions in infancy
- the halting of the rise in obesity in under 11s
- improving children's life outcomes and general wellbeing, and
- breaking the cycle of deprivation.

Increasing the particularly low breastfeeding rates among teenagers is a potentially important contribution to the PSA targets. The government has identified teenage parents as a vulnerable group in the maternity standard of the 'National service framework for children, young people and maternity services'. The complex needs of this vulnerable group should be met through tailored maternity services as set out in 'Teenage parents: who cares? – a guide to commissioning and delivering maternity services for young parents' (DH 2004b).

Breastfeeding rates are one indicator of the quality and safety of maternity services as highlighted by the Healthcare Commission. The promotion of breastfeeding has been included as an inspection criterion in the 'Every child matters framework' (Department for Education and Skills 2004).

The 'Priorities and planning framework 2003–2006' (DH 2003a) has set the following target for breastfeeding in England:

'to deliver an increase of two percentage points per year in breastfeeding initiation rates, focusing especially on women from disadvantaged groups.'

A revised policy was announced by the then Minister for Public Health in May 2003 (DH 2003b):

'recommending exclusive breastfeeding for the first six months of life with continued breastfeeding beyond six months alongside appropriate solid foods.'

replacing the previous advice that additional foods should be introduced at 4 to 6 months.

Despite this strong policy support, the low rates of breastfeeding in the UK have been largely resistant to change, perhaps due in part to the incomplete implementation of international and national initiatives in the UK. Such initiatives have included the:

- World Health Organization Code of Marketing of Breast Milk Substitutes (WHO 1981) and subsequent resolutions
- Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding (WHO 1991)
- UNICEF Baby Friendly Initiative (launched in 1992 globally, 1994 in the UK)
- WHO Global Strategy on Infant and Young Child Feeding (WHO 2003)
- European Blueprint for Action (EU 2004).

National initiatives in all four countries of the UK have included:

- the appointment of national breastfeeding coordinators in Scotland, Northern Ireland and Wales
- the development of national breastfeeding strategies in Northern Ireland and Wales
- DH National Infant Feeding Initiative 1999–2002
- the appointment of an infant feeding adviser in England (Protheroe et al. 2003 ; Renfrew et al. 2005)
- ‘Choosing health – making healthier choice easier’ (DH 2004a) has a commitment to reform the Welfare Food Scheme: Healthy Start. Formula milk is no longer available from healthcare premises in the UK, which reduces its promotion in the NHS. ‘Choosing health’ also has a commitment to review the infant formula and follow-on formula regulations (1995) with a view to further restrict the advertisement of formula milk and to press for amendments to the EU directive on the same subject.

Despite this activity, breastfeeding promotion and support is not yet embedded in the mainstream of health and social services in the UK.

2.3 Policy and cultural context

Consultation feedback and the breastfeeding experience from other countries has shown us that such a multifaceted approach needs to be set in the appropriate context to maximise the effectiveness of the interventions. The following policy and cultural issues were identified as integral to creating the appropriate context and supportive environment for implementation of a locally developed package of interventions.

- A comprehensive, coordinated national, regional and local breastfeeding policy, including adequate financial incentives and monitoring and evaluation systems.
 - The coordination of a national policy should ensure that these ‘evidence-based actions’ are incorporated into current programmes and practices involving Sure Start, ‘Choosing health’ and other nutrition-related health service initiatives.
 - Monitoring and evaluation systems should measure maternal ethnic group to assess progress in addressing inequalities in initiation and duration rates of any and exclusive breastfeeding.
 - Financial incentives should take maternal ethnicity into account when comparing areas of a country in relation to progress made towards established targets for either initiation or duration of any and exclusive breastfeeding.
- National media campaigns and celebrity endorsements promoting breastfeeding.
- Inclusion of breastfeeding education in the national curriculum for primary and secondary schools, parenting programmes and child development courses targeting pupils with less academic attainment.
- Policy and practice to support breastfeeding in public.
- Employment policy and practices to support breastfeeding.
- Government endorsement of the WHO Code on Marketing of Breast Milk Substitutes.

These policy and cultural issues are noted for potential consideration in the development of forthcoming NICE programme guidance on maternal and child

nutrition (to be published May 2007). In the meantime, NHS organisations may wish to consider such issues in relation to their own employees.

2.4 What factors influence participation in breastfeeding?

The reasons for low breastfeeding rates in the UK include the influence of society and cultural norms, the lack of continuity of care in the health services, clinical problems and the lack of preparation of health professionals and others to support breastfeeding effectively. Table 1 provides a summary and some examples of the complex factors influencing the decision to breastfeed and the ability to implement that decision effectively. Readers should note that some of these factors interact, and some factors will be amenable to different types of interventions. The factors presented in table 1 are intended only as an illustration of the scale and complexity of the problems.

Problems often interrelate. For example, a pregnant woman considering how to feed her baby may be influenced, positively or negatively, by the experiences of her friends and family, messages in the media, and the advice of her midwife and GP. She may be concerned about plans to go back to work while still breastfeeding; the UK has been shown to be the EU country with the least compliance with international standards for support in the workplace (Nicoll et al. 2002). She may give birth in a setting where the use of drugs in labour is common, where care in labour may be provided by several different care givers, and where close, uninterrupted contact with her baby at birth is limited (Renfrew et al. 2005).

For those who do start to breastfeed, problems are similarly complex. For example, one leading cause of breastfeeding discontinuation is the mother's report of 'insufficient milk' (Hamlyn et al. 2002). This sense of not having enough milk may be influenced by the baby's behaviour, the input of health professionals, the views of family and friends, and the mother's own self-esteem, as well as by clinical problems with feeding (Houston 1984). These factors are likely to be further compounded by a lack of support, the experience of living in a culture where breastfeeding is embarrassing and difficult to do in public, and where feeding of formula milk is considered to be more normal by others including children and even health professionals (Gregg 1989; Henderson et al. 2000; WHO 2003). Finding a solution to the problem may be constrained by the lack of access to good professional and peer support, the mother's need to return to work, the lack of support for breastfeeding in her workplace, the resistance of her chosen child carer to handle expressed breast milk, and the easy availability of breast milk substitutes.

Women's ability to choose to breastfeed is therefore constrained by barriers at a range of levels, and far from being a simple matter of 'informed choice', breastfeeding is a behaviour that is simply not available for many mothers and babies, especially in lower socio-economic groups.

Table 1: Examples of factors (often interrelated) which influence infant feeding at international, national, regional, individual levels

International and national factors	National and regional factors	Individual factors – amenable to medium to long term change at the macro socio-economic level	Individual factors influencing decision to breastfeed – amenable to change in the short term at the micro socio-economic level	Individual factors influencing a woman’s decision to stop breastfeeding before she wishes – amenable to change in the short term at the micro level
<p>Globalisation of formula feeding in developed countries promulgated by commercial interests.</p> <p>Cultural shift to regimented feeding patterns and growth monitoring based on formula feeding regimes.</p> <p>Increase in work opportunities for women without supportive childcare/feeding facilities.</p> <p>Media portrayal of bottle feeding as the norm and as safe.</p> <p>Increased media portrayal of women’s breasts as symbols of sexuality.</p> <p>Lack of full implementation of WHO Code on Marketing of Breast Milk Substitutes.</p>	<p>Lack of importance/ understanding of breastfeeding in the organisation of health services; embedded practices or routines which interfere with successful breastfeeding.</p> <p>Lack of appropriate education and training for health and related professionals.</p> <p>Lack of integration across sectors – acute, community, social services, voluntary.</p> <p>Lack of supportive environments outside the home and in the workplace.</p> <p>Lack of breastfeeding education in schools.</p>	<p>Maternal age – younger mothers are less likely to breastfeed.</p> <p>Maternal education – breastfeeding rates are lowest among those who left school at 16 or less.</p> <p>Socio-economic status of mother (and partner) – breastfeeding rates become lower for lower socio-economic groups.</p> <p>Marital status.</p> <p>Ethnicity – cultural tendency for white women to choose not to breastfeed.</p> <p>Biomedical factors (parity, method of delivery, infant health).</p> <p>Return to work before the baby is 4 months old.</p>	<p>Attitudes of partner, mother and peer group.</p> <p>Social support provided by woman’s partner, family and friends.</p> <p>Loss of collective knowledge and experience of breastfeeding in the community resulting in a lack of confidence in breastfeeding</p> <p>Whether mothers were breastfed themselves as babies.</p> <p>Embarrassment about, difficulty in, or perceived unacceptability of, breastfeeding in public, both in and outside the home, especially for younger mothers.</p> <p>Difficulty of involving others, especially partner, in feeding.</p> <p>Perceived inconvenience of breastfeeding and anxiety about total dependence of the baby on the mother.</p>	<p>Mother’s or health professionals’ or family’s perception of ‘insufficient milk’.</p> <p>Painful breasts and nipples.</p> <p>Baby would not suck or ‘rejected the breast’.</p> <p>Breastfeeding takes too long, or is tiring.</p> <p>Mother or baby is ill.</p> <p>Difficult to judge how much baby has drunk.</p> <p>Baby can’t be fed by others</p>

Breastfeeding rates in other industrialised nations show that it is possible to increase and sustain breastfeeding rates, even in cultures where formula feeding has been considered the norm (Yngve and Sjoström 2001). The challenge remains in the UK for policymakers, healthcare professionals and managers to develop and deliver effective breastfeeding promotion strategies and programmes that will also address the socio-economic bias in the uptake and continuation of breastfeeding.

Extensive and sustained work is needed to create real change. Breastfeeding rates have been low in the UK for several generations, and professionals, childbearing women, families and the public at large have all been exposed to formula feeding as the norm. Changes will be needed in clinical care, community support, support for employed breastfeeding women in the workplace, public acceptance of breastfeeding, and the portrayal of infant feeding in the media, and it is likely to take some years before real, sustained changes are seen.

It is likely that different strategies will be needed to increase initiation, the continuation of any breastfeeding, and continuation of exclusive breastfeeding. Positive change will require a concerted and comprehensive effort and commitment at a national, regional and local level, and across the diverse sectors influencing breastfeeding for individual pregnant women and mothers. If successful, this will result in a cultural, organisational and social environment which enables mothers and infants in low income groups also to enjoy the health benefits of breastfeeding.

The evidence-based actions given in this document are intended to provide effective strategies to all those working to improve maternal and infant health, to address the interrelated problems and result in a real step change in the infant feeding environment in the UK.

3 The evidence base for effective interventions

3.1 *Review-level findings: summary of effective, ineffective and harmful interventions*

The evidence base for effective interventions to promote the initiation and/or duration of breastfeeding was based on a comprehensive and detailed review of existing evidence documents within the topic area (Fairbank et al. 2000; Protheroe et al. 2003; Renfrew et al. 2005; Tedstone et al. 1998).

Each primary study included in the four review documents (210 studies) was assessed against set criteria for potential inclusion as an evidence-based action for practice. The included studies were then critically appraised against recognised quality criteria to check the scientific reliability of each study's findings. This review process resulted in a total of 25 potential actions for the initiation and/or duration of breastfeeding. These findings are presented in detail in appendix A, by each type of intervention.

Evidence of effectiveness of interventions aimed at promoting, supporting and protecting breastfeeding was found for a variety of different types of interventions with different target groups and in different settings. The evidence base included three main groups of interventions in terms of impact on breastfeeding rates:

- (i) interventions which have been shown to be effective at increasing breastfeeding rates

- (ii) interventions which have been shown to be harmful to breastfeeding rates
- (iii) interventions which have been shown to be ineffective at increasing breastfeeding rates.

In summary, the examination of the evidence base identified the following:

- (i) Interventions which have been shown to be effective:
 - a. peer support
 - b. professional support
 - c. education
 - d. education and professional support
 - e. education and peer support
 - f. professional training
 - g. hospital practices
 - h. multisectoral interventions
 - i. media programmes
- (ii) Interventions which have been shown to be harmful to breastfeeding rates:
 - j. routine hospital practices that restrict feeding and mother-baby contact
- (iii) Interventions which have been shown to be ineffective at increasing breastfeeding rates:
 - k. breastfeeding literature used alone
 - l. routine separation of mothers and babies for treatment.

Full methodological details of the development of the evidence base are provided in the technical report (Renfrew et al 2005), available on request from NICE.

3.2 Gaps in the evidence base for intervention studies

The following gaps were identified in the current evidence base.

- Few studies were conducted in the UK, with a large proportion from the USA.
- Evaluations of interventions directed at particular groups where initiation rates of breastfeeding are low, for example, teenage mothers.
- Participants' views such as women's perceptions of interventions need to be addressed. Qualitative methods are rarely used to explore women's views as an integral component of studies of effectiveness.
- No studies were found to evaluate the effects of supportive environments, for example, breastfeeding facilities outside the home.
- No large, good quality studies were found to evaluate the ways national media campaigns can be used to shift cultural values for breastfeeding to be recognised as a cultural norm.
- No large scale, high quality evaluations of the BFI in the community have been conducted in the UK. Future evaluations should include evaluation of BFI both as a community-based intervention and in combination with other strategies such as BFI for maternity services.
- No studies were found to evaluate the effects of non-health sector interventions, for example, school programmes targeting both girls and boys prior to pregnancy.
- Few studies have addressed the clinical problems associated with breastfeeding including 'insufficient milk', sore nipples, engorgement, crying

babies, and breastfeeding for babies and mothers with particular health needs.

- Few studies include outcomes related to costs for families, employers and the health services.

3.3 *Methodological weaknesses in the evidence base*

Many methodological weaknesses were identified in the primary research, and include the following.

- The terms breastfeeding, exclusive breastfeeding and partial breastfeeding were often used loosely or left undefined, leading to confusion as to whether babies were fed only breastmilk or received additional fluids.
- Lack of information about how women were recruited into the studies suggests that many participants volunteered. This means there may be sampling bias within the studies reviewed, leading to non-representative samples affecting study findings.
- Papers often lacked the information needed to evaluate an intervention or replicate it in future.
- Potential confounders for evaluating breastfeeding were not always taken into account; for example, whether a mother was a first-time mother, or her feeding intention.
- Power and sample-size calculations were often omitted, making it impossible to assess the adequacy of the study.
- Outcome assessment was rarely validated and attrition was often high or unreported.
- The relative effectiveness of different intervention components was not evaluated within individual studies, or the effect of the same intervention on different sub-groups.

3.4 *Moving from the evidence base to evidence-based actions*

Systematic reviews are essential to ensure that findings from all appropriate literature are identified to inform effective interventions. However, key limitations include a paucity of good well-designed research to evaluate complex public health interventions, and the relative infancy of review methodology to appraise such complex interventions. In addition, each intervention is defined precisely within its study's context and actions. Summarising review findings alone may therefore reduce both the scope of potential public health interventions to promote breastfeeding and the true potential for generalisability of findings to everyday practice.

The results of the appraisal of the evidence base were therefore the subject of a national consultation in which we aimed to move from a list of 'what works from research evidence' to 'what will really work in practice in England'.

The consultation process aimed to access the views of a broad range of mainstream practitioners and representatives of service users on both the impact of each evidence-based intervention and the feasibility of its implementation in practice. A questionnaire, distributed and completed electronically, was returned by 516 respondents for this purpose. A series of fieldwork meetings and workshops was

then conducted to undertake a more detailed consideration of potential impact and feasibility ratings. This process included examination of barriers to effectiveness and feasibility and the identification of strategies for change.

Full methodological details of the consultation process are provided in the fieldwork report (McFadden et al. 2005), available on request from NICE.

The actions given here are therefore based on an integration of the evidence base and the considered views of experienced practitioners and of user representatives. Each action is presented to show:

- the outcome that the intervention is likely to affect (for example, initiation or duration of breastfeeding)
- the population group that it is most likely to affect (for example, low income women)
- views of consultation participants regarding impact and feasibility of the intervention
- comments on strategies to support implementation of the actions, based on consultation responses
- comments on generalisability of the evidence base for each action in England.

4 Evidence-based actions

The main aim of this briefing document is to increase initiation and duration rates of any breastfeeding among all women in England, with particular emphasis on population groups where breastfeeding rates are typically low. Priority groups are disadvantaged white women, particularly teenagers, first time mothers or lone parents (see 2.1 for details).

The evidence base from four reviews (Fairbank 2000; Protheroe 2003; Renfrew 2005; Tedstone 1998) and the diverse experience of consultation respondents have identified a comprehensive set of interventions which have been shown to be effective at increasing the initiation and/or duration of any/and or exclusive breastfeeding among different population groups in different settings. The list of evidence based actions below therefore needs to be read as a whole, and considered decisions made for each locality regarding the most relevant and important interventions to meet the diverse needs of local population groups. Practitioners and service users views, and the support of senior managers, will be important to decide on the best local package.

When implementing interventions to increase breastfeeding initiation and continuation rates, each locality should consider the best package of interventions to address the diverse needs of their local population group(s).

- The decision should be informed by the views of practitioners and service users.
- Where appropriate, interventions should be targeted toward disadvantaged white women, with particular focus upon those who are teenagers or lone parents.

The evidence base and consultation feedback has also demonstrated the effectiveness of 'multifaceted interventions' where a single intervention comprising several components is delivered simultaneously to the same population group(s). Such multifaceted interventions are not only important in terms of their effectiveness to increase breastfeeding rates, but also to cut across the diverse array of individual but similar types of intervention which share common attributes and action strategies. Implementation of multifaceted interventions is likely therefore to reduce duplication of effort and achieve efficiencies through improved multisectoral and joined-up practice.

4.1 The UNICEF Baby Friendly Initiative (BFI) in the maternity and community services

Evidence-based action 1

The UNICEF UK BFI for maternity services should be implemented as routine practice across NHS acute trusts in England. In particular:

- all maternity hospitals should be encouraged to attain the BFI Full Accreditation Award to increase initiation rates for all women

- hospitals with a BFI Certificate of Commitment should progress to the BFI Full Accreditation Award to increase breastfeeding initiation for all women.

The UNICEF UK BFI in the community provides a recognised and accredited framework for routine practice across NHS community trusts in England to increase initiation and duration of breastfeeding for all women.

Characteristics of effective programmes:

- Adoption of the UNICEF UK BFI for both maternity and community healthcare services is important to ensure the same standard of care is available for all women including those who choose to deliver their baby at home or leave hospital after a short stay.
- Financial support is required to assist trusts with costs of involvement in BFI.
- Training of staff in accordance with BFI standards is essential to achieve successful attainment of the BFI Full Accreditation Award.
 - This includes training to improve underlying knowledge of how breastfeeding works and the practical skills to assist women to be successful.
 - Evidence suggests BFI training is also effective in addressing assumptions based on race or socio-economic background to enable the BFI to deliver the same standard of care to all women, so reducing inequalities in health.
- Fully funded national and regional breastfeeding coordinators will assist in the effective implementation of this action as routine practice.
 - A breastfeeding coordinator for a strategic health authority (SHA) would provide a strategic planning role including for example, coordinating training programmes, policy and budgets.
 - A breastfeeding coordinator at trust level would provide an 'expert' role in breastfeeding with responsibility for providing training and managing practice change within a hospital or community trust.
 - Staff members with breastfeeding expertise would provide support to individual women and mentoring for individual or small groups of staff.
- The adequate provision of breastfeeding support in the early postnatal period, particularly after discharge from hospital, should be recognised as a core component within the BFI framework for both maternity and community healthcare services. This will require strategies to ensure appropriate continuity of care across sectors and disciplines at this critical time.
- Delivery of breastfeeding promotion and support services within the Healthy Start programme should be grounded in the principles, and should use the recommendations of the BFI in the community.
- Universities that provide pre-registration midwifery and health visitor (SCPHN) (see glossary) education programmes should be in accordance with BFI principles and outcomes.

- A BFI programme for teaching establishments, quality assurance bodies and other parties is available at: www.babyfriendly.org.uk/education.asp
- Evaluation of the more recent BFI in the community should be undertaken to provide similar high quality, large scale evidence of effectiveness as is now available for BFI for maternity services. This should include evaluation of BFI both as a community-based intervention and in combination with other strategies such as BFI for maternity services.

Suggestions for effective action:

- Financial incentives could be attached to targets so that trusts receive financial rewards for achieving and maintaining BFI as core practice. BFI could be a safety requirement for accreditation and re-accreditation, so charges could be financed as a hospital insurance premium.
- The SHA, trusts and professional organisations need to provide support for implementation of BFI, particularly in areas with acute workforce issues.
- Financial and professional body support is needed to commit to one or two full time paid members of staff within NHS trusts for achievement and ongoing implementation of BFI. Strategies to achieve this are critical in areas like London with staff shortages, a transient workforce, poor staff continuity and associated difficulties with staff training.
- Training for senior managers in primary care should include background information on the content and importance of the WHO Code on the Marketing of Breast Milk Substitutes as well as the importance of breastfeeding as a public health issue.
- High-level coordination is needed to provide consistent breastfeeding training of health professionals and volunteers across all sectors. The breastfeeding message needs to be the same across all sectors. For example, some practitioners perceive a contradiction between facilitating informed choice and promoting breastfeeding, and the resultant reluctance to promote breastfeeding needs to be addressed to ensure women are enabled to breastfeed.
 - The Healthy Start programme's commitment to provide nutrition education and information may provide an effective vehicle to assist in addressing these training and coordination issues, particularly among health professionals and volunteers working with vulnerable groups such as low income and/or teenage mothers.
- High level policy and enforcement of that policy is needed to achieve consistent hospital practice, for example, some hospitals have not ensured that discharge packs are free from promotion of formula feeding.
- At the level of service delivery, health professionals may benefit from education aimed at enhancing collaborative working and communication with peer support services.

- The organisation of staffing caseloads may need to be addressed, for example, where the postcode basis for Sure Start/Children's Centre programmes is different from traditional GP boundaries. Geographical pattern-based areas may provide one innovative solution as it is already being implemented in some areas.
- Initiatives within the BFI should target teenage mothers as a priority vulnerable group. For example, tailoring of breastfeeding literature to suit young mothers has been successfully conducted in Sure Start Plus areas and the 'Baby mothers' and 'Baby fathers' posters promoting positive images of young parenthood are available free of charge from the Teenage Pregnancy Unit DfES for use in maternity and other services such as Children's Centres. (www.teenagepregnancyunit.gov.uk)

Visit the UNICEF UK BFI online at: www.babyfriendly.org.uk See appendix C for its 'Best practice' represented by the 'Ten steps to successful breastfeeding for maternity services' and the 'Seven point plan for community healthcare settings'.

Of the total 315 maternity hospitals in the UK, 115 have achieved full Baby Friendly accreditation or a Certificate of Commitment. In England, 22 maternity hospitals have achieved full accreditation and 54 have a Certificate of Commitment. Since the launch of the UNICEF best practice standards for community healthcare settings in May 1998, seven community healthcare facilities in England have achieved full Baby Friendly accreditation and 18 facilities have achieved a Certificate of Commitment.

According to a survey by the UNICEF UK BFI, hospitals increase their breastfeeding initiation rate by more than 10% in 4 years when they receive a Baby Friendly Award with some of the largest increases being found in Baby Friendly Hospitals serving inner city or deprived areas which have traditionally low breastfeeding rates (UNICEF UK BFI 2000).

A high quality prospective cohort study has been conducted by the MRC Centre of Epidemiology for Child Health to evaluate the effectiveness of the UNICEF UK BFI for Maternity Services (Bartington 2005). This study, based on data from the UK Millennium Cohort Study, provides clear evidence of effectiveness for the achievement of the BFI Full Accreditation Award by maternity services to increase initiation rates among all women, including women from disadvantaged and vulnerable groups. The health economics analysis of the BFI for maternity services, presented as part of the postnatal care guidance, provides evidence of the cost effectiveness of this approach.

The MRC evaluation found no association between delivery in a participating BFI Maternity Unit and increased breastfeeding duration at one month. While the evidence of effectiveness for the package of UNICEF UK BFI in the community in England is currently limited to observational studies, evidence from other countries has indicated that a combination of both hospital-based and community-based BFI breastfeeding training and support is effective in increasing breastfeeding duration and exclusivity up to 6 months of age compared to hospital-based BFI alone (Coutinho 2005). A moderate quality, before and after evaluation of a multifaceted intervention based on the BFI in both the hospital and community in the USA also demonstrated significant improvements in initiation and duration rates of any breastfeeding (Wright 1997).

Findings from these studies suggest it is the combination of the principles and practices common to both hospital-based and community-based BFI which are necessary to achieve increases in the initiation and duration of breastfeeding for all women. This evidence base is supported by a clear consensus among practitioners and representatives of service users that mainstream implementation of the UNICEF UK BFI for maternity and community healthcare services is a fundamental action to increase the consistently poor breastfeeding rates among disadvantaged groups across England.

The following interventions have been demonstrated to be effective among target population groups when implemented as stand-alone interventions. The evidence base also suggests, however, that these interventions are more likely to be effective when implemented in combination as multifaceted interventions (Fairbank 2000; Protheroe 2003; Renfrew 2005). The specific actions provide a basis for stakeholders to develop the best package of interventions to meet local population needs.

4.2 Education and/or support programmes

Evidence-based action 2

An appropriate mix of the following education and support programmes should be routinely delivered by both health professionals/practitioners and peer supporters in accordance with local population needs.

- Informal, practical breastfeeding education in the antenatal period should be delivered in combination with peer support programmes to increase initiation and duration rates among women on low incomes.
- A single session of informal, small group and discursive breastfeeding education should be delivered in the antenatal period (including topics like the prevention of nipple pain and trauma) to increase initiation and duration rates among women on low incomes.
- Additional, breastfeeding specific, practical and problem solving support from a health professional/practitioner should be readily available in the early postnatal period to increase duration rates among all women.
- Peer support programmes should be offered to provide information and listening support to women on low incomes in either the antenatal or both the antenatal and postnatal periods to increase initiation and duration rates.

Characteristics of effective programmes:

- The UNICEF UK BFI in the community provides a recognised and accredited framework and principles to maximise the effective implementation of community-based initiatives to promote and support breastfeeding.

- In accordance with step 10 of the BFI 'Ten steps to successful breastfeeding', the establishment of breastfeeding support groups should be fostered and referrals to such groups made on discharge from the hospital or the clinic.
- Best practice models of effective, pro-active peer support programmes, including training programmes and capacity issues for peer supporters, should be developed based on local, regional and where necessary, national experience.
- Financial incentives and support strategies to achieve adequate staffing levels and training of those staff within each trust are a prerequisite for the effective delivery of care.
- Appropriate and standardised training of registered and pre-registered health professionals, including GPs and paediatricians, is essential to ensure consistency of message and approach at all times, across disciplines and sectors. Training should be delivered in multidisciplinary and multisectoral groups.
- The Healthy Start programme's commitment to provide nutrition education and information may provide an effective vehicle to assist in addressing training issues, particularly among health professionals and volunteers working with low income groups.
- A fully funded breastfeeding coordinator is needed at the practice level to develop, coordinate and evaluate a strategic plan for the most effective delivery of antenatal education combined with antenatal and postnatal peer support. The catchment area to be covered by each coordinator needs to reflect both the geographical area and the number of live births per annum.
- Strategies to recruit and retain appropriate pools of peer or volunteer supporters are needed, including provision of formal salaries, paid incentives and/or honorary contract schemes, and supervision to ensure quality of the service. Training programmes should recognise the difference between listening and counselling skills.
- Voluntary organisations should be utilised as a valuable source of training of, and support for, health professionals and peer or voluntary supporters.
- Strategies to provide adequate financial support for existing peer support schemes are needed in line with funding policy and practice for other contracted-out services. The costs of building rental, payment of peer supporters and other core expenses should be taken into account. Children's Centres, Sure Start and the NHS should work with voluntary organisations to look at how to make existing projects sustainable within their locality.
- Adequate funding mechanisms for Sure Start and Children Centres may need to be considered in light of current changes in funding policy to those centres.
- The low uptake of antenatal education and support services by women in disadvantaged circumstances needs to be addressed to ensure effective utilisation of these services by those groups with the greatest need.

Suggestions for effective action:

- Hospital trusts, primary care trusts (PCTs) and key community-based organisations should develop strategies to enhance communication between health professionals working across hospital and community sectors and between different professional groups, particularly between health professionals and peer supporters.
 - A concerted commitment at commissioning and managerial levels is required to achieve this.

- A breastfeeding coordinator should consider the following key elements in the development of a local strategic plan.
 - Roles and responsibilities for health professionals and peer supporters to provide training and supervision and/or delivery of education and support services.
 - Implementation of strategies to achieve effective, joined-up working across disciplines and sectors.
 - Identification of appropriate trainers to deliver training on listening skills for delivery of peer and volunteer support.
 - Non-hospital settings are likely to provide a better environment for the delivery of education and/or peer support to access hard-to-reach women.
 - A choice of breastfeeding centres or cafes for parents or breastfeeding women to get together and share skills and knowledge.
 - Each locality will need to consider the needs of pregnant women who plan to formula feed to avoid isolation of those women and consequent lack of exposure to breastfeeding women in a relaxed atmosphere.
 - The value of peer or volunteer supporters to increase access to appropriate and timely care for women in isolated rural communities.
 - Appropriate materials which are accessible for women with limited English language or literacy skills.

- A breastfeeding coordinator could also act as a valuable resource for health visitors, midwives, health care assistants, school nurses and occupational health nurses in terms of training, providing advice and facilitating support groups in partnership with peer or volunteer supporters.

- Training should be linked to the trust's clinical risk funding flows and ensuring appropriate professional support for breastfeeding should be considered as part of every NHS trust's clinical governance procedures.

- SHAs, NHS trusts and other relevant stakeholders are seen as having a vital role to:
 - conduct local, quality evaluations of existing successful peer or volunteer support programmes for roll-out as best practice models at the SHA level
 - develop clear definitions of peer or volunteer supporters and breastfeeding counsellors, including agreed requirements for training, supervision and remuneration
 - promote awareness of the benefits of peer or volunteer support amongst all NHS health professionals, particularly midwives, health visitors, school nurses and occupational health nurses

- facilitate NHS professionals to actively promote and publicise peer or volunteer support activities
- foster ongoing support networks, possibly from midwives and/or health visitors, school nurses and occupational health nurses for peer or volunteer supporters to maintain enthusiasm.
- To overcome difficulties in the recruitment and retention of peer or volunteer supporters, SHAs, NHS trusts and Sure Start/Children Centres are seen as having a vital role to facilitate:
 - formal salary, paid incentives and/or honorary contract schemes for peer supporters particularly those on low incomes. Attention should be given to avoid any adverse effects on existing receipt of government benefits
 - appropriate training of a pool of peer or volunteer supporter trainers and facilitators to provide ongoing training, support and supervision for existing and new peer supporters
 - peer or volunteer support training schemes should be consistent and, where possible, based on nationally accredited training programmes. This requires formal evaluation of different training packages and development of best practice models
 - NHS professionals such as health visitors, midwives, school nurses, occupational health nurses and project managers to provide such training and support, including recognition of time lost to professional service for training and support purposes. Appropriate trainers, such as voluntary organisations or breastfeeding counsellors, should be identified to provide listening skills as well as training on breastfeeding information and support.
- Small group and discursive breastfeeding education sessions targeting pregnant women on low incomes from minority ethnic groups should:
 - include a check list of common topics, including a focus on appropriate feeding strategies (for example, positioning and attachment, to prevent problems such as sore nipples)
 - involve breastfeeding mothers so that pregnant women can see breastfeeding in practice and gain confidence that it can be done
 - involve parents, grandparents and other family members in education sessions so they can support women who are breastfeeding
 - incorporate an outreach component to access particularly hard to reach groups, for example, Bangladeshi women
 - incorporate culturally specific leaflets/booklets or videos presented in culturally sensitive picture format for those with reading difficulties
 - consider the most appropriate local provision of such services by trained peer supporters and/or health professionals which can link in with existing groups.
- Practitioners working with teenage mothers should:
 - recognise that many young parents have intensive support needs which require a holistic package to address broader health and social outcomes such as benefits, housing, relationships with partner and family and domestic violence
 - ensure links are made to services that will address these issues, in particular, specialist personal advisers in Sure Start Plus areas, who provide a broader package of support within multi-disciplinary teams

- deliver services in ways that encourage teenager mothers to access them. For example, separate antenatal and breastfeeding support for young mothers who often feel judged by older mothers
 - facilitate the provision of peer support programmes delivered by other teenage mothers who have breastfed successfully and received core training on listening and support skills.
- Professional support for breastfeeding for new mothers is essential from the first feed and up to around 4 weeks after birth, or until breastfeeding is confidently established. Such support should be breastfeeding specific and additional to normal care.
 - An 'expert' from both health visiting and midwifery should be identified in every PCT as standard practice to support the work of the breastfeeding coordinator and promote effective continuity of care until breastfeeding is confidently established.
 - Staffing levels on wards may need to be reviewed, with innovative approaches such as employment of peer or volunteer supporters and full utilisation of healthcare assistants to work alongside other health professionals.

The evidence of effectiveness for informal, practical breastfeeding education in the antenatal period combined with peer support programmes comprises a good quality controlled trial (Caulfield 1998) and a moderate quality before and after study (Hartley 1996). Both studies were conducted in the USA in clinics specifically targeting low income women.

The evidence base for the intervention of a single informal, problem-solving small group education session in the antenatal period comprises three controlled trials of moderate quality, two conducted in Australia (Duffy 1997; Rossiter 1994) and one in the USA (Kistin 1990).

The evidence base for additional, breastfeeding-specific, practical and problem solving support from a health professional in the early postnatal period includes a high quality randomised controlled trial (Porteous et al. 2000) and a moderate quality controlled trial (Serafino-Cross 1992), both conducted in America. The challenge for replication in England rests on the ability of commissioners to achieve a truly joined-up approach to the delivery of professional support across acute and primary care sectors and a diverse range of health professionals, particularly midwives, GPs, paediatricians, health visitors, school nurses, occupational health nurses and pharmacists.

The evidence of effectiveness for the delivery of peer support in both ante and postnatal periods is based on one moderate quality controlled trial conducted in the USA among low income women (Schafer 1998).

Local experience suggests all these education and/or support programmes can be highly effective but their replication in England require the integration of local knowledge and best practice as well as formal monitoring and evaluation to inform ongoing practice.

4.3 Changes to policy and practice within community and hospital settings

Evidence-based action 3

In order to increase duration rates of any and exclusive breastfeeding among all women, routine policy and practice for clinical care in hospital and community should:

- support effective positioning and attachment, using a predominantly 'hands off' approach
- encourage unrestricted baby led breastfeeding which helps prevent engorgement – and for women experiencing mastitis, encourage regular breast drainage and continued breastfeeding
- encourage the combination of supportive care, teaching breastfeeding technique, sound information and reassurance for breastfeeding women with 'insufficient milk'.

Characteristics of effective programmes:

- Professional training, in accordance with BFI policy and practice, should be undertaken for all existing and new staff to enable the effective implementation of these practices. Training of the same level and standard is essential for both hospital and community staff given the short hospital stays for many new mothers. Regular audit and evaluation of professional training should be an integral component of training plans.
- A full-time specialist breastfeeding coordinator, based in each primary care practice, is needed to coordinate access to breastfeeding postnatal support in hospital and community sectors for breastfeeding women.

Suggestions for effective action:

- Standardised training, with annual updating, should be undertaken for midwives, health visitors, health care assistants, GPs, peer supporters, dietitians, practice nurses and staff from Children's Centres and Sure Start on all these practices.
- Training should also be included as a high priority in the pre-registration education of all healthcare practitioners.
- Training should include assessment and review of staff's own attitudes towards breastfeeding.
- Training should include a mentoring component, ideally for 1 month or more, delivered by supporting each other in the practice environment.
- The belief that 'insufficient milk' is common for healthy women needs to be challenged and new language and skills developed to explain and prevent potential problems. This should include the importance of attachment and positioning, unrestricted and flexible feeding, and teaching of additional breast milk expression if required.

- The importance of correct positioning and attachment needs to be explained to breastfeeding mothers experiencing mastitis in order to prevent further recurrences.
- Appropriate treatment for mastitis could be publicised to GPs through an article on drugs, breastfeeding and mastitis in an appropriate publication, for example, 'Drugs and Therapeutics Bulletin'. This should include education on the different types of mastitis, including non-infective mastitis where use of antibiotics is not immediately necessary.
- Pharmacists could provide a front line and more timely service for the treatment of mastitis. A professional development pack for pharmacists, as used in Scotland, would assist this strategy.
- National guidelines on mastitis, which are concise and easily accessible, should be developed for GPs and pharmacists.
- More information on drugs in general whilst breastfeeding is needed to assist GPs in prescribing for breastfeeding women. The Breastfeeding Network Pharmacist provides a drugs and breastfeeding helpline for professionals (visit: www.breastfeedingnetwork.org.uk/supporterline/drugline.php) and the drugs and lactation information service website is a useful resource (UK Medicines Information Drugs in Lactation Advisory Service www.ukmicentral.nhs.uk/drugpreg/grg.htm).
- GPs, pharmacists and other key professionals such as paediatricians need to be trained in the management of breastfeeding with specific reference to prescribing drugs for breastfeeding women. The UNICEF BFI training pack could be used for this purpose to highlight the role of the primary care professionals in supporting breastfeeding.

The evidence base for professional training of hospital staff to support effective positioning and attachment, using a predominantly 'hands off' approach, with all women in the early postpartum period comprises one before and after study of moderate quality. The study was conducted in the UK suggesting high generalisability for this practice in England. The strength of this evidence-based action lies, however, in the clear consensus among practitioners that this action is important and achievable.

The evidence base for hospital policy and practice to encourage regular breast drainage and continued breastfeeding for breastfeeding women experiencing mastitis comprises one randomised controlled trial of moderate quality (summarised in Renfrew et al. 2000). Further, practitioners view the training and education of health professionals, particularly GPs, paediatricians and pharmacists, as critical to achieving effective treatment and management of mastitis for breastfeeding women.

The evidence base for the encouragement of the combination of supportive care, teaching breastfeeding technique and reassurance for breastfeeding women with 'insufficient milk' comprise three descriptive studies (summarised in Renfrew et al. 2005). The strength of this action lies in the consistent agreement among practitioners that this practice is soundly based, important, and achievable. Practitioners also consider that training of health professionals and education of

women would increase the feasibility of achieving appropriate care for women with 'insufficient milk'. An important part of the training is focused on tackling cultural aspects of 'insufficient milk' including the perception that the experience is common, and women's expectations of the ongoing 'normality' of life for any mother with a new baby.

Evidence-based action 4

In order to increase the duration of any and exclusive breastfeeding among all women, routine policy and practice for clinical care in hospital and community settings should abandon or continue to abandon:

- restriction of the timing and/or frequency of breastfeeds during immediate postnatal care
- restriction of mother and baby contact from birth onwards during immediate postnatal care
- supplemental feeds given routinely or without medical reason in addition to breast feeds (for example, in Baby Friendly Hospitals, the supplementation rate is usually below 10%)
- separation of babies from their mothers for the treatment of jaundice
- the provision of hospital discharge packs and any informational material given to mothers which contain promotion for formula feeding including the advertising of 'follow on' formula milks to mothers of new babies (this practice has for the most part disappeared from normal NHS care. It is important to ensure that it is not reintroduced.)

Characteristics of effective programmes:

- These practices should be routinely written into hospital policy and audited in accordance with BFI guidelines and definitions to ensure authoritative implementation.
- Standardised training should be given to all existing and new staff in hospital and community settings to enable the effective implementation of these practices.
- The evidence base has examined separation for treatment of jaundice but in practice, the issue is avoidance of any routine separation of mother and baby. Indeed whenever there is a possibility of separation for treatment of either mother or baby, the continuation of breastfeeding should be an important consideration.

Strategies for effective action:

- Hospital policy and practice which separates mothers who have had a caesarean section from their babies should be changed to provide unrestricted mother-baby contact during the postnatal stay.

- Hospital practices need to be reviewed to ensure unrestricted breastfeeding from birth. For example, moving women before a first breastfeed to vacate delivery rooms and taking babies away from their mothers for weighing.
- Consideration should be given to how women are accommodated in postnatal areas so that breastfeeding mothers do not feel under pressure to request that their babies are removed or given a complementary feed of formula milk for the sake of other women who may be exhausted.
- The provision of the necessary care to support unrestricted breastfeeding from birth is likely to require additional staff, especially at night and when several mothers are less than 24 hours post caesarean section. This could be provided by paid maternity support workers or peer supporters, with the appropriate training, remuneration and supervision.
- Links with antenatal care of women may assist in the successful implementation of these practices including:
 - pregnant women being encouraged to include these breastfeeding practices in their birth plan
 - discussion about cultural practices and how they can impact on the establishment of breastfeeding and nutritional benefits of breastfeeding, for example, the avoidance of giving colostrum.

The evidence base for routine hospital policy and practice to abandon or continue to abandon the restriction of the timing and/or frequency of breastfeeds during immediate postnatal care and the restriction of mother-baby contact from birth onwards during immediate postnatal care is based on five high quality randomised controlled trials conducted in a range of international settings (Inch & Garforth in Chalmers et al. 1989; Renfrew et al 2000). The strength of the evidence and consensus of practitioners' views provide an unequivocal basis for this action.

The separation of healthy babies from their mothers for the treatment of jaundice has been shown to be ineffective at increasing duration rates of breastfeeding in one moderate quality controlled trial (Martinez 1993). Consultation respondents demonstrated clear consensus on the need to stop this practice within hospital policy and practice.

The practices of routinely giving supplemental feeds without medical reason in addition to breast feeds and providing hospital discharge packs which contain promotion for formula feeding have both been shown to be harmful to breastfeeding rates. The evidence of effectiveness for supplemental feeds is based on one high quality randomised controlled trial conducted in the USA (Howard 2003) and one high quality controlled trial conducted in Spain (Martin-Calama 1997). The evidence base for abandoning the provision of hospital discharge packs containing promotion for formula feeding comprises three high quality randomised controlled trials (Frank 1987; Fredrickson 1995; Howard 2000) and one high quality controlled trial (Bliss 1997), all conducted in the USA. All six studies were conducted in clinical settings considered to be highly generalisable to clinical practice in England. Consultation respondents expressed clear consensus on the need for these policies and practices to be abandoned or continue to be abandoned from hospital or any maternity setting.

4.4 Complementary telephone peer support

Evidence-based action 5

Peer or volunteer support should be delivered by telephone to complement face to face support in the early postnatal period to increase duration rates among women who want to breastfeed.

Characteristics of effective programmes:

- Additional funding is required to enable the implementation of this new service, including building and maintaining a supporting website.
- The Breastfeeding Network's Supporterline has been independently evaluated and showed positive findings for mothers from different backgrounds and ages. This could be a useful model for the development of a 'virtual call centre' linking callers to their nearest trained breastfeeding supporter.

Suggestions for effective action:

- This service is considered useful as an additional, complementary service, to support face-to-face breastfeeding promotion and support from a known practitioner.
- Telephone support could be provided at a local level to complement existing peer support services, for example out of hours, or a universal programme delivered centrally. A local service is more likely to have local knowledge on sources of ongoing support.
- Call centres of paid peer supporters could phone and/or text low income women to increase utilisation of the service. Confidentiality issues would need to be addressed.
- This service could be linked to NHS Direct and/or the existing telephone support services run by breastfeeding support groups and have the support both of health professionals and trained breastfeeding supporters. Clear guidelines are required to ensure providers clarify the type of support they can provide, for example, information and advice from health professionals compared to listening and problem solving support from trained peer supporters. Further, NHS Direct guidelines need to be consistent with this advice.
- Appropriate training for peer supporters on both the content of the support and communication skills, particularly among different cultural groups, is essential to achieve a standard comparable to that of other professional groups. Training on appropriate information and referral for the necessary support on drugs in breast milk should be included.
- Telephone support should be targeted in the late antenatal period as well as the early postnatal period to increase effective uptake of this service by mothers.

- A list of telephone support services should be distributed to all mothers on discharge from hospital. All services and materials should be culturally appropriate, including appropriate languages, for local population needs.
- A supporting website, of high quality, could provide further information in direct competition to the increasingly accessed commercial sites where quality control is an issue.

The evidence of effectiveness for this intervention is based on one high quality randomised controlled trial (Dennis 2002) conducted in the USA. The use of similar existing UK programmes (for example, the Breastfeeding Network's Supporterline) as a model for implementation in England would help to minimise concerns regarding generalisability from the USA.

4.5 Education and support from one professional

Evidence-based action 6

Breastfeeding education and support from one professional should be targeted to women on low incomes to increase rates of exclusive breastfeeding.

Strategies for effective action:

- Additional funding would be required to increase the staffing capacity of midwives and health visitors to provide continuous support in antenatal and postnatal periods. Given capacity limitations, this service should be targeted to localities serving low income women who would experience the greatest health gain from increased exclusive breastfeeding.
- Standardised, high quality training of health professionals would be essential to address quality assurance concerns.
- The Healthy Start programme's commitment to provide nutrition education and information may provide an effective vehicle to assist in addressing training issues, particularly among health professionals working with low income groups.
- Guidance would need to address concerns about managing care if the same professional is not available due to sickness or annual leave.
- The experience of existing successful services, for example in Sure Start/Children Centre areas, is critical to inform best practice for this service.
- The development of a trusting relationship between women and a single carer has been seen to yield positive results.

The evidence base for the effectiveness of this intervention is based on one moderate quality controlled trial (Jenner 1988). This study was conducted in the UK among women from low income groups who intend to breastfeed. In practice, the success of this intervention is dependent on increased capacity in the workforce to enable continuity of care from one professional. Allocation of resources for this

service should therefore be targeted to low income women who have expressed an intention to breastfeed and who have the greatest potential health gains from exclusive breastfeeding. This intervention also has the indirect benefit of potentially achieving duration rates of breastfeeding of up to one year, a practice which could seriously challenge the prevailing cultural norms among low income women.

4.6 Education and support for one year

Evidence-based action 7

One-to-one needs-based breastfeeding education in the antenatal period combined with postnatal support through the first year should be available to increase intention, initiation and duration rates, particularly among white, low income women.

Characteristics of effective programmes:

- A fully funded breastfeeding coordinator is needed at practice level to provide a liaison and coordination role between acute trusts, PCTs, local authorities and other stakeholders.
- Strategies to recruit and retain appropriate pools of peer supporters are needed, including provision of formal salaries, paid incentives and/or honorary contract schemes, and appropriate training and supervision.
- The nutrition education and information provided in the Healthy Start programme can be utilised to provide core maternal and child nutrition training for peer supporters.

Suggestions for effective action:

- Peer supporters are seen as the appropriate group of practitioners to provide primarily community-based support for up to 1 year. Peer supporters need recognition of their qualifications and appropriate remuneration and incentives (for example, additional remuneration for childcare) to maintain motivation and to attract and retain adequate numbers of peer supporters.
- An academic accreditation system may give qualifications for peer supporters a higher status, for example, in partnership with universities and the Open College Network.
- Health professionals, particularly midwives, health visitors and practice nurses, also need the appropriate training and review of responsibilities to provide the necessary training, supervision and support of peer supporters.
- Partnership and collaborative working across disciplines and sectors (for example, professionals working with voluntary groups and peer supporters) needs to be improved.
- National and local institutional policies need to be challenged to increase partnership and collaborative working across disciplines. For example, some hospital policies do not allow volunteer workers to provide support to women while others are successfully using such services.

- NHS trusts might not prioritise breastfeeding, or even women’s and children’s health in their area. Promoting partnership and collaborative working may need incentives with funding attached.
- Sure Start/Children Centre resources have enabled a large number of support initiatives such as this. Increased resources make a difference and would be necessary to achieve the staffing infrastructure required to deliver this service.

The evidence base for this intervention comprises one moderate quality randomised controlled trial conducted among mostly white, low income women in the USA (Brent 1995). Another moderate quality controlled trial conducted in the USA has also demonstrated the effectiveness of one-to-one antenatal education, listening and support to change women’s feeding intention in favour of breastfeeding (Kistin 1990). The ability to change feeding intention and increase initiation and duration rates among a group of women with particularly low breastfeeding rates should not be understated. High level commitment to direct the necessary resources and political will to achieve effective cross-sectoral working are considered key to achieving this intervention. Commitment to the effective implementation of these strategies would, in the considered view of practitioners, yield significant benefits for breastfeeding rates among this priority target group.

4.7 Media programmes

Evidence-based action 8

Local media programmes should be developed to target teenagers to improve and shift attitudes towards breastfeeding.

Characteristics of effective programmes:

- Funding to enable local media campaigns to be implemented is needed to change underlying attitudes towards breastfeeding as ‘normal’.

Suggestions for effective action:

- Each media campaign should be developed locally, using locally produced images, in relation to specific target groups. The content should be based on user, and not health professional, experiences and viewpoints.
- The media has a strong influence on attitudes of young girls: this would be the best target group for this initiative within the constraints of limited resources.
- Texting can be used to send messages as a familiar and accessible medium for the target group.
- A media campaign is planned as part of Healthy Start – this could extend media campaigns to a broader community within low socioeconomic groups.

5 Interventions which have been shown to be ineffective at increasing breastfeeding rates

5.1 *Breastfeeding literature alone*

Review level evidence suggests that breastfeeding literature on its own, in either the antenatal or postnatal periods, is not likely to be effective at increasing breastfeeding rates of initiation or duration among women of different ethnic or income groups.

Respondents to the electronic consultation had divided views about abandoning the use of breastfeeding literature on its own. Workshop participants also expressed reservations about abandoning this intervention as its effectiveness can depend on the target group, the literature itself and the context. They were also concerned that it might prevent the production of appropriate literature to be used in conjunction with other forms of care.

6 Effective interventions: key attributes

It is apparent from the list of effective interventions that many of them share several key characteristics and attributes. These include:

A bottom-up approach for best practice

Best practice models of most interventions are already in place in some localities, primarily in Sure Start/Children Centre areas and BFI accredited organisations. Local audits and evaluations of these projects or activities would provide the necessary information to roll-out many of these evidence-based actions at a regional and national level. These best practice models provide a basis to shift from area-specific initiatives to national mainstream programmes.

Community-based education and/or support

Non-clinical informal, community-based settings, which are accessible and culturally appropriate, appear to be essential for the effective delivery of breastfeeding education and support. There is low compliance, especially among hard-to-reach groups, with hospital-based initiatives.

Joined-up working between practitioner groups

Professional barriers, including communication issues, need to be addressed for effective working between professionals and peer supporters. Peer and volunteer supporters need their status improved and negative views held by professionals need to be addressed by education and training. Clear roles and responsibilities for training and supervision of peer supporters need to be defined and supported at a regional level.

A package of services

Different interventions have different target groups and different breastfeeding outcomes. Each locality is likely to find that they need to develop their own tailored package of interventions, selecting the appropriate mix of services and outcomes.

An integrated and multi-sectoral approach

The influences to choose or continue breastfeeding are complex and diverse. So are the strategies needed to create the appropriate socio-cultural, workplace, community and healthcare environments to effectively promote and support breastfeeding. The highest potential impact on breastfeeding rates in the long term is therefore likely to need an approach that takes into account the interrelated nature of these evidence-based actions. Improved cross-sectoral working between health professionals, social services, local authorities and the voluntary sector will be needed. This is likely to require key actions at the highest levels, including education to break down existing professional barriers and communication problems between disciplines and sectors.

7 Monitoring the impact of effective interventions

It will be essential to evaluate the impact of policies, programmes and practices at national and local levels. Systematic routine data collection on breastfeeding initiation and duration, analysable at postcode level, would enable national and local monitoring. Baseline data will be needed to assess the impact of interventions, and to identify localities with particular problems. Such data will enable the monitoring of progress towards newly developed local, regional and national targets. The public health observatories could take a lead in this work, and a tool kit to enable monitoring at local level could be produced to enable a consistent national approach.

8 From evidence to action

This section presents options for commissioners and service providers to implement the actions into public health programmes and clinical practice. The key actions reflect the 'characteristics of effective programmes' and 'suggestions for effective action' generated by practitioners for each action detailed in section 4 above.

8.1 *Action plan*

(See table 2)

Table 2: Suggestions for action

Evidence-based action	Key actions	Key stakeholders	Outcomes
<p>When implementing interventions to increase breastfeeding initiation and continuation rates, each locality should consider the best package of interventions to address the diverse needs of their local population group(s). The decision should be informed by the views of practitioners and service users. Where appropriate, interventions should be targeted toward disadvantaged white women, with particular focus upon those who are teenagers or lone parents.</p>	<p>Local strategic planning should select the most appropriate combination of interventions to fit the needs of the local population. Effort should be made to target disadvantaged white women, especially those who are teenagers or lone parents.</p>	<p>SHAs NHS trusts</p>	<p>Increase initiation and duration of breastfeeding among all women, particularly those with the lowest rates.</p>
<p>The UNICEF UK BFI for maternity services should be implemented as routine practice across NHS acute trusts in England. In particular: - all maternity hospitals should be encouraged to attain the BFI Full Accreditation Award to increase initiation rates - hospitals with a BFI Certificate of Commitment should progress to the BFI Full Accreditation Award to increase breastfeeding initiation.</p>	<p>Provide fully funded national and regional breastfeeding coordinators.</p>	<p>SHAs NHS trusts</p>	<p>Increase initiation and duration rates of any and exclusive breastfeeding among all women, particularly those who with the lowest breastfeeding rates.</p>
	<p>Train staff to attain BFI Full Accreditation Award. (BFI training is effective at addressing any assumptions based on race or socio-economic status which might otherwise affect the quality of care given).</p>		
	<p>Provide financial support to assist trusts with costs of involvement in BFI.</p>		
<p>The UNICEF UK BFI in the community provides a recognised and accredited framework for routine practice across NHS community trusts in England to increase initiation and duration of breastfeeding for all</p>	<p>Attach financial incentives to targets so trusts receive financial rewards for achieving and maintaining BFI status. (BFI could be a safety requirement for accreditation and re-accreditation so that charges are financed as a hospital insurance premium).</p>		

women.	Provide workforce support for implementation of BFI, particularly in areas with acute workforce issues.	SHAs NHS trusts Health professionals	
	Provide one or two full time paid members of staff in NHS trusts for implementation of BFI, particularly in areas with acute workforce issues.	SHAs NHS trusts Health professionals	
	Educate senior managers to promote positive attitudes towards breastfeeding.	SHAs Public health departments PCTs NHS trusts	
	Provide high level coordination for consistent training of health professionals and volunteers across all sectors. <ul style="list-style-type: none"> Use the Healthy Start programme as an effective vehicle to assist in training and coordination issues, particularly among health professionals and volunteers working with vulnerable groups. 	SHAs Healthcare Commission NHS hospital and PCTs Public health departments Clinical governance leads Health professionals	
	Provide training and education for health professionals to remove professional barriers to cross-sectoral partnerships and improve communication with peer supporters.	Voluntary sector Sure Start/Children's Centres Community organisations	
	Address constraints to effective cross-sectoral working (e.g. differing postcode bases for Sure Start/Children Centre areas compared to GP boundaries).	Local authorities Healthy Start programme	

	<p>Ensure high level enforcement of hospital policy and practice to achieve consistency for removing discharge packs which may contain promotion for formula feeding. Facilitate rooming-in and early initiation.</p>		
<p>An appropriate mix of education and support programmes routinely delivered by health professionals/practitioners and peer supporters in accordance with local population needs.</p> <p>- Informal, practical breastfeeding education in the antenatal period to be delivered in combination with peer support programmes to women on low incomes.</p> <p>- A single session of informal, small group and discursive breastfeeding education in the antenatal period, particularly targeting women on low incomes.</p>	<p>The UNICEF UK BFI in the <u>community</u> to provide a recognised framework for the development and implementation of community-based education and support programmes.</p> <p>In accordance with Step 10 of the BFI for maternity services, establish support groups and referrals to such groups on discharge from the hospital or the clinic.</p>	<p>SHAs PCTs NHS trusts Public health departments Sure Start/Children Centres Local authorities Voluntary organisations</p>	<p>Increase initiation and duration rates of any and exclusive breastfeeding among all women, particularly those on low incomes.</p>
	<p>Develop best practice models of effective, proactive peer support programmes (including training programmes and capacity issues) based on local, regional and national experience.</p>	<p>SHAs PCTs NHS trusts Public health departments Sure Start/Children Centres Local authorities Voluntary organisations DH</p>	

<p>- Additional, breastfeeding specific, practical and problem solving support from a health professional/practitioner in the early postnatal period for all women.</p> <p>- Peer support programmes to provide information and listening support, in the antenatal and/or postnatal periods to women on low incomes.</p>	<p>Provide financial incentives and support strategies to achieve adequate staffing levels within each trust.</p>	<p>SHAs PCTs Public health departments Sure Start/Children Centres Local authorities</p>	
	<p>Standardise training of registered and pre-registration health professionals, including GPs and paediatricians, in multidisciplinary and multisectoral groups.</p> <ul style="list-style-type: none"> The Healthy Start programme may provide an effective vehicle to assist in addressing training issues, particularly among health professionals and volunteers working with vulnerable groups. 	<p>Healthcare Commission SHAs Public health departments PCTs NHS trusts Healthy Start programme</p>	
	<p>Provide a fully funded breastfeeding coordinator at practice level to develop, coordinate and evaluate a strategic plan for education and support programmes (the catchment area to be covered by each coordinator needs to reflect both the geographical area and the number of live births per annum).</p>	<p>SHAs PCTs Acute hospital trusts Public health departments Sure Start/Children Centres Local authorities Health professionals Peer supporters</p>	
	<p>Ensure strategies are in place to recruit and retain pools of peer or volunteer supporters (including provision of formal salaries, paid incentives and/or honorary contract schemes). Training programmes need to recognise the difference between listening and counselling skills.</p>	<p>SHAs PCTs Public health departments Sure Start/Children Centres Local authorities</p>	

	<p>Ensure strategies provide adequate financial support for existing peer or volunteer support schemes in line with funding policy and practice for other contracted out-services. Costs may include building rental, materials and other core expenses.</p>	<p>SHAs PCTs Public health departments Voluntary organisations Peer supporters Sure Start/Children Centres Local authorities</p>	
	<p>Utilise voluntary organisations as a valuable source of training and support for health professionals and peer or voluntary supporters.</p>	<p>SHAs PCTs Public health departments Peer supporters Sure Start/Children Centres Local authorities</p>	
	<p>Ensure adequate funding mechanisms are in place for Sure Start and Children Centres, in light of current changes in funding policy.</p>	<p>Voluntary organisations SHAs PCTs Public health departments Peer supporters Sure Start/Children Centres Local authorities SHAs PCTs Public health departments Local authorities Sure Start/Children Centres SHAs PCTs Acute hospital trusts Public health departments Sure Start/Children Centres Local authorities Peer supporters</p>	
	<p>Managerial commitment to achieve improved communication between health sectors and professional groups, including promotion of peer support</p>		
	<p>Provide professional support from first feed to around 4 weeks after birth (this should be breastfeeding-specific and additional to normal care).</p>		

	<p>Breastfeeding coordinators should consider the following elements when developing a local strategic plan:</p> <ul style="list-style-type: none"> • roles and responsibilities for training, supervision and service delivery • implementation of strategies to achieve joined up working • identification of appropriate trainers for all aspects of service delivery • the importance of non-hospital settings to increase user access • infant feeding or breastfeeding cafes • the importance of peer or volunteer supporters in rural communities • appropriate materials to meet literacy and language needs. 	<p>Breastfeeding coordinators</p> <p>SHAs</p> <p>PCTs</p> <p>Acute Hospital trusts</p> <p>Public health departments</p> <p>Sure Start/Children Centres</p> <p>Local authorities</p> <p>Peer or volunteer supporters</p> <p>Voluntary organisations</p>	
	<p>Provide a breastfeeding coordinator to support health visitors, midwives, health care assistants and other key professionals, by coordinating training, providing advice and facilitating support groups in partnership with peer or volunteer supporters and voluntary organisations.</p>	<p>Healthcare Commission</p> <p>NHS hospital and PCT</p> <p>Public health departments</p> <p>Clinical governance leads</p>	
	<p>Link training to the trust's Clinical Risk funding flows and ensure appropriate professional support for breastfeeding is part of every NHS trust's clinical governance procedures.</p>	<p>SHAs</p> <p>Public health departments</p> <p>Sure Start/Children Centres</p> <p>Health professionals</p> <p>SHAs</p>	
	<p>Provide local quality evaluations of successful programmes, and include training packages for roll-out at the SHA level, plus best practice models for different population groups.</p>		

	<p>Develop appropriate small group education sessions targeting pregnant women from minority ethnic groups and linking with existing group programmes.</p> <p>Review staffing levels on wards and develop innovative approaches to staffing shortages to ensure professional support on breastfeeding is delivered effectively from birth and up to 28 days.</p> <p>Recognise and support the specific needs of teenage mothers, linking with services such as Sure Start Plus programmes.</p> <p>Identify an 'expert' from health visiting and midwifery in PCTs as standard practice to support breastfeeding coordinator.</p>	<p>Public health departments Acute hospital trusts PCTs Health professionals Peer supporters Sure Start/Children Centres SHAs Public health departments Acute hospital trusts PCTs Health professionals Peer supporters Sure Start/Children Centres</p>	
<p>Routine policy and practice for clinical care in hospital and community to:</p> <ul style="list-style-type: none"> - support effective positioning and attachment, using a predominantly 'hands off' approach - encourage unrestricted baby-led breastfeeding which helps prevent engorgement; and for breastfeeding women experiencing mastitis, encourage regular breast drainage and continued breastfeeding - encourage the combination of supportive care, teaching breastfeeding technique, sound information and reassurance for 	<p>Provide professional training, in accordance with BFI guidelines, for all hospital staff on all aspects of these practices, including mentoring. Regular audit and evaluation of professional training should be integral to training plans.</p> <p>Include training on these practices in the pre-registration education of all healthcare practitioners.</p> <p>Include assessment and review of staff's own attitudes to breastfeeding and a mentoring component, supporting each other in practice.</p> <p>Full time coordinator in each primary care practice to coordinate access to postnatal support in hospital and community sectors.</p>	<p>SHAs/WDCs Higher education institutions Public health departments Acute hospital trusts PCTs Health professionals Peer supporters Higher education institutions SHAs/WDCs Public health departments Acute hospital trusts PCTs Health professionals Peer supporters SHAs Acute hospital trusts PCTs Public health departments</p>	<p>Increase duration rates of any and exclusive breastfeeding among all women.</p>

breastfeeding women with 'insufficient milk'.	Provide information to mothers about positioning and attachment to prevent mastitis.	Health professionals Peer supporters	
	Educate GPs on treatment of mastitis by publishing an article on drugs, breastfeeding and mastitis in 'Drugs and therapeutics'.		
	Provide a professional development pack on the treatment of mastitis to pharmacists for front line services.	Public health departments	
	Develop national guidelines on mastitis for GPs and pharmacists.	Public health departments DH NICE	
	Challenge the belief that 'insufficient milk' is common for healthy women and develop new language to explain potential problems and solutions.	DH NICE Public health departments	
	Provide information on drugs in breastmilk and appropriate prescribing for GPs, pharmacists and others; and information on the concomitant management of breastfeeding.	SHAs NHS trusts PCTs Public health departments Health professionals Peer supporters	
Routine policy and practice for clinical care in hospital and community settings to abandon or continue to abandon: - restriction of the timing and/or frequency of breastfeeds during immediate postnatal care - restriction of mother-baby contact from birth onwards during immediate postnatal care - routine supplemental feeds given in addition to breast feeds	Incorporate these practices into routine policy for hospital and community healthcare services and audit in accordance with BFI guidelines and definitions. <ul style="list-style-type: none"> Breastfeeding should be considered whenever there is a possibility of separation for treatment of either mother or baby. 	DH NICE Public health departments	Increase duration rates of any and exclusive breastfeeding among all women.
	Standardise training for all staff in hospital and community settings on all aspects of these practices.	SHAs NHS hospital trusts Clinical governance leads	

<p>- separation of healthy babies from their mothers for the treatment of jaundice</p> <p>- the provision of hospital discharge packs and any informational material given to mothers which may contain promotion for formula feeding including advertising of 'follow on' formula milks to mothers of new babies (this practice has for the most part disappeared from normal NHS care. It is important to ensure that it is not reintroduced).</p>	Change hospital policy and practice to provide unrestricted mother-baby contact for mothers who have had a caesarean section	SHAs NHS hospital trusts	
	Review existing ward practices to ensure unrestricted breastfeeding from birth for at least 1 hour.	SHAs NHS hospital trusts	
	Consider postnatal ward organisation to minimise pressure on breastfeeding women to remove their baby to allow others to sleep.	NHS Hospital trusts	
	Provide additional staff, particularly at night, to enable appropriate care to support breastfeeding from birth, particularly for mothers who have had a caesarean section.	NHS hospital trusts	
	Encourage women to include these practices in their birth plan and discuss cultural practices related to establishment of breastfeeding (e.g. the avoidance of giving colostrum) as part of antenatal care.	SHAs NHS hospital trusts Voluntary sector	
Peer or volunteer support to be delivered by telephone in late antenatal and early postnatal periods to complement face-to-face support programmes.	Develop a national telephone support service (possibly linked to NHS Direct and/or existing services run by voluntary groups) available to pregnant and postnatal women.	Health professionals Voluntary sector	Increase initiation and duration rates of any and exclusive breastfeeding among all women, particularly those on low incomes.
	Establish local call centres with paid peer or volunteer supporters providing telephone and text information and support for pregnant and postnatal women.	NHS Direct Public health departments Voluntary organisations	
	Standardise training of telephone supporters on content and communication skills.	NHS trusts SHAs Public Health departments Voluntary sector	

	Develop a high quality website to provide information on breastfeeding and local resource lists.	SHAs NHS trusts Public health departments Health professionals Voluntary organisations	
	Provide a list of telephone support services, including culturally appropriate materials, for distribution to all mothers on discharge from hospital.		
Breastfeeding education and support from one professional in the ante- and early postnatal periods.	Target this service to localities serving low income women as a priority, because of workforce capacity limitations.	SHAs Public health departments NHS trusts Voluntary sector	Increase initiation and duration rates of any and exclusive breastfeeding among women on low incomes.
	Address quality concerns by standardising high quality training of all midwives. <ul style="list-style-type: none"> The Healthy Start programme may provide an effective vehicle to assist in addressing training issues, particularly among health professionals and volunteers working with vulnerable groups. 	SHAs NHS trusts Public health departments Healthy Start programme	
	Develop guidance for appropriate management of care in cases of absence of the designated health professional.	SHAs NHS Trusts Higher education institutions Public health departments	
	Develop best practice models based on existing experiences in Sure Start/Children Centre areas.	Clinical governance leads	
One-to-one, needs-based professional education in the antenatal period and peer support for up to 1 year targeting white, low income women.	Employ paid practice-based breastfeeding coordinators to provide a liaison and coordination role between acute trusts, PCTs, local authorities and other stakeholders.	SHAs Sure Start/Children Centres Public health departments	Increase initiation and duration rates of any and exclusive breastfeeding among all women, particularly white women on low incomes.

	<p>Recruit and train a pool of paid peer supporters to deliver the postnatal support, with supervision and support from trained hospital and community based midwives, recognising their skills and qualifications.</p> <ul style="list-style-type: none"> The Healthy Start programme could assist in providing core maternal and child nutrition training for peer supporters. 	<p>SHAs Public health departments PCTs NHS trusts Voluntary organisations Sure Start/Children's Centres Healthy Start programme</p>	
	<p>Train health professionals, particularly midwives, health visitors and practice nurses, on delivery of appropriate education programmes and training, supervision and support of peer supporters.</p>	<p>SHAs NHS trusts Public health departments Midwives and health visitors (as supervisors) Voluntary sector</p>	
	<p>Ensure qualifications for peer supporters achieve higher status through an academic accreditation system.</p>	<p>SHAs Universities Open college network Voluntary sector</p>	
	<p>Ensure partnership and collaborative working across disciplines and sectors, includes challenging institutional policies which are a barrier to such collaborative working.</p>	<p>SHAs NHS trusts Public health departments Health professionals Voluntary sector</p>	
	<p>Increase resources for Sure Start, Children's Centres and similar organisations that have experience in effectively delivering such services.</p>	<p>SHAs Acute hospital trusts PCTs Public health departments Breastfeeding coordinators</p>	
Local media programmes	<p>Develop local media campaigns, using local images for specific target groups including teenagers.</p>	<p>SHAs Public health departments PCTs Sure Start/Children Centres Voluntary sector</p>	<p>Improve attitudes towards breastfeeding, particularly among teenagers.</p>

	<p>Ensure there is adequate funding to provide local media campaigns to support other, core breastfeeding promotion health services.</p>	<p>Healthcare Commission SHAs Acute hospital trusts SHAs Media experts SHAs Public health departments PCTs Public health practitioners Health promotion specialists Health professionals Sure Start/Children's Centres Community organisations Local authorities</p>	
	<p>Use supportive text messages as a familiar and accessible medium for teenagers.</p>		
	<p>Ensure the campaign is ongoing to achieve an incremental effect.</p>		

APPENDIX A: The evidence base for effective interventions: review-level findings

Introduction

This section presents the evidence base for effective interventions to promote the initiation and/or duration of breastfeeding. These findings are based on a comprehensive and detailed review of existing evidence documents within the topic area, namely, one evidence briefing and three systematic reviews (Fairbank et al. 2000; Protheroe et al. 2003; Renfrew et al. 2004; Tedstone et al. 1998).

Briefly, each primary study included in the four review documents (210 studies) was assessed against set criteria for potential inclusion as an evidence-based action. The included studies were then critically appraised against recognised quality criteria to check the scientific reliability of each study's findings. This review process resulted in a total of 25 potential evidence-based actions to promote the initiation and/ or duration of breastfeeding. These findings are presented below by each type of intervention.

The main advantage of the review approach is that it enables increased and timely access to findings from an enormous literature for future interventions to be built on a reliable evidence base of effectiveness. However, key limitations of the approach include the gaps in the evidence for evaluations of complex public health interventions and the relative infancy of review methodology to appraise such complex interventions. In addition, each intervention is defined precisely within its study's context and actions. The summary of findings in a 'review of reviews' may therefore reduce both the scope of potential public health interventions to promote breastfeeding and the true potential for generalisability of findings to everyday practice.

Evidence of effectiveness of interventions aimed at promoting breastfeeding was found for a variety of different types of interventions with different target groups or in different settings. The evidence base comprises three main groups of intervention in terms of its impact on breastfeeding rates:

- (i) interventions which have been shown to be effective at increasing breastfeeding rates
- (ii) interventions which have been shown to be harmful to breastfeeding rates
- (iii) interventions which have been shown to be ineffective at increasing breastfeeding rates.

The evidence base is presented below by the type of intervention within each of the three groups as follows:

- (i) Interventions which have been shown to be effective:
 - a. peer support
 - b. professional support
 - c. education
 - d. education and professional support
 - e. education and volunteer support
 - f. professional training
 - g. hospital practices
 - h. multisectoral interventions

i. media programmes

(ii) Interventions which have been shown to be harmful to breastfeeding rates:

j. hospital practices

(iii) Interventions which have been shown to be ineffective at increasing breastfeeding rates:

k. breastfeeding literature

l. hospital practices.

Interventions which have been shown to be effective

Peer support

Review-level evidence suggests:

- peer support programmes, in the antenatal period, can be effective in increasing rates of initiation among women on low incomes who have expressed a wish to breastfeed
- peer support programmes, in the antenatal and postnatal period, can be effective in increasing rates of initiation and duration among women of low income groups
- peer support or volunteer support delivered by telephone proactively in the early postnatal period can be effective in improving duration rates of exclusive and any breastfeeding among women who want to breastfeed
 - such support has not been shown to be effective at increasing exclusive breastfeeding among women from disadvantaged backgrounds.

Professional support

Review level evidence suggests:

- practical and problem-solving postnatal support from a health professional can be effective at increasing rates of any breastfeeding among women from all income groups
- skilled breastfeeding support, pro-actively offered from one professional in the early postnatal period, can be effective at increasing rates of any and exclusive breastfeeding among women who want to breastfeed.

Education

Review level evidence suggests:

- breastfeeding education in the form of a self-assessment tool can be effective in increasing the rates of duration of breastfeeding in high income, but not low income, groups of women
- breastfeeding education delivered in the antenatal period covering topics like postnatal nipple pain and trauma can be effective in increasing duration of exclusive breastfeeding in low income women who intend to breastfeed
- breastfeeding education delivered in the antenatal period which are informal, in small groups and discursive can be effective (with or without the use of supporting literature) in increasing both initiation and duration of breastfeeding among minority ethnic women.

Education and professional support

Review level evidence suggests:

- breastfeeding education and support in the antenatal and postnatal period from one professional can be effective in increasing rates of exclusive breastfeeding among women who intend to breastfeed
- one-to-one, needs-based breastfeeding education in the antenatal period combined with postnatal support through the first year can be effective at increasing initiation and duration rates among mostly white, low income women.

Education and peer support

Review level evidence suggests:

- informal, practical breastfeeding education delivered in the antenatal period combined with peer support programmes can be effective at increasing initiation and duration rates of breastfeeding.

Professional training

Review level evidence suggests:

- professional training of hospital staff to teach positioning and attachment using a predominantly 'hands off' approach with women in the early postpartum period can be effective in increasing duration rates of exclusive and any breastfeeding in all women.

Hospital practices

Review level evidence suggests:

- the practice of ensuring unrestricted breastfeeding from birth onwards can be effective in improving the duration of breastfeeding among all women
- the practice of ensuring unrestricted mother-baby contact during the postnatal hospital stay can be effective in increasing the duration of breastfeeding among all women.

Multisectoral interventions

Review level evidence suggests:

- a combination of health and community sector changes (changes in hospital policies to phase out discharge packs containing promotion for formula feeding and encourage rooming-in and early initiation; review of educational materials; breastfeeding education in the antenatal and postnatal periods; community media activities and peer support) can be effective in increasing initiation and duration rates.

Media programmes

Review level evidence suggests:

- local media programmes, as a single intervention, can be effective in improving attitudes towards breastfeeding among teenage girls.

Interventions which have been shown to be harmful to breastfeeding rates

Hospital practices

Review level evidence suggests:

- routine supplemental feeds, such as feeds of formula milk, given in addition to breast feeds without sufficient medical grounds, can be harmful to duration rates of any, exclusive and full breastfeeding

- restriction of the timing and/or frequency of breastfeeds during immediate postnatal care can be harmful to duration rates
- restriction of mother-baby contact from birth onwards during immediate postnatal care can be harmful to duration rates
- the provision of hospital discharge packs containing promotion for formula feeding can be harmful to duration rates.

Interventions which have been shown to be ineffective at increasing breastfeeding rates

Breastfeeding literature

Review level evidence suggests:

- breastfeeding literature on its own, in either the antenatal or postnatal periods, is not likely to be effective at increasing breastfeeding rates of initiation or duration among women of different ethnic or income groups.

Hospital practices

Review level evidence suggests:

- separating healthy babies from their mothers for the treatment of jaundice during the postnatal stay is not likely to increase duration rates
- dopamine antagonists for 'insufficient milk' during postnatal care in the community are not likely to increase duration rates.

Additional studies included in the evidence base: generated from stakeholder comments

The NICE peer review process resulted in key studies being identified by stakeholders for potential inclusion in this briefing. These studies provide current, high quality evidence of effectiveness on key breastfeeding promotion programmes. The actions in this briefing therefore reflect this evidence in addition to the findings from the four systematic reviews and feedback from consultation respondents.

Study 1: Bartington SE, Foster LJ, Dezateaux C.(2005) 'Evaluation of the UNICEF UK baby friendly initiative for the promotion of breastfeeding: findings from the millennium cohort study'. London: Institute of Child Health. *Archives of Disease in Childhood* 2005 90(Suppl II):A73-76.

Aim:

- To evaluate the effect of the UNICEF UK Baby Friendly Initiative for maternity services on rates of initiation and duration of breastfeeding in the UK.

Methods:

- The MCS is a disproportionately stratified sample of children born between September 2000 and January 2002 in the four countries of the UK. Maternal report of breastfeeding, ethnic group, academic qualifications and socioeconomic status was obtained 9 months after birth, and analysed for 18,147 natural mothers of singletons.
- Maternity hospitals of birth were identified for 17,359 mothers and classified according to the level of participation in the UNICEF UK BFlat March 2001 (England and Wales) and June 2001 (Scotland and Northern Ireland).
- Initiation of breastfeeding was defined as the proportion of all mothers who put their baby to the breast, even if this is on one occasion only.

- Logistic regression and multilevel modelling was used to explore the influence of individual, community and hospital level factors on breastfeeding initiation.

Results:

- The proportion of MCS births in maternity units that held the Full Accreditation Award was highest in Scotland (21%), 10.4% in Northern Ireland, 4.5% in Wales and 2.9% in England.
- This evaluation found mothers delivering in BFI hospitals holding the Full Accreditation Award are more likely to start breastfeeding than those delivering in units not participating in the Initiative. Evidence for a positive influence of the BFI Certificate of Commitment was not found. Delivery in a participating unit is not associated with breastfeeding continuation or prevalence of any breastfeeding at one month.
- The BFI hospital evaluation has also confirmed the importance of maternal attendance at antenatal classes, with a positive influence on rates of breastfeeding initiation, continuation and duration.
- No evidence for inequity of benefit by individual maternal social or demographic characteristics, suggesting that maternity service implementation of the BFI is likely to benefit all mothers across a local population.

Study 2: Coutinho SB, de Lira PI, de Carvalho Lima M et al. (2005) 'Comparison of the effect of two systems for the promotion of exclusive breastfeeding'. *The Lancet* 366:1094-100.

Aim:

- To compare the hospital-based intervention (Baby Friendly Hospital Initiative [BFHI] training of maternity staff) with a combined hospital-based and community-based intervention (BFHI training and postnatal home visits).

Methods:

- In February 2001, maternity staff from two hospitals in Pernambuco, Brazil, were trained according to the BFHI. Five women were recruited to serve as home visitors who also received the 20 day BFHI training course plus 5 days for more detailed training on postnatal breastfeeding assistance.
- In a randomised trial between March and August 2001, 350 mothers giving birth at these hospitals were assigned ten postnatal home visits to promote and support breastfeeding (n=175) or no home visits (n=175).
- Breastfeeding practices were studied on days 1, 10, 30, 60, 90, 120, 150 and 180 by researchers unaware of group allocation. Analyses were by intention to treat.

Results:

- The hospital training intervention achieved a high rate (70%) of exclusive breastfeeding in hospitals but this rate was not sustained at home and 10 days of age only 30% of infants were exclusively breastfed.
- The patterns of exclusive breastfeeding in the two trial groups for days 10-180 differed significantly ($p < 0.0001$) with a mean aggregated prevalence of 45% among the group assigned home visits compared with 13% for the group assigned none.

A combination of both hospital-based and community-based BFHI breastfeeding training and support is effective in increasing breastfeeding duration and exclusivity.

APPENDIX B: Overview of ‘short list’ of evidence-based actions

Potential evidence-based actions for practice: based on interventions which have been shown to be effective

Evidence-based action	Citation	Outcome	Study Design (as per quality rating)	Quality Rating	Population group	Infant feeding intention	Location of original study	Generalisability	Notes
Peer support programme in ante-natal period	McInnes 1998	Initiation: any	CT	++	Women on low incomes	Intend to breastfeed	UK inner city areas	High – income specific	
Local media programmes	Friel 1989	Attitudes to bf	BA	+	Middle class teenagers	N/A	Canadian middle class teenagers	Moderate – income specific	
Breastfeeding support from a health professional in early postnatal period	Porteous 2000	Duration: any and exclusive bf	RCT	++	General population	Want to breastfeed	Municipal hospital, Ontario, Canada	Moderate	
	Serafino-Cross 1992	Duration: any bf	CT	+	General population	Want to breastfeed	Prenatal clinics, Massachusetts, USA	Moderate	
Breastfeeding telephone support from a peer supporter in early postnatal period	Dennis 2002	Duration: any and exclusive	RCT	++	General population	Want to breastfeed	Community hospitals serving semi-urban populations, Toronto, Canada	Moderate	Not been shown to be effective at increasing exclusive breastfeeding among women from

									disadvantaged backgrounds
Educational breastfeeding self-assessment tools	Pollard 1998	Duration: any	CT	+	High income groups	Any	Community hospital serving semi-urban populations in Mid-Atlantic region, USA	Moderate – income specific	Not shown to be effective among low income groups
Antenatal group teaching session on postnatal nipple pain and trauma	Duffy 1997	Duration: exclusive	CT	+	Low income groups	Intend to breastfeed	Urban maternity unit in Western Australia	Moderate – income specific	
Predominantly 'hands off' approach to initiating breastfeeding by health professionals	Ingram 2002	Duration: any and exclusive	BA	+	General population	Any	UK	High	
Prenatal and postnatal education and support from one professional	Jenner 1988	Duration: exclusive	CT	+	Low income groups	Intend to breastfeed	UK	High	
Practical and problem solving postnatal support from a health professional	Jones 1985	Duration: any	CT	+	General population	Any	Small rural town, Wales	Moderate	
Unrestricted feeding from birth	Inch & Garforth	Duration: any	5 RCTs	++	General population	Any	International	High	

onwards during postnatal hospital stay	in Chalmers 1989								
Unrestricted mother-baby contact from birth onwards during postnatal hospital stay	Inch & Garforth in Chalmers 1989	Duration: any	5 RCTs	++	General population	Any	International	High	
Informal, small group, interactive and discursive breastfeeding education sessions (with or without breastfeeding literature)	Kistin 1990	Initiation and duration: any	CT	+	Black, low income women	Any	County hospital, USA	Moderate – ethnic specific	
	Rossiter 1994	Initiation and duration: any	CT	+	Mostly Vietnamese women	Any	New South Wales, Australia	Moderate – ethnic specific	
One-to-one, needs-based antenatal education and postnatal support into the first year of infancy	Brent 1995	Initiation and duration: any	RCT	+	Mostly Caucasian women on low incomes	Any	Metropolitan hospital in USA	Moderate - income specific	
Peer support programmes in both ante and postnatal periods	Schafer 1998	Initiation and duration: any	CT	+	Low income women	Any	WIC clinics in USA	Moderate – Income specific	
Complementary good practice breastfeeding education	Caulfield 1998	Initiation and duration: any	CT	++	Low income, African-American women	Any	WIC clinics in USA	Moderate – ethnic and income specific	Based on theoretically grounded Best Start

programmes and peer support programmes	Hartley 1996	Initiation and duration: any	BA	+	Low income, mostly African-American women	Any	WIC clinics in USA	Moderate – ethnic and income specific	programme
Package of interventions delivered in both the health and community sectors	Wright 1997	Initiation and duration: any	BA	+	American-Indians	Any	One regional hospital in USA	Low – Ethnic specific	Package components: training hospital staff, hospital policy phasing out formula discharge packs, promote rooming-in and early initiation, breastfeeding education in ante-natal and post-partum periods, community media activities and peer support programme

Evidence-based action for removal from practice: based on interventions which have been shown to be harmful or have no effect

Evidence-based action	Citation	Outcome	Study Design (as per quality rating)	Quality Rating	Population group	Infant feeding intention	Location of original study	Generalisability	Notes
Breastfeeding literature	Loh 1997	Initiation: any	CT	+	General population	Any	Galway, Ireland	High	This intervention was shown to have no effect on initiation rates
	Barwick 1997	Initiation: any	CT	+	Urdu speaking	Any	UK	High (targeted)	
Written information/educational materials in ante or postnatal periods	Curro 1997	Duration: any	CT	+	General population	Any	Paediatric Institute of Catholic University of Rome, Italy	Low	This intervention was shown to have no effect on duration rates
	Hauck 1994	Duration: any	CT	++	General population	Any	Urban population, Western Australia	Moderate	
Dopamine antagonists for 'insufficient milk' during postnatal care in community	Inch & Renfrew in Chalmers 1989	Duration: any	20 trials	++	General population	Any	International	High	
Separating mothers	Martinez	Duration:	CT	+	General	Any			

and babies for treatment of jaundice during postnatal hospital stay	JC 1993	any			population				
Formula hospital discharge packs	Howard 2000	Duration: any	RCT	+	General population	Any	Clinical-type intervention in urban and rural settings, including WIC clinics, in USA	High	This intervention showed adverse effects of discharge packs on duration of any breastfeeding
	Frank 1987	Duration: any	RCT	++	General population	Any			
	Fredrickson 1995	Duration: any	RCT	++	General population	Any			
	Bliss 1997	Duration: any	CT	++	General population	Any	Clinical type intervention in a public regional hospital, USA	High	This intervention showed no effect of discharge packs on improving duration of breastfeeding
	Dungy 1997	Duration: any	CT	+	General population	Any	Clinical type intervention in a private community hospital, USA	High	
Routine supplemental feeds	Howard 2003	Duration: any and exclusive	RCT	++	General population	Any	Clinical-type intervention in general hospital, USA	High	This intervention showed adverse effects of

	Martin-Calama 1997	Duration: any and exclusive	CT	++	General population	Any	Clinical-type intervention in general BFHI hospital, Spain	High	routine supplemental feeds on duration outcomes
Restricting timing and/or frequency of breastfeeds during immediate postnatal care	Inch & Garforth in Chalmers 1989	Duration: any	5 RCTs	++	General population	Any	International	High	This intervention showed adverse effects on duration rates
Restricting mother/baby contact from birth onwards during immediate postnatal care	Inch & Garforth in Chalmers 1989	Duration: any	5 RCTs	++	General population	Any	International	High	This intervention showed adverse effects on duration rates
Antenatal paediatric visit to provide oral breastfeeding education	Serwint 1998	Initiation and duration: any	RCT	++	African-American women on low incomes	Any	One WIC hospital in USA	Moderate – income and ethnic specific	This intervention showed no effect on initiation and duration rates

APPENDIX C: The UNICEF UK Baby Friendly Initiative 'best practice' standards

The ten steps to successful breastfeeding for maternity services

1. Have a written breastfeeding policy that is routinely communicated to all healthcare staff.
2. Train all healthcare staff in the skills necessary to implement the breastfeeding policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding soon after birth.
5. Show mothers how to breastfeed and how to maintain lactation even if they are separated from their babies.
6. Give newborn infants no food or drink other than breastmilk, unless medically indicated.
7. Practice rooming-in, allowing mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or dummies to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

The seven point plan for the protection, promotion and support of breastfeeding in community healthcare settings

1. Have a written breastfeeding policy that is routinely communicated to all healthcare staff.
2. Train all staff involved in the care of mothers and babies in the skills necessary to implement the policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Support mothers to initiate and maintain breastfeeding.
5. Encourage exclusive and continued breastfeeding, with appropriately timed introduction of complementary foods.
6. Provide a welcoming atmosphere for breastfeeding families.

7. Promote cooperation between healthcare staff, breastfeeding support groups and the local community.

APPENDIX D: References

Aniansson G, Alm B, Anderson B (1994) A prospective cohort study on breastfeeding and otitis media in Swedish infants. *The Pediatric Infectious Disease Journal* 13:183-8.

Arenz S, Ruckerl R, Koletzko B et al. (2004) Breastfeeding and childhood obesity: a systematic review. *International Journal of Obesity* 28:1247-56.

Ball TM, Wright AL (1999) Health care costs of formula-feeding in the first year of life. *Pediatrics* 103 (4):870-876.

Bartington SE, Foster LJ, Dezateaux C. (2005) Evaluation of the UNICEF UK baby friendly initiative for the promotion of breastfeeding: findings from the millenium cohort study. *Archives of Disease in Childhood* 90(Suppl II):A73-76.

Beral V (2002) Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50,302 women with breast cancer and 96,973 women without the disease. *Lancet* 360:187-95.

Burr ML, Miskelly FG, Butland BK (1989) Environmental factors and symptoms in infants at high risk of allergy. *Journal of Epidemiology and Community Health* 43:125-32.

Caulfield LE, Gross SM, Bently ME et al. (1998) WIC-based interventions to promote breastfeeding among African-American women in Baltimore: effects on breastfeeding initiation and continuation. *Journal of Human Lactation* 14:15-22.

Cesar AJ, Victora CG, Barros FC et al. (1999) Impact of breast feeding on admission for pneumonia during postneonatal period in Brazil: nested case-control study. *BMJ* 318:1316-20.

Chalmers I, Enkin M, Keirse MJNC (1989) *Effective care in pregnancy and childbirth*. Oxford: Oxford University Press.

Coutinho SB, de Lira PI, de Carvalho Lima M et al. (2005) Comparison of the effect of two systems for the promotion of exclusive breastfeeding. *The Lancet* 366:1094-100.

Department of Health (1998) *Independent inquiry into inequalities in health: report*. London: The Stationery Office.

Department of Health (1999) *Saving lives: our healthier nation*. London: The Stationery Office.

Department of Health (2000) *The NHS plan*. London: The Stationery Office.

Department of Health (2003a) *Priorities and planning framework 2003-2006*. London: The Stationery Office.

Department of Health (2003b) *Infant feeding recommendation*. London: The Stationery Office.

- Department of Health (2004a) *Choosing health: making healthier choices easier*. London: The Stationery Office.
- Department of Health (2004b) *National service framework for young people and maternity services*. London: The Stationery Office.
- Department of Health (2005) *Clarification of breastfeeding initiation data collection* [online]. Available from: www.dh.gov.uk/assetRoot/04/07/16/96/04071696.pdf
- Dewey KG, Heinig MJ, Nommsen L et al. (1992) Growth of breast-fed and formula-fed infants from 0 to 18 months: the darling study. *Pediatrics* 89:1035–41.
- Department for Education and Skills (2004). *Every child matters: change for children*. London: The Stationery Office.
- Duffy EP, Percival P, Kershaw E (1997) Positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates. *Midwifery* 13(4):189-96.
- Duncan B, Ey J, Holberg CJ (1993) Exclusive breastfeeding for at least four months protects against otitis media. *Pediatrics* 91:867-72.
- EU (2004) *Promoting, protecting and supporting breastfeeding: an action plan for Europe*. Luxembourg: European Commission, Directorate for Public Health and Risk Assessment.
- Fairbank L, O'Meara S, Renfrew MJ et al. (2000) A systematic review to evaluate the effectiveness of interventions to promote the initiation of breastfeeding. *Health Technology Assessment* 4 (25):1-171.
- Fewtrell MS (2004) The long-term benefits of having been breast-fed. *Current Paediatrics* 14:97-103.
- Gilman MW, Rifas-Shiman SL, Camargo CA et al. (2001) Risk of overweight among adults who are breastfed as infants. *Journal of the American Medical Association* 285:2461-7.
- Gregg JE (1989) Attitudes of teenagers in Liverpool to breast feeding. *British Medical Journal* 299:147-148.
- Griffiths LJ, Tate AR, Dezateux C et al. (2005) The contribution of parental and community ethnicity to breastfeeding practices: evidence from the Millennium Cohort Study. *International Journal of Epidemiology*. 34:1378-86.
- Gwinn ML, Lee NC, Rhodes RH et al. (1990) Pregnancy, breastfeeding and oral contraceptives and the risk of epithelial cancer. *Journal of Clinical Epidemiology* 43:559-68.
- Hamlyn B, Brooker S, Oleinikova K et al. (2002) *Infant feeding 2000. A survey conducted on behalf of the Department of Health, Social Services and Public Safety in Northern Ireland*. London: The Stationery Office.
- Hartley BM, O'Connor ME (1996) Evaluation of the 'Best Start' breast-feeding education program. *Archives of Pediatrics and Adolescent Medicine*. 150:868-71.

- Henderson A, Kitzinger J, Green J (2000) Representing infant feeding: content analysis of British media portrayal of bottle feeding and breast feeding. *British Medical Journal* 311:1196-8.
- Hoey C, Ware JL (1997) Economic advantages of breast-feeding in an HMO setting: a pilot study. *American Journal of Managed Healthcare* 3 (6):861-5.
- Houston MJ (1984) Home support for the breast feeding mother. In: MJ Houston, editors *Maternal and infant health care*. Edinburgh: Churchill Livingstone.
- Howie PW, Forsyth JS, Ogston SA et al. (1990) Protective effect of breast feeding against infection. *British Medical Journal* 300:11-16.
- Kistin N, Benton D, Rao S et al. (1990) Breastfeeding rates among black urban low-income women: effect of prenatal education. *Pediatrics*. 86:741-6.
- Kramer MS, Chalmers B, Hodnett ED et al. (2001) Promotion of breastfeeding intervention trial (PROBIT): a randomized trial in the Republic of Belarus. *Journal of the American Medical Association* 285 (4):413-20.
- Lawrence R (1994) *Breastfeeding; a guide for the medical profession*. Fourth edition. Mosby: St Louis, Missouri.
- Lucas A, Brooke OG, Morley R et al. (1990) Early diet of preterm infants and the development of allergic or atopic disease: randomised prospective study. *British Medical Journal* 300:837-40.
- Marild S, Hansson S, Jodal U et al. (2004) Protective effect of breastfeeding against urinary tract infection. *Acta Paediatrica Scandinavica* 93 (2):164-8.
- Marild S, Jodal U, Hanson LA (1990) Breastfeeding and urinary tract infection. *Lancet* 336:942.
- Martin RM, Ness AR, Gunnell D et al. (2004) Does breastfeeding in infancy lower blood pressure in childhood? *Circulation* 109:1259-1266.
- Mayer EJ, Hamman RF, Gay EC (1988) Reduced risk of IDDM among breastfed children: the Colorado IDDM registry. *Diabetes* 37:1625-32.
- McFadden A, Thomas J, McCormick F et al. (2005) *Evidence into practice briefing on the initiation and duration of breastfeeding: fieldwork report*. London: National Institute for Health and Clinical Excellence.
- Newcombe PA, Storer BE, Longnecker MP (1994) Lactation and a reduced risk of premenopausal breast cancer. *The New England Journal of Medicine* 330:81-7.
- Nicoll A, Thayaparan B, Newell M et al. (2002) Breast feeding policy, promotion and practice in Europe. Results of a survey with non-governmental organizations. *Journal of Nutritional & Environmental Medicine* 12 (3):255-64.
- Office for National Statistics (1999) Birth statistics: review of the registrar general on births and family building in England and Wales, 1998. *Series FM1 no. 27*. London: Stationery Office.

- Owen CG, Martin RM, Whincup PH et al. (2006) Effect of infant feeding on the risk of obesity across the life course: a quantitative review of published evidence. *The Journal of Pediatrics* 117(3):987.
- Pisacane A, Graziano L, Mazzarella G et al. (1992) Breastfeeding and urinary tract infection. *The Journal of Pediatrics* 120:87-9.
- Porteous R, Kaufman K, Rush J (2000) The effect of individualized professional support on duration of breastfeeding: a randomized controlled trial. *Journal of Human Lactation*. 16(4):303-8.
- Protheroe L, Dyson L, Renfrew MJ et al. (2003) *The effectiveness of public health interventions to promote the initiation of breastfeeding: Evidence briefing*. London: Health Development Agency.
- Rossiter JC (1994) The effect of a culture-specific education program to promote breastfeeding among Vietnamese women in Sydney. *International Journal of Nursing Studies*. 31:369-79.
- Renfrew MJ, Woolridge MW, Ross-McGill H (2000) *Enabling women to breastfeed*. London: The Stationery Office. Renfrew MJ, Ansell P, Macleod KL (2003) Formula feed preparation – helping reduce the risks: a systematic review. *Archives of Disease in Childhood* 88:855-8.
- Renfrew MJ, Dyson L, Wallace L et al. (2005) *The effectiveness of health interventions to promote the duration of breastfeeding: systematic review*. London: National Institute for Health and Clinical Excellence.
- Renfrew MJ, Dyson L, McFadden A et al. (2005) *Evidence into practice briefing on the initiation and duration of breastfeeding: technical report*. London: National Institute for Health and Clinical Excellence.
- Riordan JM (1997) The cost of not breastfeeding: a commentary. *Journal of Human Lactation* 13 (2):93-7.
- Rosenblatt KA, Thomas DB (1993) WHO Collaborative study of neoplasia and steroid contraceptives. *International Journal of Epidemiology* 22:192-7.
- Saairinen UM, Kajosaari M (1995) Breastfeeding as prophylaxis against atopic disease: prospective follow-up study until 17 years Old. *Lancet* 346:1065-9.
- Sadauskaite-Kuehne V, Ludvigsson J, Pagaiga Z et al. (2004) Longer breastfeeding is an independent protective factor against development of type 1 diabetes mellitus in childhood. *Diabetes Metabolic Research Review* 20 (2):150-7.
- Schafer E, Vogel MK, Viegas S (1998) Volunteer peer counsellors increase breastfeeding duration among rural low-income women. *Birth* 25:101-6.
- Serafino-Cross P, Donovan P (1992) Effectiveness of professional breastfeeding home support. *Journal of Nutrition Education* 24(3):117-122. Statutory Instrument No. 77 (1995) *The infant formula and follow-on formula regulations*. London: The Stationery Office.

Tedstone A, Duncanson N, Aviles M et al. (1998) *Effectiveness of interventions to promote healthy feeding in infants under one year of age: a review*. London: Health Education Authority.

Thomas M and Avery V (1997) *Infant feeding in Asian families*. London: The Stationery Office.

United Kingdom National Case-Control study group (1993) Breastfeeding and risk of breast cancer in young women. *British Medical Journal* 307:17-20.

Virtanen SM, Fasanen L, Aro A (1991) Infant feeding in Finnish children <7 yr of age with newly diagnosed IDDM. *Diabetes Care* 14:415-7.

von Kries R, Koletzko B, Sauerwald T et al. (1999) Breastfeeding and obesity: cross sectional study. *British Medical Journal* 319:147-150.

Wilson AC, Forsyth JS, Greene SA et al. (1998) Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. *British Medical Journal* 316:21-5.

World Health Assembly (2005). Infant and young-child nutrition. *Agenda item 13.11; WHA58.32: 25 May*. WHO, Geneva.

World Health Organization (1981). *Code of marketing of breast milk substitutes*. Geneva: World Health Organization.

World Health Organization (1991). *Innocenti declaration on the protection, promotion and support of breastfeeding*. Geneva: World Health Organization.

World Health Organization (2003) Global strategy for infant and young child feeding. In: Organization WH, ed. Geneva: World Health Organization.

Wright AL, Naylor A, Wester R, Bauer M, Sutcliffe E. Using cultural knowledge in health promotion: breastfeeding among the Navajo. *Health Educ Behav* 1997; 24:625-39

Yngve A, Sjostrom M (2001) Breastfeeding in countries of the European Union and EFTA: current and proposed recommendations, rationale, prevalence, duration and trends. [erratum appears in *Public Health Nutr* 2001 Dec; 4(6):1306]. *Public Health Nutrition* 4 (2B):631-45.