



THE UNIVERSITY OF  
**SYDNEY**

## **AN INTERNATIONAL COMPARISON STUDY INTO THE IMPLEMENTATION OF THE WHO CODE AND OTHER BREASTFEEDING INITIATIVES**

### **FINAL REPORT**

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## EXECUTIVE SUMMARY

The NHMRC Clinical Trials Centre was contracted by the Australian Government Department of Health and Ageing to complete an international comparative study on the implementation of the World Health Organization's (WHO) International Code of Marketing of Breast-milk Substitutes (referred to as the WHO Code). The study involved gathering data on the implementation of the WHO Code in nine developed countries which were mostly pre-specified by the Department of Health and Ageing in the Request For Quote 288/101; the countries included in our assessment were Australia, Canada, France, Germany, Ireland, New Zealand, Norway, United Kingdom and United States of America. The findings of this information-gathering exercise are intended to assist the Department of Health and Ageing in assessing the relative success of measures already implemented in Australia and considering the feasibility of any additional measures which may have the potential to be employed in Australia.

The WHO Code was formulated and adopted by 118 member states in 1981 with its main priority being to support, protect and promote breastfeeding and encourage member states to incorporate the Code into their own systems of governance. For this study, the extent to which the WHO code had been implemented (i.e. partially, fully or non-existent) in each country, the methods by which it had been implemented (in terms of legislation and public policy), the surrounding social and healthcare context, and the impact that these various factors may have had on breastfeeding rates and infant feeding practices over time was investigated and compared.

To conduct this study, it was divided into two parts: (i) a rapid systematic review of the evidence base to identify key global interventions which influence breastfeeding practice. To do this, data were derived from multiple sources including medical literature databases and recommendations or statements from governmental organisations (ii) a review of websites and databases to retrieve the necessary information regarding the current legislation and governmental strategies/initiatives; marketing, manufacturing and importing agreements of breast-milk substitutes; adherence to governmental agreements on infant formula use; publicity of breast-milk substitutes; current statistics on breastfeeding rates and if possible, infant formula use; social policies and cultural factors which had the potential to direct (positively or negatively) breastfeeding rates; training of healthcare professionals and childcare facilities/workplace initiatives in place in each country. By doing this, we provided a rounded approach in assessing the extent to which the WHO Code had been implemented in each country.

The key findings of the study can be summarised as follows:

- Robust evidence from systematic reviews, government-funded reviews and some RCTs indicated that a range of interventions/factors and not just a single intervention have a cumulative and positive effect on the promotion and support of breastfeeding. Key factors were support (partner, lay, peer and professional support) to breastfeed, well-trained healthcare professionals, unrestricted skin-to-skin contact and education (for low-income families);
- Recommended definitions to describe national breastfeeding rates were inconsistently used across countries and therefore a comparison of rates between countries should be considered cautiously;
- Breastfeeding initiation rates were high in the majority of countries (i.e. greater than 80% in Australia, Canada, Germany, Norway and United Kingdom) while low initiation rates were noted in France and Ireland;
- The duration of breastfeeding was particularly low at six months in all countries. The WHO recommends exclusive breastfeeding for the first six months yet there are inherent problems with its definition (i.e. at or until six months) and use as an indicator (i.e. solid food is normally introduced at this time point). Low rates at six months were noted in the United Kingdom (less than 1%) and Norway (2 to 10% depending on the survey);
- Variability in the legislative implementation of the WHO Code across developed countries. Those countries part of the European Union, and Norway, had adopted partial legislation (with articles 7 and 8 in particular lacking) while Australia and New Zealand had voluntary codes in operation which covered all of the articles of the WHO Code. Unlike these countries, both Canada and the United States of America have very limited implementation of the WHO Code (only articles 9 and 11 were in national legislation) with no provisional laws or voluntary codes in place for the remaining articles;

- Aspects of the WHO Code that have been implemented in legislation or as voluntary codes were also narrower in scope. This was evident in the type of products covered under the Code wherein most countries focussed on the use of infant formula;
- Common methods have been employed in terms of government initiatives (i.e. the Baby Friendly Hospitals Initiative) although some countries had made greater progress towards implementing the initiative. Norway excelled with over 90% of births in Baby Friendly Hospitals, with New Zealand following with 77% of births occurring in such hospitals. All other countries had considerably lower rates of implementing this initiative, which may be related to these countries being larger and having decentralised health systems in place (such as Canada and United States of America) or having delays in including the WHO Code into legislation (such as France);
- The provision of paid and unpaid maternity, paternity and parental leave varied widely across countries. The most generous leave arrangements were found in Norway, which also had the highest rates of female workforce participation and high fertility rates. France, New Zealand and more recently Australia have paid leave in the range of 14 to 18 weeks which is slightly above the standards outlined by Maternity Protection Convention (ILO 1983). Germany has adopted an extended period of paid leave modelled on the Scandinavian framework while the USA has the shortest period of unpaid maternity leave (but this also depended on the State);
- Despite well-trained health professionals being a positive influence on the likelihood of breastfeeding, as identified in the systematic reviews, it was difficult to assess the extent and quality of health worker training across countries. In some cases, accredited courses were in place for lactation specialists;
- Maternal characteristics were likely to affect breastfeeding behaviour. It appeared that there were higher rates of breastfeeding in women who were older, had higher levels of education and socioeconomic status across the countries assessed; and
- Social/cultural norms and practice were likely to influence breastfeeding practice. Data from qualitative studies indicated that societal barriers (such as a perceived negative opinion of breastfeeding in public) were experienced by women in countries such as Canada, Australia, Ireland, France and United Kingdom. Such societal influence was not identified in Norway where breastfeeding was considered the norm.

From the evidence and information retrieved, there was not one key factor or intervention which could discriminate whether a country would have higher breastfeeding rates than another. It was clear however that a multitude of factors, such as legislation or voluntary codes of the WHO Code, infrastructure for monitoring the WHO Code, high numbers of births in Baby Friendly Hospitals, maternity leave schemes (in culmination with workplace breastfeeding rights and childcare facilities) and support from peers, professionals and the public to breastfeed, increased the likelihood of initiating breastfeeding practice.

## BACKGROUND

The NHMRC Clinical Trials Centre was contracted by the Australian Government Department of Health and Ageing to undertake an international comparison study into the implementation of the World Health Organization's (WHO) International Code of Marketing of Breast-milk Substitutes (WHO Code). The study also examined other breastfeeding initiatives which aimed to promote and support the WHO Code. By considering the countries of Canada, France, Germany, Ireland, New Zealand, Norway, UK and the USA, this study has investigated and compared:

- the extent to which the WHO Code has been implemented
- the methods by which it has been implemented
- the impact that implementation has had on breastfeeding rates and infant feeding practices in these pre-specified countries.

## WORLD HEALTH ORGANIZATION (WHO) INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES (WHO CODE)

### Description of the WHO Code

The positive effects of breastfeeding on the health and wellbeing of the infant and mother are extensive and widely acknowledged worldwide (2003). In response to concerns about declining breastfeeding rates, unregulated marketing of breast-milk substitutes and the potential effect of artificial feeding on child and infant mortality, the World Health Organization (WHO) International Code of Marketing of Breast-milk Substitutes (WHO Code) was adopted by 118 member states at the 34th World Health Assembly (WHA) in 1981. The WHO Code is an overarching document which gives priority to supporting and promoting breastfeeding and the impetus to be integrated into legislation and policy in member states. The WHA made additional resolutions to the WHO Code over the subsequent three decades (i.e. 1986, 1990, 1992, 1994, 1996, 2001, 2002, 2005 and 2008). These latter resolutions mainly focus on the marketing and distribution of breast-milk substitutes.

The WHO Code was formulated with the aim of contributing to:

*“the provision of safe and adequate nutrition for infants, by the protection and promotion of breast-feeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution”.*

The WHA recommended that each member state incorporate the WHO Code into its own system of governance (World Health Organization 1981).

The WHO Code consists of 11 articles:

- *Article 1: aim of the code* (as aforementioned).
- *Article 2: scope of the code* (applies to the marketing and practices related to breast-milk substitutes and their quality and availability).
- *Article 3: definitions* (defines breast-milk substitutes, complementary food etc. but no definition of follow-up formula).
- *Article 4: information and education* (relates to the responsibilities of governments in the dissemination of information about feeding; the clarity of informational and educational materials; and the donations of such materials by manufacturers or distributors).
- *Article 5: general public and mothers* (relates to no advertising of breast-milk substitutes to the public; no free samples to mothers; no promotion of products in healthcare facilities).
- *Article 6: health care systems* (states that healthcare authorities in member states should take appropriate measures to encourage and protect breastfeeding by giving appropriate information and

advice to healthcare workers; no gifts or personal samples to health workers; no company “mothercraft” nurses to advise mothers).

- *Article 7: health workers* (requests that health workers encourage and promote breastfeeding; information to health workers should be scientific and factual; no financial or material inducements to promote products to be offered by manufacturers or distributors to health workers; samples should not be provided to health workers except when necessary, i.e. for research).
- *Article 8: persons employed by manufacturers and distributors* (states that the sales of products within the scope of the WHO Code should not be used to calculate bonuses to marketing personnel; marketing personnel should not perform educational functions in relation to pregnant women or mothers of infants and young children).
- *Article 9: labelling* (asks that labels explain the benefits of breastfeeding and the costs and hazards associated with inappropriate preparation, products should be of a high quality and take into account the climatic and storage conditions of the country where they are used).
- *Article 10: quality* (states that all products should be of a high quality and meet the standards recommended by the Codex Alimentarius Commission and also the Codex Code of Hygienic Practice for Foods for Infants and Children).
- *Article 11: implementation and monitoring* (asks that governments should take the appropriate action to give effect to the principles and aim of the WHO Code through social and legislative frameworks; monitor the code while collaborating with non-governmental, professional and consumer groups).

The WHA resolutions include the following, as outlined by Burgess and Quigley (Burgess & Quigley 2011):

- WHA Resolution 39.28 (1986): any food or drink given before complementary feeding is nutritionally required may interfere with the initiation or maintenance of breastfeeding and therefore should neither be promoted nor encouraged for use by infants during this period; the practice being introduced in some countries of providing infants with specially formulated milks (so called follow-up milks) is not necessary.
- WHA Resolution 47.5 (1994): Member States are urged to foster appropriate complementary feeding from the age of about six months.
- WHA Resolution 49.15 (1996): Member States are urged to ensure that complementary foods are not marketed for or used in ways that undermine exclusive or sustained breastfeeding; Member States are urged to ensure that financial support for professionals working in infant and young child health does not create conflicts of interest.
- WHA Resolution 54.2 (2001): Member States are urged to strengthen activities and develop new approaches to protect, promote and support exclusive breastfeeding for six months ... and to provide safe and appropriate complementary foods with continued breastfeeding for up to two years of age or beyond.
- WHA Resolution 55.25 (2002): Member States adopt and implement the global strategy; to strengthen existing, or establish new, structures for implementing the global strategy; to define for this purpose, national goals and objectives, a realistic timeline for their achievement, and output indicators; and ensure that marketing of nutritional supplements does not replace, or undermine support for the sustainable practice of, exclusive breastfeeding and optimal complementary feeding; that the Codex Alimentarius Commission continues to give full consideration to improve the quality standards of processed foods for infants and young children and to promote their safe and proper use at an appropriate age, with adequate labelling consistent with the International Code of Marketing of Breast-milk Substitutes, Resolution 54.2, and other relevant resolutions of the WHA.
- WHA Resolution 58.32 (2005): to ensure that nutrition and health claims are not permitted for breast-milk substitutes, except where specifically provided for in national legislation; to ensure that financial

support and other incentives for programmes and health professionals do not create conflicts of interest.

- WHO Resolution 61.20 (2008): to achieve optimal growth, development and health, WHO recommends that infants should be exclusively breastfed for the first six months of life. Thereafter, to meet their nutritional requirements, infants should receive adequate and safe complementary foods while breastfeeding continues up to two years of age and beyond.

Despite the WHO Code and its numerous resolutions, there continues to be differences over the interpretation of some aspects of the Code, particularly in relation to which products it does or does not cover. In addition to this, there appears to be variable mechanisms in place to implement and monitor the WHO Code and to some degree, a lack of clarity in government-defined regulations.

Among all of the resolutions, there appears to be consistent concerns about follow-on milks and their place within the WHO Code. Follow-on formulas did not exist when the WHO Code was adopted in 1981. It had however appeared on the market by 1986 and its availability and use was noted by the WHA. One of the main concerns of the WHA was that the promotion and advertising of follow-on formula was undermining breastfeeding as the normal way to feed an infant. This was seen by some as getting around the prohibition on the advertising of infant formula to the general public and encouraging parents to use follow-on formula rather than breastfeeding or using follow-on formula for infants aged less than six months. As a result the WHA adopted Resolution 39.28 in 1986. However while many Member States have made efforts to implement the Code, including the transposing of the WHO Code into local legislation, the concern of follow-on milk has often not received the same attention and still remains a contentious issue.

The implementation of the WHO Code and how compliance is monitored across member states varies, and includes a mix of legislation, national policies and strategies, and voluntary agreements (National Breastfeeding Advisory Committee 2009) and has evolved over time in response to the unique economic, social and legal circumstances of each country.

### **The international legislative and policy context for breastfeeding**

There are many initiatives in addition to the WHO Code which are designed to protect and promote breastfeeding. The key international conventions or strategies are outlined below.

#### ***The WHO/UNICEF Joint Statement (1989)***

This statement “Protecting, promoting and supporting breastfeeding: the special role of maternity services” announced for the first time the “Ten steps for successful breastfeeding” which are pertinent for healthcare services/facilities (Saadeh & Akre 1996; World Health Organization 1989). All facilities should:

1. have a written breastfeeding policy that is routinely communicated to healthcare staff
2. train all healthcare staff in skills necessary to implement the policy
3. inform all pregnant woman about the benefits and management of breastfeeding
4. help mothers initiate breastfeeding within a half-hour of birth
5. show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants
6. give newborn infants no food and drink other than breast milk unless medically indicated
7. practice rooming-in: allow mothers and infants to remain together (24 hours a day)
8. encourage breastfeeding on demand
9. give no artificial teats or pacifiers to breastfeeding infants
10. foster the establishment of breastfeeding support groups.

#### ***The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding (UNICEF 1990)***

This Declaration aims to enable the exclusiveness of breastfeeding during the first four to six months and to create/reinforce a “breastfeeding culture”. The Declaration states the following targets:

- the appointment of a National Breastfeeding Coordinator and multi-sectorial advisory groups on breastfeeding
- ensure the Baby Friendly Hospital Initiative (described below) is used in all maternity units
- give effect to all of the articles in the International Code of Marketing of Breast-milk Substitutes
- develop legislation to protect breastfeeding rights of working women.

A revised Declaration was issued in 2005 (UNICEF 2005).

***The Baby Friendly Hospital Initiative (BFHI) 1991***

WHO/UNICEF promoted the implementation of “Ten conditions for breastfeeding success” in the form of the Baby Friendly Hospital Initiative (World Health Organization & UNICEF 1991). This initiative involves maternity care facilities going through a formalised procedure of assessment in order to be accredited as a baby-friendly hospital. Assessment for Baby Friendly accreditation takes place in several stages and can take up to 5 years. The certification process involves making a self-assessment based on the 10 steps, formally requesting accreditation from the Baby Friendly Hospital National Committee or the WHO Office (Geneva), undergoing a standardised evaluation procedure by the evaluation team and receiving recommendations to certify or not certify the maternity facility for a specific period. Once the health-care facility is accredited as Baby Friendly this accreditation lasts for two years; after this, a reassessment of all the standards is carried out. All accredited facilities must collect breastfeeding statistics and must audit compliance with their policy.

In 2008 the Baby Friendly Initiative was expanded to include community health care facilities. A Seven Point Plan for Sustaining Breastfeeding in the Community was launched. The Seven Points were developed by UNICEF UK and are evidence-based best practice standards to enable improved practice in community health care in order to promote, protect and support breastfeeding

***Maternity Protection Convention (ILO Convention No. 183) (International Labour Organization 2000)***

This Convention describes a minimum of 14 weeks maternity leave for all working women; the provision of cash benefits during maternity leave; the adoption of measures to ensure that pregnant or breastfeeding women are not obliged to perform work prejudicial to the mother’s or child’s health; protection from termination of employment during pregnancy or maternity leave; and the right to one or more paid breastfeeding breaks during each working day.

***The Global Strategy for Infant and Young Child Feeding 2003***

The aim of this strategy is to improve, through optimal feeding, the nutritional status, growth and development, health and thus the survival of infants and young children (World Health Organisation and UNICEF 2003).

***United Nations Convention on the Rights of the Child (Office of the United Nations High Commissioner for Human Rights 1989)***

This Convention, adopted by the WHO in 1989, stipulates that it is necessary to take the appropriate measures to protect the rights of children, including the right to the highest attainable state of health. The Convention states:

*“to ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, and advantages of breastfeeding ...”*

***United Nations Convention on the Elimination of All Forms of Discrimination against Women (Office of the United Nations High Commissioner for Human Rights 1979)***

This Convention covers maternity protection as part of eliminating discrimination, including the need for signatories to ensure that reproduction and maternity is protected.

In light of these key conventions and strategies, there is a growing recognition that the feasibility and effectiveness of strategies to enact the WHO Code and also some international strategies (such as the BFHI) vary according to the domestic context. For instance, in New Zealand, voluntary industry codes of practice were adopted in recognition that the legal restriction of advertising of breast-milk substitutes would contravene commerce and trading acts (National Breastfeeding Advisory Committee 2009) while European countries have adopted partial legislative implementation of the WHO Code in line with the European Directive (EU Directive 2006/141/EC). As a consequence, the status of the WHO Code (e.g. voluntary code, provisions law) does not necessarily guarantee effective implementation and increased breastfeeding rates. This has been exemplified in the UK where breastfeeding rates are among the lowest in Europe despite enacting aspects of the Code (UK Food Standards Agency 2007).

## BREASTFEEDING: A RESEARCH OVERVIEW

### BREASTFEEDING DEFINITIONS

There are internationally recommended terms defining breastfeeding practices which are used to guide breastfeeding data collection and reporting as described by the report *Indicators for Assessing Infant and Young Child Feeding Practices – Part I: Definitions. Conclusions of a Consensus Meeting Held 6–8 November 2007 in Washington D.C.* (World Health Organization 2008). These are summarised in Table 1.

**Table 1: Criteria for defining various breastfeeding practices**

| <b>Feeding practice</b>   | <b>Infants must receive</b>   | <b>Infants can receive</b>   | <b>Infants cannot receive</b>                                   |
|---------------------------|---|--|---|
| Exclusive breastfeeding   | Breast milk, including milk expressed or from a wet nurse   | Oral rehydration salts, drops, syrups (vitamins, minerals, medicines)  | Anything else   |
| Predominant breastfeeding | Breast milk, including milk expressed or from a wet nurse, as the predominant source of nourishment | Certain liquids, such as water and water-based drinks, fruit juice, ritual fluids and ORS, drops or syrups (vitamins, minerals, medicines) | Anything else, in particular, non-human milk, food-based fluids |
| Breastfeeding             | Breast milk, including milk expressed or from a wet nurse   | Anything else, any food or liquid including non-human milk and formula   | N/A   |
| Bottle-feeding            | Any liquid, including breast milk, or semi-solid food from a bottle with nipple/teat                | Anything else, any food or liquid including non-human milk and formula   | N/A   |

It should be noted that the term “complementary feeding” is no longer used in the WHO indicators yet may be used interchangeably with “introduction of solid, semi-solid, or soft foods”. This term was used to describe feeding practices in infants from 6 to 23 months of age, and means that infants are being fed breast milk and solid or semi-solid foods, and can be fed anything else such as any food or liquid including non-human milk and formula.

While the WHO definition assumes solid foods are introduced at 6 months, in practice they are often introduced earlier (between four and six months). The issue of when to introduce solid foods continues to be controversial and has implications for the way in which data is collected.

Strategies for ensuring healthy infant feeding have been defined as either:

1. protection of mothers’ rights to breast-feed
2. promotion of breastfeeding through channels such as education and social marketing
3. support of breastfeeding through a variety of initiatives, programmes and policies
4. monitoring of breastfeeding rates and duration.

Breastfeeding policies and strategies may also target different stages of breastfeeding and different stages of infant care, known collectively as the “breastfeeding continuum”. Table 2 shows the breastfeeding continuum which is referred to in the Australian National Breastfeeding Strategy 2010–2015 and originally proposed by Thornley et al (2007).

**Table 2: The breastfeeding continuum**

| <b>Stages</b>                                  | <b>Settings</b>  |
|--|--|
| Prenatal / antenatal                           | Time before birth and the delivery itself (intrapartum), including labour and birth. |
| Immediate postnatal / postpartum (0 to 4 days) | Period which for most Australian women occurs in a hospital setting.                 |

|   |   |
|---|---|
| Medium postnatal / postpartum (4 days to 8 weeks) | Involves a transition period for women who return to a community setting from hospital.                               |
| Long postnatal / postpartum (8 weeks to 6 months) | May involve a return to work.   |
| Beyond 6 months                                   | Coincides with the continued development of the infant and the recommended introduction of solids for the first time. |

### BREASTFEEDING INTERVENTIONS: THE EVIDENCE

As previously mentioned strategies for ensuing healthy infant feeding include various interventions aimed at promoting and protecting the practice of breastfeeding. Given the global profile of this issue several countries have conducted their own literature reviews to summarise the evidence on effective and ineffective interventions. These reviews tend to report on the same range of studies. While there are some methodological limitations of the studies there is generally a high level of consistency in the findings. Some of these findings are reported below.

#### **United Kingdom: National Institute for Health and Clinical Excellence (2005)**

In 2005, NICE presented a summary paper titled “Breastfeeding for Longer – What Works?” The summary paper was a synopsis of the full systematic review conducted in the same year (National Health Service Health Development Agency 2005) yet both documents stipulate that neither represent NICE guidance. The key practices or policies which they found to be effective and beneficial for enhancing the duration (not initiation) of breastfeeding are outlined in Table 3.

**Table 3: NICE systematic review summary**

|   |   |
|---|---|
| Effective interventions or policies       | <p><b>Postnatal hospital stay</b></p> <ul style="list-style-type: none"> <li>skilled breastfeeding support, peer or professional, proactively offered to women who want to breastfeed</li> <li>preventing the provision of discharge packs containing formula feeding information and samples</li> <li>unrestricted feeding from birth onwards</li> <li>unrestricted mother–baby contact from birth onwards</li> <li>unrestricted skin-to-skin contact from birth onwards</li> <li>avoiding supplementary fluids for babies unless medically indicated</li> <li>regular breast drainage/continued breastfeeding for mastitis</li> <li>antibiotics for infective mastitis.</li> </ul> <p><b>Postnatal care in the community</b></p> <ul style="list-style-type: none"> <li>skilled breastfeeding support, peer or professional, proactively offered to women who want to breastfeed.</li> </ul> <p><b>Ongoing care in the community</b></p> <ul style="list-style-type: none"> <li>skilled breastfeeding support, peer or professional.</li> </ul> |
| Promising interventions, policies or care | <p><b>Pregnancy</b></p> <ul style="list-style-type: none"> <li>group, interactive, culture-specific education sessions</li> <li>group education sessions on positioning and attachment</li> <li>antenatal education individually tailored to the needs of low-income women.</li> </ul> <p><b>Immediate postpartum care</b></p> <ul style="list-style-type: none"> <li>basing prevention and treatment of sore nipples on principles of positioning and attachment</li> <li>cabbage leaves/extract for treatment of engorgement</li> <li>systemic antibiotics for infected nipples.</li> </ul> <p><b>Postnatal care in the community</b></p> <ul style="list-style-type: none"> <li>self-monitoring daily log for women from high socio-economic groups</li> <li>combination of supportive care, teaching breastfeeding technique, rest and reassurance for women with “insufficient milk”</li> <li>division of the frenulum in infants with signs of congenital ankyloglossia (tongue-tie) and breastfeeding difficulties.</li> </ul>             |

|   |   |
|---|---|
| <p>Policies or care that may have no impact</p>   | <p><b>Wider social political issues</b></p> <ul style="list-style-type: none"> <li>national policy of encouraging maternity units to adhere to the UNICEF BFHI</li> <li>regionally/nationally determined targets with supporting activities and /or penalties and/or incentives.</li> </ul> <p><b>Multifaceted interventions (across time periods and types of interventions)</b></p> <ul style="list-style-type: none"> <li>tailored antenatal education combined with proactive postnatal support in hospital and the community</li> <li>combining antenatal education with partner support, postnatal support and incentives for women in low-income groups</li> </ul>   |
| <p>Interventions, policies or care that have been proven to have no impact or possibly a harmful impact</p> | <p><b>Pregnancy</b></p> <ul style="list-style-type: none"> <li>self-help manual used alone</li> <li>antenatal education by a paediatrician</li> <li>providing materials produced by formula milk companies on infant feeding in early pregnancy.</li> </ul> <p><b>Immediate postpartum care</b></p> <ul style="list-style-type: none"> <li>separating mothers and babies for treatment of jaundice.</li> </ul> <p><b>Postnatal care in the community</b></p> <ul style="list-style-type: none"> <li>written education materials used alone</li> <li>GP clinic visit at one week postpartum</li> <li>single home visit by community nurse following early discharge</li> <li>dopamine antagonists for “insufficient milk”</li> </ul>   |
|   | <p><b>Pregnancy</b></p> <ul style="list-style-type: none"> <li>conditioning nipples in pregnancy</li> <li>Hoffman’s exercises for inverted and non-protractile nipples in pregnancy</li> <li>breast shells for inverted and non-protractile nipples in pregnancy.</li> </ul> <p><b>Immediate postpartum care</b></p> <ul style="list-style-type: none"> <li>restricting the timing and/or frequency of breastfeeds</li> <li>restricting mother/baby contact from birth onwards</li> <li>routine use of supplementary fluids</li> <li>provision of discharge packs containing samples or information on formula feeding</li> <li>topical agents for the prevention of nipple pain</li> <li>breast pumping before the establishment of breastfeeding in women at risk of delayed lactation.</li> </ul> <p><b>Multifaceted interventions</b></p> <ul style="list-style-type: none"> <li>combined antenatal education and limited postnatal telephone support for high-income women and women who intend to breastfeed (existing high rates suggest resources are better spent elsewhere).</li> </ul> |

**Canada: Canadian Task Force on Preventive Health Care (CTFPHC) (Palda et al 2003)**

The CTFPHC alongside the U.S. Preventive Services Task Force initiated a systematic review of the effectiveness of interventions to improve the initiation and duration of breastfeeding in 1999. The results of the review formed the basis of the CTFPHC’s updated recommendations in 2003. The CTFPHC has highlighted the evidence which promotes or discourages breastfeeding and graded the evidence on a six-point scale (i.e. A, B, C, D, E and I) as outlined in Table 4.

**Table 4: CTFPHC recommendations**

|                        | <b>Intervention</b>  | <b>Effectiveness</b>   | <b>Recommendation grade</b>   |
|------------------------|--|--|---|
| Effective intervention | Education programmes and postpartum support to promote breastfeeding | <ul style="list-style-type: none"> <li>Improves both initiation and continuation of short-term breastfeeding rates compared to usual care</li> <li>In-person or telephone</li> </ul> | A: Good evidence to recommend antenatal and postpartum educational programmes |

|  |   |   |   |
|--|---|---|---|
|  |   | <p>support strengthens the effect of education by an additional 5 to 10% increase in breastfeeding initiation and short-term duration</p> <ul style="list-style-type: none"> <li>• In-person or telephone support by itself may increase both short- and long-term breastfeeding rates</li> </ul> |   |
| Effective intervention   | Rooming-in and early maternal contact to promote breastfeeding                | The new study of rooming-in included multiple interventions and does not allow drawing conclusions  | A: No new evidence of quality to overturn the earlier published A level recommendation in favour of rooming-in and early maternal contact |
| Promising intervention   | Peer counselling to promote breastfeeding                                     | Significant effect from peer counsellors on breastfeeding rates and duration  | B: Fair evidence to recommend peer counselling  |
| Inconclusive intervention  | Primary caregiver advice to expectant or new mothers to promote breastfeeding | Unknown. No adequate studies.   | I: Insufficient evidence to make a recommendation concerning advice by primary caregivers   |
| Interventions that have been proven to have no impact                              | Provision of written materials to new mothers to promote breastfeeding        | There is no benefit when written materials are used alone   | D: Good evidence to recommend against providing written materials alone   |
| Interventions that have been proven to have no impact or possibly a harmful impact | Provision of commercial discharge packages to new mothers                     | Women receiving commercial discharge packages had decreased breastfeeding rates compared to patients not receiving packages   | E: Good evidence to recommend against providing discharge packages to mothers   |

**USA: U.S. Preventive Services Task Force (USPSTF) (2008) Recommendation Statement**

The USPSTF reviewed the results of a systematic review undertaken by the Tufts-New England Medical Centre Evidence-based Practice Centre and literature published since 2007 examining activities to promote and support breastfeeding. From the data, the USPSTF formulated a set of recommendations which was designated a “Grade B” recommendation. This implies that there was a high certainty that the net benefit of the interventions was moderate (i.e. there was evidence available to make such an assessment but confidence in their findings was compromised due the number, size or quality of the individual included studies, for example). Overall the interventions outlined below (Table 5) should be offered to the patient.

**Table 5: USPSTF recommendations**

|                         |   |
|-------------------------|---|
| Effective interventions | <p>Interventions to promote and support breastfeeding have been found to increase the rates of initiation, duration and exclusivity of breastfeeding. Consider multiple strategies including:</p> <ul style="list-style-type: none"> <li>• formal breastfeeding education for mothers and families</li> <li>• direct support of mothers during breastfeeding</li> <li>• training of primary care staff about breastfeeding and techniques for breastfeeding support</li> <li>• peer support.</li> </ul> |
|-------------------------|---|

|  |   |
|--|---|
|  | <p>Interventions that include both prenatal and postnatal components may be most effective at increasing breastfeeding duration.</p> <p>In rare circumstances, for example, for mothers with HIV or infants with galactosemia, breastfeeding is not recommended. Interventions to promote breastfeeding should empower individuals to make informed choices supported by the best available evidence.</p> |
|--|---|

***New Zealand: National Strategic Plan of Action for Breastfeeding 2008–2012 (National Breastfeeding Advisory Committee of New Zealand 2009)***

The Committee commissioned a review of the evidence on successful interventions supporting breastfeeding. The evidence-based analysis of the literature allowed the Committee to make the following recommendations as outlined in Table 6.

**Table 6: New Zealand systematic review summary**

|  |   |
|--|---|
| Effective interventions  | <ul style="list-style-type: none"> <li>• training health professionals in the psycho-social and physiological elements of breastfeeding and lactation management</li> <li>• accreditation to the BFHI and implementation of the 10 steps to successful breastfeeding</li> <li>• skilled peer support provided by well-trained and knowledgeable peers</li> <li>• home visitation as a service delivery mechanism</li> <li>• the provision of adequate workplace facilities in which to express breast milk or to breastfeed</li> <li>• childcare that is supportive of breastfeeding</li> </ul>   |
| Promising interventions  | <ul style="list-style-type: none"> <li>• antenatal education especially where it: <ul style="list-style-type: none"> <li>○ is tailored to the individual woman and their cultural context</li> <li>○ uses approaches based on adult learning principles</li> <li>○ is targeted toward women who have not yet decided their feeding intention or who have decided to not initiate breastfeeding</li> <li>○ is targeted at and accessible to low income women</li> </ul> </li> <li>• biological nurturing approaches that build on the concept of skin-to-skin contact</li> <li>• social marketing of breastfeeding – positive messages that are designed to influence community attitudes</li> <li>• support for fathers, families and friends to be positive and support the breastfeeding mother and infant</li> <li>• developing breastfeeding-friendly businesses and public spaces</li> </ul> |
| Inconclusive intervention  | <ul style="list-style-type: none"> <li>• telephone and internet counselling when used alone</li> </ul>  |
| Interventions that have been proven to have no impact or possibly a harmful impact | <ul style="list-style-type: none"> <li>• written materials about breastfeeding when these are not supported by face-to-face discussions of the material</li> <li>• single session prenatal classes on breastfeeding, where these are not supported by other breastfeeding-related activities for both mothers and others</li> <li>• a one-off visit to a primary care provider in the first few weeks postpartum</li> </ul>   |

***Europe: EU Project on Protection, promotion and support of Breastfeeding in Europe: a blueprint for action (2004a)***

The EU blueprint for action report was initiated by the findings that breastfeeding practice in European Union (EU) countries fell short of best evidence-based recommendations. The action report was developed by a group of breastfeeding experts who represented all EU and associated countries. In addition, other key health and allied professional bodies and stakeholder groups were contacted alongside mothers. The group of breastfeeding experts undertook a review (non-systematic) of breastfeeding interventions and an analysis of the research supporting them (EU Project on Promotion of Breastfeeding in Europe 2004b). The review widely acknowledged that not all known or potential sources of published and unpublished information were accessed. They gave the following conclusions outlined in Table 7.

**Table 7: EU conclusions**

|   |   |
|---|---|
| Effective interventions                         | <ul style="list-style-type: none"> <li>• combination of multifaceted integrated programmes seems to have a synergistic effect</li> <li>• multifaceted interventions are especially effective when they target initiation rates as well as duration and exclusivity of breastfeeding using a combination of media campaigns, health education programmes, comprehensive training of health professions and necessary changes in national/regional and hospital policies</li> <li>• effectiveness of multifaceted interventions increases when peer counselling support programmes are included</li> <li>• interventions spanning the pre- and postnatal periods seem more effective than interventions focusing on a single period</li> <li>• health sector interventions are especially effective when there is a combined approach involving training of staff, the appointment of a breastfeeding counsellor or lactation specialist, having written information for staff and clients and rooming-in</li> <li>• health education interventions targeted at mothers on initiation and duration of breastfeeding is effective only when current practices are compatible with what is being taught</li> <li>• workplace interventions are effective when mothers have the flexibility to opt for part-time work and have guaranteed job protection along with provisions for workplace breastfeeding/lactation breaks</li> </ul> |
| Interventions that appear to have little impact | <ul style="list-style-type: none"> <li>• the provision of breastfeeding information to prospective parents or new mothers with no or brief face-to-face interaction is less effective than the provision of information with extended face-to-face contact</li> <li>• the use of printed materials alone is the least effective intervention</li> </ul>   |
| Inconclusive interventions                      | <ul style="list-style-type: none"> <li>• the effectiveness of programmes which expand the BFHI beyond the maternity care setting to include community healthcare services and/or paediatric hospitals, currently being implemented in some countries has not been evaluated</li> <li>• the development and enforcement of laws, codes, directives, policies and recommendations at various levels (national, local) and in various situations (workplace, hospital and community) represent important interventions but it is difficult to gather convincing evidence on their effectiveness</li> </ul>   |

**Review methodology**

A review was undertaken to identify high-quality evidence on the effectiveness of interventions and programs aiming to improve breastfeeding initiation and duration in order to inform this project. The published academic and research literature was searched and retrieved over 2700 references on breastfeeding outcomes (see APPENDIX 1: METHODS page 110).

Eligible studies were those graded as level 1 evidence (i.e. systematic reviews and meta-analysis) or level 2 evidence (i.e. RCTs only), and limited to our pre-specified countries. In the case of systematic reviews, the quality of evidence provided was assessed using the framework outlined by the National Health and Medical Research Council (National Health and Medical Research Council 2000).

The titles and abstracts of all references were screened and a total of 27 systematic reviews and 170 randomised controlled trials (RCTs) were deemed eligible and retrieved in full. Upon full examination of the article, three further systematic reviews were excluded as they did not look at breastfeeding outcomes, used observational studies or reported the number of RCTs available on the topic yet did not provide any data. The 24 systematic reviews identified were on the following topics:

- three reviews on pacifier use and breastfeeding (Callaghan et al 2005; Jaafar et al 2011; O'Connor et al 2009)
- two reviews on the effect of skin-to-skin contact on breastfeeding (Carfoot et al 2003; Moore & Anderson 2007)

- one review on interventions in the workplace to support breastfeeding (Abdulwadud & Snow 2007)
- eleven reviews on education, peer-support programs and multifaceted interventions for breastfeeding (Britton et al 2007; de, I et al 2001; Dyson et al 2005; Fairbank et al 2000; NHS Centre for Reviews and Dissemination 2000; Pate 2009; Renfrew et al 2009; Renfrew et al 2007; Tedstone et al 1998; Watkins & Dodgson 2010)
- two reviews on the effect of supplemental foods on breastfeeding (Horvath et al 2005; Szajewska et al 2006)
- four reviews looking at different interventions for preterm babies (Ahmed & Sands 2010; Collins et al 2003; Collins et al 2008; McInnes & Chambers 2008)
- one review on the interventions to support breastfeeding adolescent mothers (Hall Moran et al 2007).

In addition to the 24 systematic reviews, the 170 RCTs were segregated into the type of intervention and country (see Figure 1, page 111). As previously mentioned, countries of interest were Australia, Canada, France, Germany, Ireland, New Zealand, Norway, UK and the USA. We present a brief overview of the amount of literature which has been published by each country; however we do not report the individual results of each study.

The majority of RCTs derived from the USA (n=72 RCTs) and focused on the effects of providing support (through counsellors, lactation specialists and midwives) to women particularly from low-income families and multifaceted interventions such as counselling in addition to regular telephone calls. Following the USA, the UK published 31 RCTs with the most part-examining single support mechanisms for expectant mothers (e.g. support from peers or counsellors) and the costs of breastfeeding and infant formula to the National Health System.

Despite the region of Scandinavia producing a number of well-designed RCTs on this topic (n=17 RCTs), none of these RCTs took place in Norway (the selected country for this project). The RCTs were conducted either in Sweden or Denmark.

Canada had published 24 RCTs on the topic and similar to the USA, their studies focused on single or multifaceted support mechanisms. For Australia, there were 16 RCTs identified and these assessed the effects of educational interventions such as antenatal classes and booklets, and also the role of support from health professionals.

Overall, France, Germany, Ireland and New Zealand appeared to publish very few RCTs looking at interventions to improve breastfeeding initiation and duration. In total, Germany had conducted five RCTs; France has published three RCTs while Ireland and New Zealand had each published one RCT. The interventions covered are detailed in the Quorum Flow Chart (Figure 1 page 111).

## Review findings

We now present the main findings from our search of the systematic reviews as well as a formal assessment of their quality (APPENDIX 1: METHODS).

### ***Pacifier use does not affect breastfeeding duration***

The use of pacifiers (commonly referred to as “dummies” or “soothers”) had previously been thought to create breastfeeding difficulties, mainly due to the reporting of results from observational studies. Since then, a number of RCTs have been reported and subsequent systematic reviews show that pacifiers do not affect the duration of breastfeeding (Callaghan et al 2005; Jaafar et al 2011; O'Connor et al 2009). A recently updated Cochrane review on this subject, and involving 1915 babies, confirmed that pacifiers do not significantly affect the prevalence or duration of exclusive and partial breastfeeding up to four months of age (Jaafar et al 2011). The review was assessed as high quality. The remaining two systematic reviews on pacifier use were not assessed for quality as they had been superseded.

### ***Skin-to-skin contact is related to breastfeeding benefits***

Skin-to-skin contact is recommended as one of the 10 steps to successful breastfeeding (WHO/UNICEF 1998) and it has been identified as one mechanism for promoting early breastfeeding. The technique is

defined as holding the baby naked in a prone position against the mother's (or father's) skin between the breasts and it is encouraged as soon as possible following delivery of the baby. Two systematic reviews have been conducted on this topic (Carfoot et al 2003; Moore & Anderson 2007). The most recent review superseded the earlier review and indicated a positive effect of skin-to-skin contact on breastfeeding at one to four months post-birth and its duration (Moore & Anderson 2007). This review pooled the data from 10 RCTs, involving 552 participants; the authors gave a cautionary note that the included RCTs showed variations in the implementation of the intervention (i.e. "in birth", "in very early" or "early" skin-to-skin contact) and the selected outcomes. Overall, the review was assessed as high quality despite some methodological limitations of the included studies.

#### ***No evidence of workplace interventions to promote breastfeeding***

In view of the workforce participation rates of women over the past several decades, it was surprising to note that there were no RCTs on workplace interventions to encourage breastfeeding. A Cochrane review conducted in 2007 (Abdulwadud & Snow 2007) did not identify any RCTs or quasi-RCTs on the subject.

#### ***Education and training of health professionals has an impact on breastfeeding***

One low-quality recent systematic review has examined the effect of educational interventions on the duration of breastfeeding. It was found that the rate of breastfeeding and its duration increased significantly when a nurse or health professional providing care for the mother had received a breastfeeding educational intervention (Watkins & Dodgson 2010). However, it was unclear if these data derived exclusively from RCTs. This systematic review contained RCTs, quasi-experimental design, cross-sectional data, among others, and therefore some of the information presented was descriptive. There was also inadequate information given on what type of education the healthcare professionals were exposed to.

There was a second systematic review available on healthcare training but it did not identify any RCTs and only before/after designs (Renfrew et al 2009).

#### ***Education of expectant mothers alone is beneficial for low-income families***

We identified one systematic review (Dyson et al 2005) which included five RCTs assessing the effect of healthcare education of expectant mothers on the initiation of breastfeeding. These RCTs were all conducted in the USA and the participant population was low-income women. In this case, education consisted of prenatal educational sessions (including generic lectures, generic self-help manuals) or education sessions from a lactation specialist. The meta-analysis showed a significant increase in the number of women starting to breastfeed who were in the intervention group. This systematic review assessed the possibility of selection, performance, attrition and detection biases and was ranked as a high quality.

#### ***Breastfeeding promotion packs do not alter breastfeeding behaviour***

The impact of breastfeeding promotion packs on initiation was explored in one systematic review from the Cochrane collaboration (Dyson et al 2005). The one RCT contributing to the systematic review showed that providing a non-commercial breastfeeding promotion pack compared to a formula company produced pack had no effect on increasing breastfeeding initiation rates (Howard et al 2000). The study was conducted in the USA.

#### ***Discharge packs***

A systematic review was previously undertaken to examine whether giving mothers commercial discharge packs in hospital which contained artificial formula or promotional material affected the exclusivity and duration of breastfeeding (Donnelly et al 2000). This review was last assessed as up to date in 2000 and subsequently has been withdrawn from The Cochrane Library. We cautiously report the main findings from the abstract as the full article was no longer available and thus we were unable to assess its quality. The meta-analysis showed that exclusive breastfeeding was reduced at 6 weeks and 13 weeks when women were given commercial discharge packs compared to controls (i.e. no intervention, non-commercial pack and combinations of these) in a population of 3,730 women (nine RCTs). There was no evidence that hospital discharge packs caused early cessation of non-exclusive breastfeeding. All included studies came from North America.

#### ***Different types of support tend to increase breastfeeding initiation and duration***

##### ***Professional support***

Professional support entailed extra support (in the form of appropriate guidance and encouragement) from a variety of medical, nursing and allied professionals (e.g. nutritionists). One systematic review containing up to sixteen RCTs for this intervention group, showed that professional support results in a beneficial effect on

exclusive breastfeeding and this was particularly apparent in the first few months (Britton et al 2007). The comparator in this case was usual care.

#### *Lay support*

Extra support provided by lay people, in addition to usual care, appeared to significantly reduce the rate of breastfeeding cessation at the last time of study assessment (usually at four months). This finding was noted across seven RCTs forming part of a recent Cochrane review (Britton et al 2007).

#### *Peer support*

Peer support was explored briefly in one systematic review (Dyson et al 2005). They found one RCT on this topic which involved home and public health facility based peer support during the pre- and perinatal period. The study involved 165 participants and showed that it was effective at increasing the initiation rates of breastfeeding in Latina women in the USA.

#### *Combined professional and lay support*

Five RCTs which examined professional and lay support compared to usual care noted a marked decrease in the cessation of breastfeeding, as found in a recent Cochrane review (Britton et al 2007). The notable decrease was apparent during the first two months.

#### *E-based interventions for mothers and health professionals may be beneficial*

In this context, e-based interventions can be considered as a multifaceted intervention as it can include information, peer support, expert advice and activities using internet technologies. In the systematic review comparing e-based interventions to provider interventions, 15 RCTs were included with only one of which being an e-based RCT (Pate 2009). Provider interventions had a wide scope and involved peer counsellor visits, home visits, and telephone calls by a lactation specialist, booklets and counselling provided to expectant mothers, an educational support session, workshops, postnatal midwifery support, breastfeeding classes for fathers and motivational learning. Overall, the review suggested that an e-based intervention (RCT plus non-randomised data) had a moderate effect on breastfeeding outcomes while provider-based interventions had very little to no effect.

#### *Early home discharge and home support*

Two RCTs evaluated the effectiveness of early discharge with nursing support compared with usual neonatal care which was included in a systematic review (Renfrew et al 2009). The data from these trials were not combined due to the lack of appropriate outcome data and the poor quality rating of one RCT. Overall, it was noted that there was no difference in breastfeeding duration or exclusive breastfeeding at any of the time points up to six months. However, the moderate quality RCT included in the review was conducted in New Zealand (Gunn et al 2000). Despite finding no difference in breastfeeding duration at six months, there were differences in some infant characteristics seen at baseline and therefore a cautious interpretation of the finding is warranted.

#### ***Supplemental foods and unclear effects on breastfeeding outcomes***

One systematic review examined the effect of formula feeding during the first few days of life on eventual breastfeeding initiation and duration (Szajewska et al 2006). Only one RCT was identified within the systematic review and showed that brief exposure to breast-milk substitutes reduced the success and duration of breastfeeding. However the randomisation and allocation concealment procedures in this study suggested risk of selection bias and therefore the results should be considered cautiously. The second systematic review identified on this topic was a second article by the same author group as above and they reported the same results.

#### ***Preterm babies and appropriate interventions***

Breastfeeding preterm babies is considered challenging and four systematic reviews have explored various interventions to promote breastfeeding. One systematic review investigated the effect of pre- and post-discharge interventions on breastfeeding outcomes (Ahmed & Sands 2010). The systematic review contained seven RCTs looking at breastfeeding; however as there was no consistent definition of exclusive breastfeeding among these trials, it was not possible to combine the results. Overall, however, the authors surmised that pre-discharge (such as skin-to-skin contact) and post-discharge (such as peer-counselling, visiting nurse specialists) improved breastfeeding outcomes. A smaller systematic review by McInnes and Chambers showed that skin-to-skin contact and additional postnatal support improved breastfeeding prevalence (McInnes & Chambers 2008).

In terms of effects of bottle-feeding for preterm babies, one Cochrane Review (Collins et al 2008) assessed the effect of cup feeding on breastfeeding outcomes. From four RCTs, there appeared to be no difference in breastfeeding among preterm babies with or without exposure to cup feeding (Collins et al 2008). In addition, another Cochrane review found that earlier discharge from hospital and home gavage feeding compared to later discharge did not influence breastfeeding duration (Collins et al 2003).

### **Adolescent mothers and support for breastfeeding**

One RCT from a systematic review looked at the effect of a postnatal home visiting service on breastfeeding initiation and duration (Hall Moran et al 2007). There was no difference in outcomes between the groups at discharge from hospital or at six months. The group receiving some support tended to breastfeed for longer than the control group but this was not statistically significant.

### **Findings from randomised controlled trials**

In the development of this review, it was noted that there were certain interventions which had not been covered by the evidence from systematic reviews. These interventions fell under the themes of partner preference and the effectiveness of the BFHI and as such, studies on these topics derived solely from RCTs. Although these RCTs have not been subjected to the rigour of risk of bias assessments, we have provided an overview of their findings under the premise of presenting key components of interventions which may support or discourage breastfeeding initiation and duration.

#### **Partner preference**

One RCT has examined the effect of partner-support and educational programs on breastfeeding duration among low-income women in the USA (Sciacca et al 1995). Women whose partners participated in the breastfeeding class and an educational series reported a higher percentage of breastfeeding at two weeks, six weeks and three months postpartum than those in the control group.

A study by Wolfberg et al (2004) also highlighted the role of expectant fathers in improving breastfeeding rates. Fathers were assigned randomly to attend either a two-hour intervention class on infant care and breastfeeding promotion or a class on infant care only. It was found that mothers whose partners attended the breastfeeding promotion class were significantly more likely to initiate breastfeeding ( $p=0.02$ ) than those who did not. However, there was no difference between groups in breastfeeding duration.

#### **Baby Friendly Hospital Initiative (BFHI)**

A large cluster-RCT conducted in Belarus assessed the effects of breastfeeding promotion on breastfeeding duration, exclusivity and gastrointestinal and respiratory infections (Kramer et al 2001). The breastfeeding promotion program was modelled on the BFHI. The study was conducted in Belarus because the maternity hospital practice provided a unique environment to compare an intervention program to control. The control setting reflected hospital practice in North America and Europe from 20 to 30 years ago. The study showed that infants in the intervention arm were significantly more likely than those in the control arm to be exclusively breastfed at three and six months and have lower rates of gastrointestinal infections. This RCT provided strong support for implementing the 10 steps of the WHO/UNICEF joint statement (1998).

Similar results have also been reported in controlled (non-randomised) studies in Italy (Cattaneo & Buzzetti 2001), the USA (Philipp et al 2003) and Scotland (Broadfoot et al 2005).

In addition, increased exclusive breastfeeding was noted in an RCT which looked at the effectiveness of training nursing staff in baby friendly hospitals in Canada (Martens 2000). They found that over a seven-month period, the extra training provided to nursing staff resulted in an increase in BFHI compliance ( $p<0.01$ ), breastfeeding beliefs ( $p<0.05$ ) and exclusive breastfeeding rates ( $p<0.05$ ). The control site did not note a change in BFHI compliance or beliefs and had a significant decrease in exclusive breastfeeding rates ( $p<0.05$ ).

### **Summary**

Robust evidence presented in documents and recommendations by government agencies (e.g. NICE and USPSTF), high-quality systematic reviews and some RCTs indicate that multifaceted interventions and not just a list of single interventions have a cumulative and positive effect on the promotion and support of breastfeeding.

## THE WHO CODE AND BREASTFEEDING: AN INTERNATIONAL COMPARATIVE OVERVIEW

### AUSTRALIA

#### Facts and figures

Data for Australia are presented briefly, based primarily on the National Breastfeeding Strategy 2010–2015. The Australian data places the findings from other countries in context; however, a level of familiarity with the Australian situation is assumed.

- Australia has a population of 22.6 million and registered 295,700 births in 2009.
- The total fertility rate in 2009 was 1.90. The rate of 1.96 in 2008 was the highest recorded since 1977.
- The median age of mothers was 30.6 years.

The Longitudinal Study of Australian Children is the source of the most recent comprehensive national data on breastfeeding. In the 2004 infant cohort:

- the breastfeeding initiation rate was 92%
- rates of fully breastfed infants were:
  - 71% at 1 month
  - 56% at 3 months
  - 46% at 4 months
  - 14% at 6 months
- rates of any breastfeeding were:
  - 83% at 1 month
  - 73% at 3 months
  - 63% at 4 months
  - 56% at 6 months
  - 30% at 12 months
  - 5% at 24 months.

There is limited data on regional variations and Australia is likely to have followed the pattern of other industrialised countries with rates of breastfeeding declining to their lowest level in the 1960s and starting to increase again from the 1970s (Australian Health Ministers' Conference 2009). A National Infant Feeding Study was conducted by the Australian Institute of Health and Welfare in 2010 and a workshop has been held to develop consensus on national breastfeeding indicators; however the findings of the 2010 survey have not yet been released (Australian Institute of Health and Welfare 2011).

#### Implementation of WHO code

Implementation of the WHO Code in Australia is primarily through a voluntary agreement, the Marketing in Australia of Infant Formula: Manufacturers and Importers Agreement 1992 (MAIF Agreement). The MAIF Agreement is a voluntary, self-regulatory code of conduct between the manufacturers and importers of infant formula in Australia. The signatories to the Agreement are:

- Abbott Australasia
- Bayer Australia
- HJ Heinz Company Australia
- Nestle Australia Limited
- Nutricia Australia Pty Ltd
- Wyeth Australia.

Following the endorsement of the WHO Code in 1981, a National Health and Medical Research Council (NHMRC) Working Party was established to consider measures to implement the Code. The report of the working party was released in 1985. In response, the Australian Government facilitated a self-regulatory model and the MAIF was agreed in 1992 and was authorised under the Trade Practices Act 1974 (Australian Government Department of Health and Ageing 2011).

The MAIF Agreement aims to contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding and by ensuring the proper use of breast-milk substitutes, when

they are necessary, on the basis of adequate information and through appropriate marketing and distribution. While the MAIF directly references the WHO Code throughout, it is narrower in scope being restricted to infant formulas rather than encompassing the range of products specified in the WHO Code. Similarly, the MAIF Agreement is a voluntary agreement between manufacturers and importers and does not include retailers or health professionals or include any responsibility for the Government. Nevertheless, the wording of the MAIF Agreement is largely similar to the WHO Code and aspects of the Code which apply to manufacturers and importers are included in the MAIF Agreement, albeit within the narrowed scope of the MAIF.

**Table 8: WHO Code implementation in Australia**

| <b>Article of the WHO Code</b>                                | <b>Implemented</b>   | <b>Partially implemented/Not implemented</b>  |
|---|--|---|
| Articles 2: Scope   | MAIF Clause 2: Scope refers to marketing of infant formulas.   | Does not refer to the whole range products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.). Does not refer to “practices related thereto”.   |
| Article 4: Information & Education                            | MAIF Clause 4(a) & (b) closely mirror WHO Code Article 4.2.<br>MAIF Clause 4(c) closely mirrors WHO Code Article 4.3.  | Does not include WHO Code Article 4.1 regarding Government responsibility.<br>Only refers to infant formula, not all material related to infant and young child nutrition.  |
| Article 5: General public & mothers                           | MAIF Clause 5 closely mirrors WHO Code Article 5.  | Includes a qualifier that regarding responses to unsolicited requests for information and complaints. Does not address Article 5.3 restricting point of sale advertising.   |
| Article 6: Health care systems                                | MAIF Clause 6 closely mirrors WHO Code Article 6.  | Does not include Article 6.1 which regards health authorities.  |
| Article 7: Health workers                                     | MAIF Clause 7 is similar to WHO Code Article 7. MAIF also includes an obligation on manufacturers and importers to provide members of the medical profession with information about the products which reflects current knowledge and responsible opinion.   | Requirements for health workers are not included (e.g. WHO Code Article 7.1).<br>Interpretation of Clause 7(d) under the MAIF Agreement is looser than the WHO Code and includes for the assessment of the suitability of the product for an individual infant. The wording of Clause 7(d) excludes the second sentence of Article 7.4 on giving sample to pregnant women and mothers of infants. |
| Article 8: Persons employed by manufacturers and distributors | MAIF Clause 8 is similar to WHO Code Article 8.  |   |
| Article 9: Labelling  | MAIF Agreement defers to the Food Standards Code for labelling noting that labels should provide the necessary information about the appropriate use of infant formula and should not discourage breastfeeding. Standard 2.9.1 Subdivision 4 – General labelling and packaging requirements (#14 & 20) contain the same requirements for labelling as under the WHO Code Article 9.2 requirements for ingredient and compositional labelling are also specified. |   |
| Article 10: Quality   | MAIF Agreement defers to the Food Standards Code for quality. The Standard 2.9.1 includes strict requirements on composition. Australia is a member of Codex.  |   |

|   |   |   |
|---|---|---|
| Article 11:<br>Implementation &<br>Monitoring | MAIF Clause 10 relates to WHO Code Articles 11.3 and 11.5 and includes agreement to be represented on and to participate fully in the APMAIF. | Other monitoring requirements of the WHO Code are outside the scope of MAIF such as requirements on Governments, NGOs, professional groups etc. |
|---|---|---|

In addition to the MAIF, there are regulatory requirements under the Australian and New Zealand Food Standards Code (FSANZ) regarding the compositional and labelling requirements for infant formula. Standard 2.9.1 provides for the compositional and labelling requirements for foods intended or represented for use as a substitute for breast milk and Standard 2.9.2 covers products that are not milk-based, for example, canned infant foods, infant cereal products and products that may be sold in jars.

With respect to health workers, Australia has addressed these issues in the NHMRC Dietary Guidelines for Children and Adolescents in Australia incorporating the Infant Feeding Guidelines for Health Workers. These guidelines, which include a chapter on interpretation of the WHO Code for health workers, are currently under review with the release of a report expected this year (Australian Health Ministers' Conference 2009).

At the time the MAIF Agreement was established, the Australian Government appointed the Advisory Panel on the Marketing in Australia of Infant Formula (APMAIF) to advise on the MAIF Agreement and to monitor compliance. The APMAIF is a non-statutory advisory panel and therefore has no statutory or formal regulatory powers either to obtain information from industry participants or to enforce the MAIF Agreement; rather it relies upon industry cooperation. Similarly, there are no financial or legal sanctions associated with breaches of the MAIF Agreement, which are published in the APMAIF annual report. The APMAIF's terms of reference are to:

1. receive and investigate complaints regarding the marketing in Australia of infant formulas
2. act as a liaison point for issues relating to the marketing in Australia of infant formulas
3. develop guidelines on the interpretation and application of the MAIF Agreement
4. provide advice on the operation of the MAIF Agreement to the Australian Government Minister for Health and Ageing.

Membership of the APMAIF consists of an independent chair, an industry representative, a community and consumer representative, a public health and infant nutrition expert and a legal expert. The Department of Health and Ageing has observer status on APMAIF and provides secretariat support. The majority of complaints to the APMAIF are considered to be out of scope and very few complaints are found to be breaches (Table 9). In the past five years 68% were out of scope and 0.1% were breaches. Of the out-of-scope complaints for 2009/10, 17 were related to retail activities and 3 were related to toddler milk (Australian Government Department of Health and Ageing 2011).

**Table 9: Total complaints received by APMAIF 2004/05 to 2009/10**

|                                | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | Total |
|--------------------------------|---------|---------|---------|---------|---------|---------|-------|
| Total complaints               | 69      | 163     | 982     | 159     | 46      | 39      | 1,458 |
| In scope                       | 17      | 10      | 123     | 27      | 9       | 10      | 196   |
| Out of scope                   | 14      | 71      | 709     | 130     | 32      | 29      | 985   |
| Breaches                       | 0       | 0       | 0       | 0       | 1       | 1       | 2     |
| Carried over to following year | 38      | 82      | 150     | 2       | 4       | 6       |       |

The 2009/10 breach was a decision against Bayer Australia which conducted a "Nurses education and movie event" at which a presentation on infant feeding problems and solutions, along with Bayer's range of products, were teamed with a free "gold class" movie screening. This was found to constitute an inducement to health professionals in breach of Clause 7(c) of the MAIF agreement (Australian Government Department of Health and Ageing 2011).

The Best Start inquiry into the health benefits of breastfeeding, conducted by the House of Representatives Standing Committee on Health and Ageing, included in its terms of reference the evaluation of the impact of marketing of breast-milk substitutes on breastfeeding rates and, in particular, in disadvantaged, Indigenous and remote communities. Its report, *The Best Start: Report on the Inquiry into the Health Benefits of Breastfeeding*, was released in 2007 and two of the 22 recommendations related to the WHO Code:

- That Food Standards Australia New Zealand change the labelling requirements for foods for infants under Standard 2.9.2 of the Food Standards Code to align with the NHMRC Dietary Guidelines recommendation that a baby should be exclusively breastfed for the first six months.
- That the Department of Health and Ageing adopt the World Health Organization's International Code of Marketing of Breast-milk Substitutes and subsequent World Health Assembly resolutions (House of Representatives Standing Committee on Health and Ageing 2007).

The first of these recommendations, Food Standard 2.9.2, requires the label on a package of food for infants not to include a recommendation, whether express or implied that the food is suitable for infants less than four months old. This is contrary to NHMRC guidelines regarding exclusive breastfeeding for the first six months of life, and although the Best Start report stated that the FSANZ was reviewing this, the current regulations have not incorporated this recommendation.

The Best Start report discussed the marketing of toddler milks, that is fortified milks marketed to children from 12 months, but did not issue a recommendation as they were considered beyond the scope of the inquiry. Nevertheless, it was noted that toddler milks were in similar packaging and have similar names to infant formulas, often with the toddler milk being branded as number 3 (where infant formula and follow-on formula are 1 and 2). A submission from the NSW Government noted that 12 months is not a recommended end point for breastfeeding and commercial formulas promoted for toddlers from 12 months may be regarded as breast-milk substitutes. Furthermore there is no nutritional requirement to provide toddlers with commercial artificial milk substitutes; however, these products are being strongly marketed due to limitations of the MAIF Agreement (House of Representatives Standing Committee on Health and Ageing 2007).

A recent study examining the type and frequency of formula milk advertisements in parenting magazines in the USA/Canada (no advertising restrictions), the UK (infant but not follow-on formula restricted) and Australia, found that toddler milk advertisements were more frequent in Australia as a consequence of infant and follow-on formula advertising being restricted under the MAIF Agreement. Advertisements for related services and proprietary ingredients which shared brand identity were also common in Australia but not in the USA and Canada. When counted as a class, there were fewer formula advertisements in the countries with no regulations (the USA and Canada) than in Australia, although it is noted that in these countries there may be more direct advertising routes than in Australia. The authors suggest that line extension is being used to influence consumers who do not differentiate between the different products sold under the same brand names, and in this way manufacturers are able to promote groups of products which include those covered by the MAIF Agreement (Berry et al 2011). This study was supported by a qualitative study which suggests that pregnant women interpreted advertisements for toddler milk to be promoting a range of formula products (Berry et al 2010).

The MAIF and the APMAIF were independently reviewed in 2000. The Knowles report (2003) noted three broad issues:

1. basic disagreement on the purpose of the Agreement
2. the expectation of the contribution that the Agreement can make to increasing breastfeeding rates is beyond the capacity and scope of the Agreement
3. the operation of the APMAIF.

Key recommendations were that an agreement was also required with the retail industry and that the panel size be expanded to five (which has been implemented). The report considered that ongoing cooperation between government and industry should lead to ongoing successful operation of the Agreement but if there is no commitment to work cooperatively then "serious consideration" should be given to legislative reform (Knowles 2003).

## Complementary policies

### **Government policies and initiatives**

The Australian National Breastfeeding Strategy 2010–2015 was a key element of the Australian Government's response to the Best Start inquiry and was coordinated by the Australian Government Department of Health and Ageing through the Australian Health Ministers' Conference. The vision of the strategy is:

- *“Australia is a nation in which breastfeeding is protected, promoted, supported and valued by the whole of society*
- *Breastfeeding is viewed as the biological and social norm for infant and young child feeding*
- *Mothers, families, health professionals and other caregivers are fully informed about the value of breastfeeding.”*

The objective is to increase the percentage of babies who are fully breastfed from birth to six months of age, with continued breastfeeding and complementary foods to twelve months of age. No specific targets were set. The Australian Government is responsible for providing national leadership on the strategy and has a significant role in monitoring, research and evaluation. States and territories are responsible for implementation activities and consulting and liaising with stakeholders. While the plan provides a high-level policy context the next stage is the development of a detailed implementation plan with defined roles and responsibilities (Australian Health Ministers' Conference 2009).

As noted, the plan follows from the Best Start inquiry. The report of this inquiry listed 22 recommendations and in the Australian Government's response, 16 of the recommendations were either agreed or agreed in principle.

The Australian Dietary Guidelines were developed in 2003 and at this time brought Australian recommendations in line with the WHO by recommending six months of exclusive breastfeeding it was previously between four and six months. The importance of breastfeeding is recognised in both the Dietary Guidelines for Australian Adults and the Dietary Guidelines for Children and Adolescents in Australia. These guidelines are currently being reviewed and guidelines for pregnant and breastfeeding women are also being developed (National Health and Medical Research Council 2011).

In addition to Commonwealth policies, South Australia, New South Wales, Queensland and Western Australia have all developed breastfeeding strategies or guidelines. Tasmania also includes breastfeeding as a key focus area in the Tasmanian Food and Nutrition Policy. There is broad consistency across these policies and guidelines with regards to targets and objectives (Australian Health Ministers' Conference 2009).

### **Implementation of the Baby Friendly Hospital Initiative (BFHI)**

The Australian College of Midwives is the governing Body of BFHI in Australia. A recommendation of the Best Start inquiry was that the Australian Government funds the Australian College of Midwives to run the BFHI in Australia. However, this recommendation was noted but not agreed to by the Government which stated that it would consider the BFHI in light of the findings of the Government's Maternity Services Review; the report of the Maternity Services Review did not mention the BFHI. In regards to breastfeeding it recommended:

*“That in order to lengthen the duration of breastfeeding, further evaluation be undertaken to identify the health care or community settings in which breastfeeding information and support are most effectively received, with a particular priority on consulting and supporting women from diverse cultural and socioeconomic backgrounds.”*

In regards to the implementation of the BFHI in Australia, there are currently 77 “baby-friendly” accredited hospitals. This represents around 23% of all Australian hospitals providing maternity services (based on approximate number of facilities being 330). Based on the approximate number of births taking place in the current BFHI accredited facilities, about one-third of babies born in Australia are born in BFHI hospitals (Australian College of Midwives 2011).

The breakdown by state and territories is as follows:

- Canberra: 2
- New South Wales: 11
- Northern Territory: 4

- Queensland: 14
- South Australia: 16
- Tasmania: 8
- Victoria: 19
- Western Australia: 3.

A recent qualitative study examining health workers, from both BFHI-accredited and non-BFHI accredited hospitals, found that the staff's understanding and personal views were often discordant with the aims of, and the evidence supporting, the BFHI. The study highlighted many of the difficulties of implementing the initiative including time constraints on staff affecting their ability to attend education sessions and to produce a written policy, staff ability to obtain support from management and to reconcile implementation with budget constraints. The study made nine recommendations to assist with the implementation of the BFHI in Australia (Walsh et al 2011). The extent to which implementation of the BFHI in Australia would increase breastfeeding duration has been questioned by other researchers (Fallon et al 2005).

A BFHI seven point plan for implementation of for the protection, promotion and support of breastfeeding in Community Health Services has recently been developed to extend the initiative beyond the hospital (Baby Friendly Health Initiative Australia 2011).

### **Other complimentary policies**

The Australian Breastfeeding Association (ABA) is the peak non-governmental organisation promoting breastfeeding in Australia. Founded in 1964 as the Nursing Mothers' Association, the ABA's vision is:

*“As the normal way to feed and nurture infants, for babies to breastfeed exclusively for 6 months, with continuing breastfeeding for 2 years and beyond.”*

The ABA's mission is to educate society and support mothers, using up-to-date research findings and the practical experiences of many women, and to influence society to acknowledge breastfeeding as normal and important to skilled and loving parenting. The ABA's strategic plan for 2009–12 has six key result areas, one of which is advocacy, policy and research. Under this area the plan states that it will focus on protecting and implementing WHO and NHMRC guidelines and related infant food marketing issues. Following the recommendations of the Best Start inquiry, the ABA received \$2.5 million over five years in the 2008–09 budget to expand the ABA's telephone counselling service to provide a free national 24-hour breastfeeding helpline service.

### **Workplace**

Under the National Employment Standards in the Fair Work Act 2009, a new parent has a statutory entitlement to up to 12 months of unpaid parental leave associated with the birth or adoption of a child. However, Australia has lagged behind other developed countries regarding paid parental leave. Following the Paid Parental Leave: Support for Parents with Newborn Children inquiry, the Australia Government agreed to fund a paid parental leave scheme providing 18 weeks pay on the minimum wage (currently \$589.40 a week before tax), commencing 1 January 2011. Eligibility is dependent upon an individual adjusted taxable income of \$150,000 or less in the financial year prior to the date of birth and having worked for at least 10 of the 13 months prior to the birth or adoption of the child, and having worked for at least 330 hours in that 10-month period with no more than an eight-week gap between two consecutive working days. Other financial support to assist with the costs of children is available through the means-tested payments, Family Tax Benefit (Part A and Part B), of which Part A provides support to families regardless of labour force status and Part B provides additional support to families reliant upon a single income (Australian Government Family Assistance Office 2011).

The labour force participation rate of women was 59.1% in July 2011; for men it was considerably higher at 72.2%. Women are much less likely to work full-time than men (54.3% compared to 83.9%), and comprise 70% of the part-time workforce (Australian Bureau of Statistics 2011a).

In 2005, there was a total of 467,000 Australian women working who had children less than two years of age. Of these 164,000 (35%) were in the paid labour force. Of the approximately 200,000 mothers of babies aged 13 to less than 24 months, about 100,000, or close to half, were working. Of the 120,000 women with babies aged 7 to 12 months of age, 45,000 (37%) were in paid employment. There were about 140,000 mothers with

babies aged 6 months or younger. Of these, about 20,000 were in the paid workforce representing about 15% of women with babies 6 months or less (Table 10) (Australian Bureau of Statistics 2011b).

**Table 10: Women with children aged less than two years, current employment status of woman by age of youngest child, Australia, 2005 (Australian Bureau of Statistics 2011b)**

|                | Age of child (months)  | 0–3        | 4–6        | 7–12       | 13–18      | 19–<24     | Total      |
|----------------|------------------------|------------|------------|------------|------------|------------|------------|
| Number ('000)  | Currently employed     |            |            |            |            |            |            |
|                | Working                | 6          | 14         | 45         | 58         | 42         | 164        |
|                | On leave for birth     | 15         | 6          | 7          | 1          | 2          | 31         |
|                | All currently employed | 20         | 20         | 52         | 59         | 44         | 195        |
|                | Currently not employed | 50         | 51         | 69         | 51         | 52         | 272        |
|                | <b>Total</b>           | <b>70</b>  | <b>71</b>  | <b>120</b> | <b>109</b> | <b>96</b>  | <b>467</b> |
| Proportion (%) | Currently employed     |            |            |            |            |            |            |
|                | Working                | 8          | 19         | 37         | 53         | 44         | 35         |
|                | On leave for birth     | 21         | 9          | 6          | 1          | 2          | 7          |
|                | All currently employed | 29         | 28         | 43         | 54         | 45         | 42         |
|                | Currently not employed | 71         | 72         | 57         | 46         | 55         | 58         |
|                | <b>Total</b>           | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> |

Data from the longitudinal study of Australian children, a cohort of babies born between March 2003 and February 2004, show that 50% of mothers (72% of employed mothers) were working for the same employer for the 12 months prior to birth while 31% of mothers were not in paid employment. Of this 50% employed with the same employer for the 12 months prior to birth, 34% took some paid maternity leave for an average duration of 11 weeks, 53% took some unpaid maternity leave for an average duration of 35 weeks and 31% took paid holiday leave for an average duration of 5 weeks. The most common reason for not taking leave was that the woman was leaving employment (Whitehouse et al 2007). Using the same data, Baxter found that women on leave from employment had higher breastfeeding rates than those not employed and not on leave. However, this was related to the fact that women on leave had a higher representation of women with other characteristics related to higher breastfeeding rates; they were more highly educated and older. Once such characteristics were taken into account, there were no significant differences between these groups of women (Baxter 2008).

In May 2011, the Sex and Age Discrimination Legislation Amendment Bill 2010 was passed. The law establishes breastfeeding as a separate ground of discrimination and allows measures to be taken to accommodate the needs of breastfeeding mothers. However, there is no legal protection for paid breastfeeding breaks in federal legislation in Australia and Australia has not ratified the Maternity Protection Convention (ILO Convention No. 183). NSW and Queensland public servants do have access to paid lactation breaks (Thompson Reuters 2010). The ABA has promoted an initiative, the Breastfeeding Friendly Workplace programme, to create a supporting breastfeeding environment in the workplace. The program provides a consultancy service for employers and runs an accreditation program. Thus far 74 workplaces have been accredited (Australian Breastfeeding Association 2011).

From birth to 1 year, 6.9% of infants in Australia are enrolled in licensed and regulated childcare services; for 1 to 2-year-olds the proportion grows to 26.3% (Organisation for Economic Co-operation and Development 2006). The Australian Government provides the Child Care Benefit and the Child Care Rebate to assist with the cost of approved childcare. From 1 July 2008, the Child Care Rebate increased from 30% to 50% of all approved out-of-pocket childcare costs up to a maximum of \$7,500 per child, which was indexed on 1 July 2009 up to a maximum of \$7,778 per child. This is the primary form of public expenditure of childcare. Vacancy data show that nationally, approximately one in five long day care places are available, with an average of 65,780 long day care vacancies each day. The amount of long day care used as a proportion of total hours available was 75% in September 2009 (Office of early childhood education and care 2010). In the UNICEF league table of early childhood care and education among economically advanced countries, Australia scored 2 out of 10 ranking it among the lowest of the 25 countries evaluated (UNICEF 2008).

## Culture

The National Breastfeeding Strategy cites unpublished qualitative research commissioned by the Department of Health and Ageing which found that as babies grew older, some mothers gave up breastfeeding because breastfeeding in public was not felt to be the social norm. Mothers reported being confronted by negative comments from strangers and were unclear about the right to breastfeed in public and whether they could be asked to leave a restaurant. There were participants who believed that breastfeeding in public was illegal. The Strategy also cites a Newspoll commissioned by the Australian Lactation Consultants Association which found that 26% of respondents considered it was unacceptable to breastfeed a baby in a restaurant or cafe and 19% thought it was unacceptable to breastfeed in a shopping centre (Australian Health Ministers' Conference 2009). Similar attitudes were found in a large (2500) telephone survey of randomly selected adults in South Australia with over 80% of respondents agreeing that bottle-feeding was more acceptable in public places and 70% agreeing that there was not always a place to breastfeed when outside the home (McIntyre et al 2001).

In a qualitative study consisting of 33 in-depth interviews with women in Western Australia regarding their weaning experiences, factors found to influence a mother's decision to breastfeed in public were confidence with breastfeeding, the ability to be discreet, the mother's body image, previous experience, the age of the breastfeeding child, the audience, feelings of the partner, breastfeeding location and perceptions of societal expectations (Hauck 2004).

## Health system and health worker training

Health is a shared responsibility between the Commonwealth and the state and territory governments. Australia has a system that enables universal access to healthcare, predominately through Medicare, while also encouraging a substantial private sector.

The National Breastfeeding Strategy notes that “different members of the workforce are trained in different ways and to varying extents and there is no consistency across states and territories” (Australian Health Ministers' Conference 2009). The Best Start inquiry documents a “health professional advice merry go round” in which there is often a lack of timely attention to breastfeeding difficulties and varying degrees of health professional knowledge and skills to address these issues. It states that doctors usually receive only limited breastfeeding education during their training and that this varies across medical schools. Additionally, the International Board of Certified Lactation Consultants (IBCLC) services are, where available, oversubscribed or expensive (House of Representatives Standing Committee on Health and Ageing 2007). The following recommendation was made regarding IBCLCs: “that the Minister for Health and Ageing provide Medicare provider/registration numbers to IBCLCs as allied health professionals”. In its response, the Government noted this recommendation but tied action, like with the BFHI, to the outcomes of the Maternity Services Review, which itself made no mention of this.

As noted, the NHMRC Dietary Guidelines for Children and Adolescents in Australia incorporate the Infant Feeding Guidelines for Health Workers. Also training is a requirement of BFHI accreditation so health workers at accredited facilities are likely to have access to training. There are courses available targeted to health professionals offered by Australasian Lactation Courses; the Australian Breastfeeding Association also offers courses aimed at health professionals. The International Board of Lactation Consultant Examiners provides a guide to lactation courses for health professionals offered in Australia (IBLCE Australia 2011).

## Summary

Despite initiation rates greater than 90%, by six months the rate of any breastfeeding is 56%, and 14% is exclusive breastfeeding. Data from 2010, which will report using the recently agreed national breastfeeding indicators, are expected to be released this year.

Implementation of the WHO Code in Australia is predominately through a voluntary agreement, known as the “MAIF Agreement”, with the key infant formula manufacturers operating in Australia. The voluntary agreement closely resembles the WHO Code although it is narrower in scope, being limited to:

- infant formula and follow-on formula and thus excluding toddler milks and the broader range of products covered by the WHO Code
- manufacturers and thus excludes retailers, health workers and the Government.

Compliance is monitored through the APMAIF. There are a high number of complaints which are deemed out of scope by the APMAIF and relatively few complaints which are upheld. There are no penalties for a breach

other than public reporting of the breach. Recent academic research suggests that the marketing of toddler milks in Australia is used to promote infant formula in Australia through line extension.

Two recent initiatives might be expected to affect Australia's breastfeeding rates:

- the Australian National Breastfeeding Strategy 2010–2015 and the development of an implementation plan to accompany this
- the introduction in January 2011 of an 18-week paid parental leave scheme.

Implementation of the BFHI in Australia is limited and no formal Commonwealth support has been provided to further develop this despite the recommendations of the Best Start inquiry.

The Australian social system can be considered supportive of the “male breadwinner” model of family structure (e.g. the provision of Family Tax Benefit B) and this is reflected in relatively low female workforce participation rates and the late provision of paid parental leave. Research also suggests cultural barriers to breastfeeding in public.

## CANADA

### Facts and figures

- Canada has a population of 34 million and recorded 377,886 births in 2008.
- The fertility rate in 2008 was 1.68 and was highest among women aged 30–34

The breastfeeding initiation rate in Canada in the mid-1960s was around 25%; by the 1980s this had risen to an estimated 62% of mothers initiating breastfeeding. By the 1990s the figure had risen to almost 75% (Millar & Maclean 2005). Differences between survey tools provide only a guide to these trends; however, the Canadian Community Health Survey (conducted in 2003, 2005, 2007, 2008, 2009 and 2010) tracks changes in both breastfeeding initiation and exclusive breastfeeding for at least six months over the past decade (Table 11).

**Table 11: Breastfeeding Initiation and exclusive breastfeeding to at least six months (%), age standardised rates, Canada (Statistics Canada 2011)**

|  | Age-standardised rates, both sexes (%) |      |      |      |      |      |      |      |
|--|--|------|------|------|------|------|------|------|
|  | 2003                                   | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| <b>Breastfeeding initiation</b>                      | 84.6                                   |      | 86.9 |      | 87.0 | 88.5 | 87.2 | 87.1 |
| <b>Exclusive breastfeeding (at least six months)</b> | 16.8                                   |      | 20.1 |      | 20.9 | 25.1 | 24.2 | 27.9 |

Differences in rates of breastfeeding initiation and exclusive breastfeeding exist between the Canadian provinces and territories with a general pattern of higher rates in the western provinces and lower rates in the eastern provinces.

Rates of breastfeeding initiation and exclusive breastfeeding for at least six months were also captured in the Maternity Experiences Survey, a national survey of a randomly selected sample of women who had given birth between November 2005 and May 2006. The survey was conducted by Statistics Canada on behalf of the Public Health Agency of Canada. Of these women, 90.3% initiated breastfeeding and 14.4% were exclusively breastfeeding at six months of age. Other measures of breastfeeding reported in the survey were:

- 90.0% of women intended to breastfeed before giving birth
- 67.6% reported any breastfeeding at three months
- 51.7% were exclusively breastfeeding at three months
- 53.9% reported any breastfeeding at six months
- liquids other than breast milk were first given to babies at an average of 12.5 weeks: 21% added liquids within the first week after birth and 25.2% within the first two weeks
- solids were introduced at 4.8 months on average (Chalmers et al 2009).

The Maternity Experiences Survey also asked women about their experiences in relation to eight of the ten steps of the Baby Friendly Hospital Initiative. These results are reported in the section “Implementation of the Baby Friendly Hospital Initiative” (page 32).

### Implementation of WHO code

Canada’s Food and Drugs Act and Regulations and Consumer Packaging and Labelling Act and Regulations set out labelling requirements for foods sold in Canada and are documented in the Guide to Food Labelling and Advertising (Canadian Food Inspection Agency 2010). These Acts and Regulations specify the specific mandatory nutrient requirements for infant formulas and the specific labelling requirements which differ from those on other food products. These restrict the promotion of infant formula in two ways. Firstly, health claims are prohibited on food labels and in advertising of foods including infant formula. Further, because all infant formulas have specific nutrient requirements, it is considered inappropriate and misleading to use nutrient content claims unless it is for a formula represented as solely for infants six months of age or older. There are some exceptions for statements regarding iron content and specific fatty acids (Canadian Food Inspection Agency 2007). Secondly, the regulations also prohibit the promotions of food, other than infant formula, for consumption by infants less than six months of age:

*“B.25.061. (1) Subject to subsection (2), no person shall include on the label of a food any representation respecting the consumption of the food by an infant who is less than six months of age.*

(2) Subsection (1) does not apply in respect of a human milk substitute or a new human milk substitute.”

There are no federal laws or regulations to cover other aspects of the WHO Code.

**Table 12: Implementation of the WHO Code in Canada**

| <b>Article of the WHO Code</b>                                | <b>Implemented</b>   | <b>Partially implemented/Not implemented</b>   |
|---|--|--|
| Articles 2: Scope   | Regulations refer to compositional and labelling requirements for infant formula and infant foods intended for use by infants (defined as less than 12 months of age). | The regulations have a very limited scope and apply only to infant formula and foods rather than the whole range of products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.). The regulations do not cover advertising or the provision of information. |
| Article 4: Information & Education                            |  | Not covered by regulations.  |
| Article 5: General public & mothers                           |  | Not covered by regulations.  |
| Article 6: Health care systems                                |  | Not covered by regulations.  |
| Article 7: Health workers                                     |  | Not implemented in regulations.  |
| Article 8: Persons employed by manufacturers and distributors |  | Not implemented in regulations.  |
| Article 9: Labelling  | Specifies health and nutrient content claims and the requirements under Article 9.4 of the Code.   | Does not include the requirements for a statement on the superiority of breastfeeding, restrictions of imagery or on terms such as “humanised” (Article 9.2 of Code).  |
| Article 10: Quality   | Includes strict compositional requirements and standards. Canada is a member of the Codex Alimentarius.  |  |
| Article 11: Implementation & Monitoring                       |  | Formal monitoring not covered in regulations.  |

There are three major companies which dominate the infant formula market in Canada: Abbott Laboratories (Similac and Isomil), Mead Johnson Nutritionals (Enfamil and Enfalac) and Nestlé Canada (Carnation Good Start and Alsoy). Nestlé took over Wyeth’s infant formula business in Canada in 2008 (SMA and S-26). There are also “value-priced” infant formulas available (e.g. Unilac, Parent’s Choice and President’s Choice) which can cost two to three times less than the name brands (Nathoo & Ostry 2009).

The history of infant formula marketing in Canada and the WHO Code suggests that federal initiatives to implement the WHO Code peaked in the early 1980s and that the entry of Nestlé into the market in 1990 was a significant game changer (Nathoo & Ostry 2009; Sterken 2002). Canada endorsed the WHO Code when it was first adopted in 1981, but did not translate it into legislation. Instead it took a voluntary approach, arguing that the delivery of healthcare and services was under provincial jurisdiction. Quebec used legislation to ban the distribution of formula but other provinces left the decision up to individual hospital boards (Nathoo & Ostry 2009). However, the federal government did develop a hospital awareness kit to encourage changes in hospital policies and practices which was distributed in 1985. A voluntary agreement between Health and Welfare Canada and the industry association, the Canadian Infant Formula Association (CIFA), was also established in 1987, although it was weaker than the WHO Code and difficult to enforce (Nathoo & Ostry 2009; Sterken 2002).

The predominant marketing techniques in the first decade of the WHO Code consisted of the distribution of free sample packs of formula through exclusive contracts with hospitals and endorsements from health

professionals. Several of these contracts received media attention, an example being an agreement between Mead Johnson Canada and the Women's Health College, a Toronto teaching hospital, signed in 1993. The agreement gave the hospital \$1 million towards a \$7.5 million renovation of its prenatal unit plus an annual \$35,000 grant for a hotline for breastfeeding mothers along with the provision of free formula to the hospital (Nathoo & Ostry 2009). Nestlé, a newly entrant to the market, did not have these established contracts and required a new strategy. It began marketing directly to mothers by advertising in parenting magazines, in store aisles and establishing clubs which mothers could register for. It also contacted mothers directly through Canada Post. Other companies followed this example. In the early 1990s Nestlé launched an anti-trust complaint with Industry Canada against its competitors complaining that CIFA was a mechanism of industry collusion. The result was that CIFA was disbanded by 1993 (Nathoo & Ostry 2009; Sterken 2002). Since this time, marketing of breast-milk substitutes has "only intensified in Canada" (Nathoo & Ostry 2009). Furthermore, the North American Free Trade Agreement would now make implementing the WHO Code through legislation more difficult than in the past. Both Mexico and Guatemala have attempted to introduce legislation to implement the WHO Code but have been forced to retract it as the formula companies alleged it would interfere with free trade agreements (Nathoo & Ostry 2009).

In other Canadian jurisdictions, aspects of the WHO Code have been implemented. In the mid-1990s there was debate about advertisements which breached the WHO Code in Canadian medical journals, which led the College of Family Physicians to formally endorse the WHO Code and cease accepting advertisements which did not comply with it (Nathoo & Ostry 2009). However, the Infant Feeding Action Coalition (INFACT) Canada, in its 2002 report, was critical of the Canadian Paediatric Society (CPS) for its relationship with the infant formula industry (Sterken 2002). Also, the CPS has come under scrutiny from breastfeeding advocates for several pieces of advice it has issued (see "Government policies and initiatives" page 32). The Ontario Public Health Association has released a position paper on the WHO Code in which it resolves to:

- uphold the WHO Code
- continue to collaborate and partner with professional associations and organisations to increase protection, promotion and support of breastfeeding through adherence to the WHO Code
- continue to advocate at the federal level for the legislation of the WHO Code including the ability to enforce this legislation (Ontario Public Health Association 2010).

Implementation of aspects of the WHO Code for health professionals has primarily been through the implementation of the Baby Friendly Hospital Initiative (see below). Breastfeeding policy and therefore attempts to implement aspects of the WHO Code is fragmented across provinces and individual hospital boards rather than coordinated federally. A recent report from Toronto Public Health, in which over 1500 new mothers plus all Toronto birthing hospitals were surveyed, found that 39% of mothers were given infant formula or breast-milk substitutes upon leaving the hospital. This ranged across individual hospitals from 22.1% to 78.5%, and suggests hospitals themselves are not complying with the WHO Code (Toronto Public Health 2010). Similarly in British Columbia, it is estimated that about 40% of babies receive formula in hospital and there have been controversies over Nestlé hosting dinners and education sessions for health professionals (Roslin 2008).

INFACT Canada has monitored adherence to the principles and regulations which govern the WHO Code in Canada and published its findings in reports (Sterken 2002). Health Canada and Canadian Food Inspection Agency (CFIA), which is responsible for enforcement of the food labelling acts and regulations, have monitored aspects of the WHO Code which are in federal legislation and regulations; however, this is not publicly available and it appears the subsequent enforcement has been poor (Canwest News Services 2010). In January 2007, Health Canada and the CFIA issued a letter to industry to clarify the requirements in relation to nutrition information and nutrition and health claims for infant formula. The letter repeatedly specified that Canada is a signatory to the WHO Code and encouraged the industry to comply with this code (e.g. in not making reference to breast milk on a label or advertising other than a statement regarding the superiority of breastfeeding, and in refraining from displaying pictures of infants on labels or advertising). A subsequent media report, based on internal documents, suggests that the letter, and subsequent inspections, had "absolutely no impact" and that a number of issues remain to be resolved. CFIA is in discussion with a number of formula companies on claims made on labels, advertisements and promotional material (Canwest News Services 2010).

## Complementary policies

### **Implementation of the Baby Friendly Hospital Initiative**

The Breastfeeding Committee for Canada (BCC) is a non-profit, volunteer-run organisation and is the national authority for the WHO/UNICEF Baby Friendly Hospital Initiative (BFHI) in Canada. The BCC began as the Expert Working Group on Breastfeeding, a taskforce established by Health Canada in 1991 which met regularly throughout the 1990s. However, Health Canada funding ended in 1996 and the working group decided to continue their work as the non-profit BCC (Nathoo & Ostry 2009). The objectives of the BCC are to:

- provide a forum for addressing Canadian breastfeeding issues
- maintain ongoing communication with governments and organisations to protect, promote and support breastfeeding
- provide ongoing expert advice and recommendations on breastfeeding research, policy and program development, and direction to governments and organisations
- develop partnerships and collaborative strategies to protect, promote and support breastfeeding
- as the national authority for the Baby Friendly Initiative, oversee and facilitate the implementation of the Baby Friendly Initiative in Canada (The breastfeeding committee for Canada 2011).

Due to the structure of the Canadian health system, the BCC has had to work at the provincial and territorial level to progress implementation of the Baby Friendly Initiative (BFI). The BCC dropped the designation “hospital” from the initiative in recognition of the fact that the non-hospital healthcare facilities and the broader community also needed to be involved in facilitating breastfeeding and adapted the UK’s “Seven Point Plan for the Protection, Promotion and Support of Breastfeeding in Community Health Services” which it used to designate community services as “baby friendly” (Nathoo & Ostry 2009).

Of about 500 hospitals and health facilities offering maternity care, Canada currently has 22 baby-friendly hospitals; 17 in Quebec, 3 in Ontario and 2 in British Columbia. It also has 14 baby-friendly community health centres, 7 in Quebec and 7 in Ontario (The breastfeeding committee for Canada 2011). Quebec has had a breastfeeding policy since 2001 in which the implementation of the BFI was mandated (Quebec Department of Health and Social Services 2001). New Brunswick also has a breastfeeding policy in which implementation of the BFI is mandated (New Brunswick Department of Health 2006). However, there is wide variation across Canada in terms of government support and implementation. British Columbia has urged regional health authorities to become BFI certified but attached no funds and left the decision up to each individual authority (Roslin 2008).

In the national Maternity Experiences Survey, conducted in 2005/06 the following findings were reported for implementation of the BFI:

- 80–90% of mothers reported having enough information about breastfeeding, including information about community breastfeeding resources and assistance with initiating breastfeeding
- 50.2% of breastfeeding babies were not fed solely on demand in the first week after the birth
- 44.4% of breastfeeding babies were given a pacifier during the first week after the birth
- 35.8% of mothers were given or offered free formula samples
- 35.0% of babies were away from the mother’s room for more than one hour in the first 24 hours after the birth
- 19.8% of babies commenced breastfeeding too early (i.e. within five minutes of birth) (Public Health Agency of Canada 2009).

### **Government policies and initiatives**

Canada formally adopted the WHO position on breastfeeding in 2004, changing its recommendations from four to six months exclusive breastfeeding. The most recent official statement on infant nutrition in Canada is a joint statement of the Canadian Paediatric Society, Dieticians of Canada and Health Canada which is currently in draft form. Titled *Nutrition for Healthy Term Infants - Recommendations from Birth to Six Months*, consultation on the draft closed on 15 April 2011 after pressure from breastfeeding groups to extend the original closing date (Douglas 2011). The consultation draft makes the following recommendations:

- Recommend exclusive breastfeeding for the first six months of life.
- Have a written breastfeeding policy and educate all personnel on how to implement the policy.

- Explain the benefits and management of breastfeeding to pregnant women and their families.
- Teach mothers how to breastfeed and how to maintain breast milk supply if separated from their infant.
- Encourage skin-to-skin contact and keep mothers and infants together.
- Discourage advertising and distribution of free samples of formula, bottles, nipples and pacifiers.
- Facilitate the transition between hospital and community services by providing professional and peer support for breastfeeding women.
- Support flexible work schedules and environments that permit expressing and storing breast milk for continued breastfeeding.
- Recommend an acceptable alternative to breastfeeding for mothers who are HIV infected. Very few other maternal infections contraindicate breastfeeding.
- Take a case-by-case approach when a mother is using drugs. Most medications are compatible with breastfeeding.
- Advise mothers to limit their alcohol intake. Mothers who drink once in a while, in moderation, should continue to breastfeed.
- Encourage mothers who smoke to stop or reduce smoking. However, even if they keep smoking, breastfeeding is still the best choice.
- Give a daily vitamin D supplement of 10 µg (400 IU) to breastfed infants, starting at birth.
- If an infant is not breastfed or is only partially breastfed, recommend cow's milk-based formulas.
- Limit the use of soy-based formulas to infants who have galactosemia or cannot consume dairy-based products for cultural or religious reasons.
- Recommend formulas for special medical purposes only when you detect or suspect pathology in the infant.
- Cow's milk, evaporated milk formula, goat's milk, soy beverage, rice beverage and all other beverages are inappropriate alternatives to breast milk.
- Advise parents and caregivers to use proper preparation and storage practices to reduce the risk of bacteria-related illness.
- Warn of the risk of choking if infants are left alone while feeding. Explain the dangers of "propping" a bottle.
- Use the World Health Organization (WHO) Growth Charts for Canada for optimal monitoring of infant growth (Health Canada 2011).

The draft recommendations have received criticism from breastfeeding groups for the extensive coverage of formula feeding, which the BCC suggest be placed in a separate document. It has also been noted that two of the eight members of the Expert Advisory Group have associations with the infant food industry: one serves on the advisory boards of Heinz and Danone and the second receives research funding from Mead Johnson, Abbott Laboratories and Martek Biosciences. All these companies have violated the WHO Code. Not all 10 steps of the BFI are included in the recommendations and the Government's role in breastfeeding promotion is not included in the recommendations. Breastfeeding groups also recommend that breastfeeding be presented as the base-case scenario; hence the harms of infant formula should be presented as opposed to the benefits of breast milk which should be reworded as the importance of breast milk (Douglas 2011; BCC comments on the consultation available from The breastfeeding committee for Canada 2011).

Two ongoing controversies in breastfeeding policy in Canada are the recommendations regarding vitamin D and milk banks. Health Canada, the Dieticians of Canada and the CPS have recommended daily vitamin D supplements for breastfed infants since 1998. Breastfeeding advocates argue that this recommendation encourages mothers to question the value of breast milk and implies that breast milk alone is not sufficient; they argue that sunshine and the mother's levels of vitamin D are sufficient for adequate supply (Nathoo & Ostry 2009). Milk banks in Canada closed in the 1980s due to fears surrounding HIV/AIDS and only one remains which has been repeatedly threatened with closure due to lack of funding and the negative position taken on human milk banking by the CPS. Over the past decade, demand for human milk has increased and both commercial and informal arrangements have been established to cater to this demand. In 2006, Health Canada released a warning about the sale and distribution of human milk obtained from the internet or directly for individuals. However, with no funding and support for Canada's sole hospital based milk banks, the

informal and commercial markets are likely to continue (Nathoo & Ostry 2009). Donor milk is not included as an option in the most recent infant feeding guidelines and appears to be not supported as an alternative by Canadian authorities.

### **Other complementary policies**

Le Leche League is the peak national non-government body promoting breastfeeding in Canada. In 2004 there were 188 groups and 466 leaders which was a decline from the early 1990s when there were 300 groups and 640 leaders (Nathoo & Ostry 2009).

### **Workplace**

Canada is a federal state, therefore control or jurisdiction over policies is divided between the federal government and the provinces or territories. The division of authority over specific areas of legislation is laid out in sections 91 and 92 of the Constitution Act 1867. In general, labour, education, childcare, human rights and discrimination generally fall within provincial or territorial jurisdiction, although there are exceptions (Heymann et al 2010). Uncompensated, job protected maternity leave is therefore legislated by the provinces and territories. In all provinces and territories other than Quebec, this job protection is either 52 or 54 weeks; in Quebec it is 70 weeks (Baker & Milligan 2007). All provinces and territories prohibit employee dismissal or other forms of reprisal because of pregnancy, or maternity, parental or adoption leave.

However, payments received by employees on leave are under federal government legislation. These payments come from the federal government's Employment Insurance (EI) program which covers unemployment benefits, maternity and parental leave, compassionate leave and long-term sick leave.

Maternity and parental benefits are provided for individuals who are pregnant, have recently given birth, are adopting a child, or are caring for a newborn. Maternity benefits are for a maximum of 15 weeks and mothers are required to have worked 600 hours in the past 52 weeks to be eligible. The benefits must be claimed within 17 weeks of the birth of the child. Parental benefits are for a maximum of 35 weeks with the same requirements for number of hours worked. Parental benefits may be claimed by either parent and are only available within the 52 weeks following the birth of the child. Therefore, combined benefits are available for up to 50 weeks. The basic benefit rate is 55% of average insured earnings up to a yearly maximum insurable amount of \$44,200 (Services Canada 2011).

Quebec has opted out of the federal program and runs its own. The Quebec Parental Insurance Plan offers maternity, paternity and parental leave at a wage replacement rates ranging from 55–75% of insurable income, with rates lower for a longer period of leave or higher for a shorter period of leave. The inclusion of three to five weeks of specific paternity leave is a core difference between this scheme and the federal scheme; however, overall the period of benefits is similar with slightly higher rates and less stringent eligibility under the Quebec scheme (Ministère de l'Emploi et de la Solidarité sociale 2011).

In 2009, 58.3% of Canadian women, representing 8.1 million women, were employed with women making up 47.9% of the total workforce. Women were more likely to work part-time than men, 26.9% compared to 11.9%. Women's participation in the workforce in Canada has followed an upward trend over the past 30 years although there have been declines during economic downturns (which affect both sexes) (Statistics Canada 2010). Nevertheless, many women are ineligible for maternity leave benefits including those who are self-employed, part-time or contract workers. In the Maternity Experiences Survey, 78.6% of women worked during pregnancy and 68.3% received maternity or parental benefits, while 9.3% worked and did not receive benefits. Of women who worked during pregnancy, 11.6% returned to work within six months of birth (Public Health Agency of Canada 2009). Of women whose youngest child was less than 3, 64.4% were in the workforce (Statistics Canada 2010).

A study of the impact of changes to maternity and parental benefits, which were implemented in 2000 and increased the total amount of paid leave available from 25 weeks to 50 weeks, found a significant increase of almost 2.3 months in the length of time away from work, a 28% increase over the pre-reform average of 8.2 months. The number of months of breastfeeding was found to have increased by 0.75 from the pre-reform mean of 5.34 months (Baker & Milligan 2007).

Canada has not ratified the International Labour Organization Maternity Protection Convention (No.183) and there is no legislated protection for breastfeeding breaks; however, breastfeeding, by way of sex discrimination, is protected under the Canadian Charter of Rights and Freedoms and provincial Human Rights Codes all of which protect women from discrimination on the basis of sex. Additionally, several provinces

(Ontario, British Columbia) specifically detail the rights of breastfeeding mothers, including breastfeeding and work (Moms for Milk Breastfeeding Network 2005).

Early childhood education and care is under the jurisdiction of the provincial and territorial governments. A 2006 OECD report on early childhood education and care states that, for Canada:

*“Systematic information on rates of provision for younger children is lacking at both federal and provincial levels. Access to services is dependent on available places, meeting eligibility criteria for subsidy assistance, ability to pay fees, and finding a programme that meets child/family need. Access is low and varies depending on the province/territory.” (Organisation for Economic Co-operation and Development 2006)*

In 2002/03, data from the National Longitudinal Survey of Children and Youth show that approximately 29% of children aged six months to one year were in some form of non-parental childcare of whom 25% were in care outside the home with a non-relative, 44% were in care with a relative and 18% were in a day care centre (Bushnik 2006). Approximately 20% of children aged 0–5 have access to regulated childcare spaces (Beach et al 2009); the UNICEF benchmark is 25%. In a UNICEF league table of early childhood education and care across economically advanced countries, Canada ranked equal lowest of 25 countries (UNICEF 2008).

### **Culture**

In the 1990s Health Canada conducted focus groups on attitudes to breastfeeding which revealed that while most women were aware of the benefits of breastfeeding, many thought it was not natural and found it embarrassing to breastfeed in public. Some women were uncomfortable breastfeeding in front of their male partners in their own home. In response, Health Canada developed a five-year social marketing campaign which was launched in 1994 which aimed to make breastfeeding in public places socially acceptable. The campaign included a series of posters with slogans such as “Who said a day at the mall/ day at the park/ time with friends was impossible?” There were also television commercials and a logo to designate “breastfeeding friendly” locations. INFACT Canada has also attempted to address the sexualisation of breasts and discomfort regarding breastfeeding in public with a poster with the slogan “they weren’t put there just to hold up a strapless dress” (Nathoo & Ostry 2009).

Two recent studies of university students, from either side of Canada and therefore from regions with different rates of breastfeeding, suggest that breastfeeding in public may remain a challenge for women in Canada. A qualitative study from New Brunswick and Nova Scotia found that 31 of 47 participants expressed restrictive attitudes towards exposure of the breast and breastfeeding in public spaces (Spurles & Babineau 2011). An experimental study in British Columbia found less positive views of breastfeeding in public compared with bottle feeding in public despite finding more positive attitudes towards visual depictions of breastfeeding compared to bottle feeding (Fairbrother & Stanger-Ross 2010). Newfoundland and Labrador are currently running a campaign to promote breastfeeding in public with posters carrying the slogan “you’ll see plenty of strange things, breastfeeding isn’t one of them” (Baby friendly Newfoundland and Labrador 2011); also there have been several incidents of women being asked not to publicly breastfeed which have recently been publicised (Globe and Mail 2010).

### **Health system and health worker training**

Canada provides publicly funded healthcare through Medicare which is provided through 13 provincial and territorial health insurance plans under standards and conditions set by the federal government. Private insurance is a minimal part of the health system and restricted in scope to services not covered by Medicare, but a high number of Canadians have private health insurance predominantly provided by their employer.

As noted, breastfeeding policy is fragmented across provinces and territories and individual hospital boards rather than coordinated federally. Some NGOs run professional education courses (La Leche League, Quintessence Foundation) and courses are also offered through educational facilities. Training of health professionals is a critical component of the BFI, which has been implemented in Quebec to a larger extent than elsewhere in Canada.

### **Summary**

Canada’s breastfeeding initiation rates are almost 90% and rates of breastfeeding decline to 54% for any breastfeeding and 28% for exclusive breastfeeding by six months. The Canadian political system is highly decentralised and therefore breastfeeding rates, and policies likely to affect these, vary across Canada.

Although Canada initially implemented a voluntary code to reflect the WHO Code, this is no longer in operation. Implementation of the WHO Code is through legislation on the labelling and content of infant formula; however, the majority of articles of the WHO Code are not reflected in the legislation and there is widespread marketing of infant formula in Canada including direct to consumer advertising and the provision of free samples.

Similarly, Canada has made limited progress in the implementation of the BFHI which is considered a provincial responsibility. Quebec has mandated its implementation since 2001 and the majority of hospitals with BFHI accreditation are in Quebec. Other provinces have recently adopted similar policies.

In contrast to the WHO Code and BFHI implementation which have been considered provincial responsibilities, the provision of paid parental leave is mandated federally with 50 available at 55% of earnings.

In their study of breastfeeding history, politics and policy in Canada, Nathoo and Ostry concluded that:

*“It is essential to acknowledge the timing of the resurrection of breastfeeding in relation to breastfeeding promotion efforts. The rapid increase in breastfeeding in the 1970s was part of a secular movement of women returning to breastfeeding that **preceded** the rejuvenation of breastfeeding policy initiatives by the federal government in the 1980s. While breastfeeding promotion efforts in the 1980s were the broadest, best-funded, best-designed, best-programmed, and least dependent on mother’s education ever developed by any Canadian federal government, they were promulgated following dramatic increases in breastfeeding rates. As well, during the height of these programs in the mid-1980s, breastfeeding rates remained relatively flat in Canada (page200).”*

Since the 1980s breastfeeding policy in Canada has become more fragmented and the marketing of infant formula has become more aggressive; nevertheless, there have been modest increases in breastfeeding rates.

## FRANCE

### Facts and figures

- France has a population of nearly 65 million in 2010 and a birth rate (crude) of 13 per 1,000 people in 2009 (The World Bank 2011).
- The fertility rate in 2009 was 1.99 children per woman and was highest among women aged 30 to 34 years (Institut National de la Statistique et des Études Économiques 2011)

France has one of the lowest breastfeeding rates in Europe (Cattaneo et al 2005) with rates remaining steady up until 1998 (53%) and increasing slightly to 2003 (63%); (Blondel et al 2006; Vilian et al 2005). These percentages indicate all forms of breastfeeding, not just exclusive breastfeeding but also partial breastfeeding or mixed feeding, and referred to as “brut”. These percentages are calculated from surveys conducted during a one-week period in October (13 until 19 October) 2003 for those women whose birth has taken place after 22 weeks of gestation or newborns weighing at least 500 grams. Around 50% of the mothers were interviewed within 48 hours of the birth and 38% were interviewed on the third or fourth day postpartum (Bonet et al 2007).

Overall, there is a lack of epidemiological data on breastfeeding rates in France. The WHO Europe database (World Health Organisation Europe 2011), which stores a wide range of indicators related to and on breastfeeding, contained very little data on France. The most recent data collected on breastfeeding in France were completed in 2003 under the general survey titled “Enquête Nationale Périnatale” (ENP). This survey was implemented by the Direction de la Recherche des Etudes, de l’Evaluation et des Statistiques (DRESS) and the epidemiological research unit in perinatal health at the Institut National de la Santé et de la Recherche Médicale (INSERM) and conducted by the department Protection Maternelle et Infantile (PMI).

The ENP survey is not designed for the specific study of breastfeeding and therefore does not use the breastfeeding definitions outlined by WHO (despite the recommendations). In addition, the survey does not provide information about practices in maternity wards or specific data on the duration of breastfeeding.

It should be noted that the ENP surveys are currently the only available source of information about national breastfeeding trends. The 2003 survey by the ENP retrieved data on 15,375 infants from both metropolitan and out-mer regions of France and highlighted exclusive and mixed breastfeeding trends (Table 13). The Government has since disclosed that an additional survey was conducted in September 2010 and they foresee releasing the results in the second semester of 2011.

**Table 13: Breastfeeding (at birth) in France since 1981 until 2003 (Vilian et al 2005).**

|                          | <b>1981</b> | <b>1995</b> | <b>1998</b> | <b>2003</b> |
|--------------------------|-------------|-------------|-------------|-------------|
| Any breastfeeding “brut” | 54%         | 52%         | 53%         | 63%         |
| Exclusive breastfeeding  | 48%         | 41%         | 45%         | 57%         |

In practice, there are also health certificates available for infants at 9 and 24 months of age wherein questions are asked related to breastfeeding (exclusive and mixed feeding). However, these items are not taken up at the regional or national level. In 1999, the Coordination Française pour l’Allaitement Maternel (CoFAM) collected data from eight regional departments and found a decrease in the rate of breastfed infants in the first months (Coordination Française pour l’allaitement maternel (CoFAM) 1999). At five weeks, on average 30% of mothers have stopped breastfeeding while by ten weeks, 50% of mothers on average, no longer breastfeed (Coordination Française pour l’allaitement maternel (CoFAM) 1999).

In France, breastfeeding is mainly noted in women who are primiparous, at least 25 years old, non-French, from higher status occupational group or without occupation, and plan to deliver in a university hospital (Table 14) (Bonet et al 2007).

**Table 14: Breastfeeding according to maternal characteristic (Bonet et al 2007)**

| <i>Maternal characteristic</i> | <i>Number<br/>breastfeeding</i> | <i>%<br/>breastfeeding</i> |
|--------------------------------|---------------------------------|----------------------------|
| <i>Maternal age, years</i>     |                                 |                            |
| <25                            | 2,428                           | 57.4                       |
| 25–29                          | 4,638                           | 63.9                       |
| 30–34                          | 4,276                           | 63.5                       |
| >35                            | 2,096                           | 64.1                       |
| <i>Parity</i>                  |                                 |                            |
| 1                              | 5,572                           | 68.6                       |
| 2                              | 4,627                           | 57.8                       |
| 3                              | 1,839                           | 57.1                       |
| >4                             | 963                             | 61.2                       |
| <i>Nationality</i>             |                                 |                            |
| French                         | 11,580                          | 59.4                       |
| Other                          | 1,490                           | 86.4                       |
| <i>Maternal occupation</i>     |                                 |                            |
| Professional                   | 1,221                           | 80.8                       |
| Intermediate                   | 2,144                           | 73.4                       |
| Administrative, public service | 3,597                           | 61.6                       |
| Shopkeeper, shop assistant     | 1,699                           | 54.3                       |
| Self-employed                  | 329                             | 53.2                       |
| Service worker                 | 1,016                           | 54.1                       |
| Manual worker                  | 980                             | 48.5                       |
| None                           | 1,893                           | 61.3                       |

**Implementation of WHO Code**

Since the adoption of the WHO Code (1981) by the WHA, France has introduced some parts of these provisions in the Decree No. 98-688 of 30 July 1998. Furthermore, the EU Directive (2006/141/CE (2006)) concerning the feeding of infants (0 to 6 months) and following preparations (6 to 12 months) was transcribed into French law by the Decree of 11 April 2008.

Table 15 highlights those articles of the WHO Code which have been enacted in legislation. Notably, most of the laws enacted pertain to the use, distribution and advertising of infant formula yet they do not mention the other products outlined under the Scope (Articles 2 and 3). Since the implementation of the EU Directive, France has added an additional clause regarding the prohibition of advertising infant formula to the public.

**Table 15: Implementation of the WHO Code in France**

| <i>Article of the WHO Code</i>      | <i>Implemented</i>  | <i>Partially implemented/Not implemented</i>   |
|-------------------------------------|---|--|
| Articles 2 & 3: Scope               | Legislation (Law no. 94-6442) for infant formula.   | Companies tend to limit scope to infant formula alone when in fact the WHO Code includes follow-on milks, complementary foods, juices, glucose solutions etc.  |
| Article 4: Information & Education  | Legislation (Decree no. 98-688): Article 4.2 is fully replicated in Article 1 of the French Decree. | Article 4.3 is partially reflected in Article 2 of the French Decree 98-688. They add: <i>“Donations of equipment or material, for instructional or educational purposes, by manufacturers or distributors of infant formula can only be made upon the request of care facilities and agencies with a philanthropic, social and humanitarian cause”</i> . Article 4.3 opens a door to the healthcare system that may be exploited. |
| Article 5: General public & mothers | Legislation (Decree no.98-688): 5.1, 5.2, 5.3 is reflected in Articles 5 of French law.             | Legislation only mentions prohibition of infant formula in terms of advertising, distribution and samples<br>Article 5.1 opens the door for advertising for  |

|   |  |   |
|---|--|---|
|   |  | other breast-milk substitutes, teats, bottles etc.  |
| Article 6: Health care systems                                | 6.1–6.8 is partially reflected in Article 3 and 4 of the French Decree.  | Manufacturers and distributors can continue to supply free infant formula to public health services such as maternity, neonatology or paediatric wards.<br><br>Advertising of infant formula is allowed in print media aimed at health professions. |
| Article 7: Health workers                                     |  | Not implemented in legislation.   |
| Article 8: Persons employed by manufacturers and distributors |  | Not implemented in legislation.   |
| Article 9: Labelling  | Articles 9.1 and 9.2 are partially mentioned in Article 4 of the Decree and the Decree of 11 January 1994 which inhibits the use of humanised and formula and the representation of infant formula.  | Articles 9.3 and 9.4 are not mentioned in the French Decree.<br><br>Similarly, there is no mention of the labelling requirements for products other than formula.   |
| Article 10: Quality   | Article 10.1 is covered by the Conseil National de l’Alimentation (CNA) which is an independent advisory body in France that provides advice on food safety for consumers, quality food, information for consumers of food products (Decree No. 2009-1429 of 20 November 2009). This legislation allows any product, within its jurisdiction, to be seized by the public authorities.<br><br>For Article 10.2, France is a member of the Codex Alimentarius. |   |
| Article 11: Implementation & Monitoring                       |  | Not mentioned in the Decree.<br><br>The Service D’Information Alimentaire (SIA) de la Federation des entreprises du commerce et de la distribution acknowledges the receipt of violations.  |

In terms of the advertising, sales and product sampling, a penalty of fines for contravention of the fifth class exists (Article 5 of the French Decree Law no. 94-6442). This relates to:

1. the broadcast for infant formula in media other than print media aimed at health professions
2. the retail, distribution or free distribution of infant formula samples and engagement in any other practical promotions in favour of the direct sale of infant formula
3. the manufacturer or distributor supplying the public with free goods either directly or indirectly by the intermediary health services or their agents
4. the manufacturer or distributor of free material and the documentation related to infant formula.

Any of these acts may incur criminal liability for breaches of obligations under the Decree.

Some monitoring of compliance to the WHO Code has been undertaken by International Baby Food Action Network (IBFAN) and at times by the Association Information Pour l’Allaitement (IPA). A 2001 report by Roques on behalf of the IPA (Roques 2001) highlighted that in the magazine *Famili, Parents et Enfants* (one of the most widely disseminated magazines in France), two out of nine advertisements contained a product or an action for feeding young infants with breast-milk substitutes from commercial enterprises. The two

enterprises who mainly published advertisements were Danone and Nestlé. The report indicated that in one edition of 150 pages, mothers would view on average:

- 2.5 pages of advertisements on follow-on milk
- 2 pages of advertisements for “growing milk”
- 2 pages of advertisements for dummies.

In this case, advertisements for bottles, teats and follow-on milk in France do not respect the WHO Code and they should not be promoted to the general public.

In addition to this, the Service D'Information Alimentaire de la Federation des Entreprises du Commerce et de la Distribution (SIA) has published some accounts of violations of the WHO Code in 2004 (Service d'Information Alimentaire de la Federation des Entreprises du Commerce et de la Distribution (SIA) 2004). Violations of the WHO Code are reported by IBFAN and it appears that the SIA provides a platform for which IBFAN findings can be broadcast to the general public. These violations do not pertain solely to France but mostly to violations occurring in other countries (including former French territories).

Overall, there does not appear to be large-scale monitoring of the WHO Code in France. This has been iterated by the International Association of Infant Food Manufacturing (IFM), founded in 1984 in France, which is a trade association that represent companies who manufacture and market infant foods worldwide (<http://www.babymilk.com>). This association promotes legislation and science-based regulation of the infant food industry at the regional, national and international level; promotes high ethical standards for the infant food industry; and provides information and education to health workers so they can instruct mothers on safe and adequate nutrition for infants. The IFM emphasises that it the responsibility of the infant food manufacturers to monitor their own marketing practices, while third parties are expected to inform manufacturers and governments of practices that do not comply with the WHO Code (International Association of Infant Food Manufacturers 2002). The IFM has clearly stated the need to establish government-sponsored monitoring bodies that could clarify national laws and ensure better compliance with the WHO Code.

### **Complementary policies**

There are several complementary policies and action plans which have been initiated to support the WHO Code, in addition to the creation of support networks.

### **Implementation of the BFHI**

In France, the label of BFHI is given upon:

1. implementing the 10 conditions outlined by UNICEF and WHO
2. respecting the WHO Code by eliminating the promotion of the free distribution and reduced price of breast-milk substitutes
3. implementing a system of retrieving information on the nutrition of newborns to regularly follow the statistics of breastfeeding
4. recording an increased amount of breastfeeding (superior to 75%) from birth to leaving the maternity ward
5. putting into place networks outside of the institution to enable an optimal way to provide pre- and postnatal information.

The publication and broadcast of this initiative by the French Committee for UNICEF first took place in 1993. The Committee was subsequently taken over by the CoFAM in 2000. In addition to CoFAM, the Agence National d'Accréditation et d'Evaluation en Santé (ANAES) and the Haute Autorité de Santé (HAS) equally recommended the BFHI.

At the end of 2009 there were 10 hospitals labelled as BFHIs by CoFAM and another 27 hospitals in the process of obtaining the label.

### **Government policies and initiatives**

The promotion of breastfeeding in France falls under the objectives of the Programme National Nutrition Santé (PNNS) whose “Action Plan 2010” (Turck 2010) states the need to put into place:

1. a national coordinator for promoting breastfeeding
2. a national committee for breastfeeding (i.e. a Conseil National de l'Allaitement (CNA)). This national committee would represent the Ministry of Health and their agencies (Agence Française de Sécurité Sanitaire des Produits de Santé (AFSSAPS), Institute National de Prévention et d'Éducation pour la Santé (INPES)), competent professions in breastfeeding and representatives from associations with the objective to promote breastfeeding
3. a regional agency for health (Agencies Régionales de Santé (ARS))
4. a qualified reference person on each maternity ward. The specific person would put together the personnel required to help each mother initiate breastfeeding and provide the best conditions possible for this to occur
5. a consultant from day 8 to 15 which would be 100% reimbursed
6. an extension of maternity leave from 10 to 14 weeks
7. information to the public and employers about the benefits of breastfeeding
8. a system of national epidemiological surveillance. This final mission is the objective of the Institut de Veille Sanitaire (InVS) in liaison with the ARS and aims to collect data on the initiation and duration of breastfeeding.

Clinical guidelines on breastfeeding initiation and continuation during the first six months of life are published by the ANAES under the HAS (Agence Nationale d'Accréditation et d'Évaluation en Santé 2002). These guidelines provide practical advice with practices to encourage breastfeeding and to assist in preventing and solving breastfeeding problems. Additional guidelines or initiatives are:

- the healthcare professional guidelines published by the PNNS (2010)
- guidelines outlined for paediatricians and published by the HAS in 2006 (*Haute Autorité de Santé 2006*). These guidelines provide the processes involved to support breastfeeding (four phases), the clinical pathway (four phases) and recommendations for professionals to bring about exclusive breastfeeding. It also includes measures to evaluate healthcare professionals.
- a national nutrition program launched in 2000 by the Comité de la Santé Publique (Le Haut Conseil de la santé publique 2000).

In addition to these programmes and policy plans, exclusive breastfeeding for the first six months of an infant's life has been recommended by the HAS (Agence Nationale d'Accréditation et d'Évaluation en Santé 2002), Société Française de Pédiatrie (SFP), Association Française de Pédiatrie Ambulatoire (AFPA), Académie Nationale de Médecine (that made a statement in 2009 requesting action at schools to improve knowledge about breastfeeding), Collège National des Sages-Femmes (CNSF) (i.e. midwives) and Collège National des Gynécologues-Obstétriciens Français (CNGOF).

#### **Other complementary policies**

*Coordination Française pour l'Allaitement Maternel (CoFAM) (<http://coordination-allaitement.org/>)*

This association promotes breastfeeding in line with the BFHI. They organise events such as

- the global week of breastfeeding, which is held annually in October in France
- national breastfeeding days every two years in a city in France (in Brest in 2006).

These initiatives have recently been endorsed by the PNNS (since 2006). CoFAM also aids in assessing the situation of breastfeeding in France in the form of national or regional surveys.

*La Leche League (LLL) France (<http://www.lllfrance.org/>)*

A key support group that informs consumers about the WHO Code and takes certain measures to protect it in France. It has 330 volunteer facilitators in the French territories.

*L'Information Pour l'Allaitement (IPA) (<http://www.info-allaitement.org/>)*

This association disseminates scientific information, participates in activities to support breastfeeding and at times monitors the implementation of the WHO Code.

*Co-naître (<http://www.co-naitre.net/>)*

This is an institute which provides professional education, research information and discussion surrounding birth.

*Société Européenne pour le Soutien à l'Allaitement Maternel (SESAM) (<http://www.allaite.org/>)*

This society aims to support breastfeeding for mothers through information campaigns: press, mailing and the distribution of documents but also to professionals of public and private maternity hospitals.

In light of these various initiatives, the impact of the promotional policies has not yet been assessed in France due to the lack of systematic data collected to date (Bonet et al 2010). In addition, programmes promoting breastfeeding were introduced only in the early 2000s. There does not appear to be any programmes or policies which act directly against the promotion of the WHO Code.

### Workplace

With regards to paid parental leave, the European Commission proposed a modified directive (CEE no. 92-85) in 2008 concerning an improvement in the security and health of pregnant women workers. It stated that Member States should include an 18-week maternity cover. In France, maternity leave is currently set at 16 weeks, in general six weeks pre- and 10 weeks post-partum (legislative texts L1225-1, L1225-2, L1225-3, L1225-4, L1225-5 and L1225-6 under French law;(Turck 2010)). The leave is at the parent's usual wage rate (Ray 2008). The PNNS has recommended that maternity leave should be prolonged to 14 weeks postpartum. Paternity leave is currently set at 11 days (consecutive) or 18 days (consecutive) in the case of multiple births (legislative texts L1225-35 and L1225-36 under French law).

In addition, parents have the right of job-protected leave or part-time arrangements for the first three years after a child's birth or adoption (Ray 2008). This can occur in three one-year increments and can be used by either parent or both together. There are a number of social schemes in place such as the *Prestation d'Accueil du Jeune Enfant* (PAJE) which allows parents to use various time arrangements and payment schemes such as a basic family allowance of €170.06 per month for the first three years or the *Complément de Libre Choix d'Activité* (CLCA) which can provide some monetary support depending on the time at which the parent works (e.g. €538.72 per month if they take full leave, €409.64 per month if they work no more than half-time and €309.77 per month if they work between 50 and 80% of a full work schedule (Ray 2008).

The INSEE provides detailed information about the number of women working full-time and part-time from 2008 (see Table 16).

**Table 16: Workforce participation rates of women in France derived from INSEE**

|                        | 2008       |       | 1999       |       |
|------------------------|------------|-------|------------|-------|
|                        | Number     | %     | Number     | %     |
| Total                  | 26,151,091 | 100.0 | 23,218,060 | 100.0 |
| Employed               | 22,992,226 | 87.9  | 20,303,222 | 87.4  |
| Women & full-time work | 11,303,197 | 43.2  | 9,493,135  | 40.9  |
| Women & part-time work | 4,138,012  | 15.8  | 3,748,378  | 16.1  |
| Women & employed       | 15,441,209 | 59.0  | 13,241,513 | 57.0  |

Approximately 49.2% of women employed have children under three years of age and 35% of children between two to three years of age enter infant school (*crèche*) (Organisation for Economic Co-operation and Development 2006).

In addition to the OECD and INSEE data, the ENP from 2003 provides a guide to the current workforce participation rates for women who are concurrently breastfeeding in France (Table 17).

**Table 17: Maternal employment status at the time of interview (Bonet et al 2007)**

|                            | N      | % breastfeeding |
|----------------------------|--------|-----------------|
| Total                      | 13,186 | 62.6            |
| Maternal employment status |        |                 |
| Employed                   | 7,951  | 63.7            |
| Unemployed                 | 1,287  | 59.4            |
| Housewife or other         | 3,697  | 61.1            |

Although the ILO Maternity Protection Convention has not been ratified in French law, the ILO's recommendation of a maternity leave of 18 weeks has been forwarded to the Senate on 15 June 2009. The work code in France (revised in 2007 with a Decree in 2008) follows the main requirements outlined by the

ILO which permit the right for a woman to breastfeed at the workplace. France has implemented a number of laws consolidating the ILOs convention and over 20 legislative articles exist in particular articles pertaining to:

1. *Protection of pregnancy and maternity* (L1225-1, L1225-2, L1225-3, L1225-4, L1225-5, L1225-6)
2. *Arrangements of breastfeeding* (L1225-30; formerly known as L224-2)
3. *Paternity leave* (L1225-35, L1225-36)
4. *Authorisations of absence and maternity leave* (L1225-16, L1225-17, L1225-18, L1225-19, L1225-20, L1225-21, L1225-22, L1225-23, L1225-24, L1225-25, L1225-26, L1225-27, L1225-28)
5. *Interdiction of employment during the pre- and postnatal period* (L1225-29)
6. *Particular provisions of breastfeeding* (L1225-30, L1225-31, L1225-32, L1225-33)

Childcare arrangements, for children under one year of age, appears to be through *assistantes maternelles* who care for 18% of children, *crèches* which accommodate 8% of children and other licensed arrangements provide care for 6% of children (Organisation for Economic Co-operation and Development 2006). France appears to have a wide range of contributions to support childcare services; these include government subsidies, employer support and tax allowances or credits.

### **Culture**

In view of the policy content and sociological literature published in France, it appears that society and cultural norms have a large impact on the practice of breastfeeding. The attitudes towards breastfeeding in France are quite dissimilar to their European counterparts despite their similar social systems.

In particular, a cohort comparison study conducted in 2007 highlighted the motivation to breastfeed differs greatly among some European countries. For instance, bottle-feeding is considered as practical by French women while breastfeeding is perceived as practical by German mothers (Walburg et al 2007). It has also been indicated that encouragement to breastfeed is quite rare in France compared to Germany (Walburg et al 2010). Both countries provide the same duration for maternity leave yet have dissimilar breastfeeding rates (France 63%, Germany 91%) (Walburg et al 2010).

A number of factors, evident in a French population, appear to influence the decision on whether or not to breastfeed (Hernandez & Callahan 2008). The population studied showed that breastfeeding was likely to be endorsed by French women in order to fulfil gender roles, prevent health risks and if they received external encouragement. Breastfeeding was less likely to take place if French mothers had a negative attitude, a lack of support and reasons for giving an infant formula.

Furthermore, as the “bottle” has become the norm in France over several generations, a number of programmes and campaigns by the Government have been initiated. The action plan outlined by the PNNS states that society, in general, needs to encourage French women to start breastfeeding and have the confidence to continue with it. In particular, breastfeeding in public in France is a delicate (perceived as negative) subject and has contributed as a barrier to breastfeeding and its continuation. To encourage breastfeeding irrespective of location, the Government intends to use different communication strategies (i.e. posters, television spots etc.) displaying positive representations of breastfeeding and attitudes towards women breastfeeding. There is also the drive to educate children at secondary school about the positive role of breastfeeding which may contribute to the decisions made by the parents in the future.

For disadvantaged populations, the French Government has put together four proposals to help improve the prevalence of breastfeeding. These include:

1. Reduce the isolation of families by encouraging the use of *mère à mère* discussion groups which is a non-professional group of volunteers from the same social background (i.e. peer groups using the PRALLL (Programme Relais Allaitement de La Leche League) model).
2. Stop the possible distribution of free formula in these populations and instead initiate/promote breastfeeding by having breastfeeding volunteers and associations with health professionals who are experts on the subject.
3. Set up services for monitoring care and social assistance after the mother is released from hospital.
4. Revise the repayment terms of equipment for breastfeeding; this would be supporting the costs (possibly 100%) associated with the use of breast pumps.

### Health system and health worker training

The public health system in France is a centralised system. The financing of the healthcare system is supported by employers and employee contributions where 20% of an employee's gross salary is deducted to fund the social security system. The standard of care in public and private hospitals is similar.

A number of systems have been implemented to aid high-level training of healthcare professionals in France. Firstly, the HAS, in collaboration with the Association Française de Pédiatrie Ambulatoire (AFPA), has developed guidelines for paediatricians and evaluation forms so that their practice in guiding aspects of breastfeeding can be audited. This was initiated in June 2006.

In addition, the Conseil National de l'Allaitement (CNA) have brought together a group of experts to help harmonise course content (in accordance with the HAS guidelines) and improve the training of healthcare professions: general practitioners, gynaecologists/obstetricians, paediatricians, midwives, nursery nurses, nurses, childcare assistants, aides, dieticians, pharmacists and social service assistants.

Furthermore, the action plan outlined by the working group for the PNNS (Turck 2010) has highlighted a number of areas requiring improvements:

- initial training by GP: currently the number of hours dedicated to breastfeeding is limited; the CNA will support the development of a minimum standard of knowledge about breastfeeding for medical students
- graduate training of obstetricians/gynaecologists and paediatricians will include advanced courses (theoretical and practical) on breastfeeding
- consistent training of midwives across France: currently the volume of education and expertise developed in breastfeeding varies greatly across the 35 midwifery schools; the content of teaching across schools should be harmonised
- curriculum revised for nursery and childcare assistants: there will be further development on the practical conduct for breastfeeding initiation and continued duration
- curriculum revised for nurses so that breastfeeding is addressed
- program training of dieticians particularly on the role of the infant and breastfeeding
- nutrition education will be required for pharmacists who have an advisory role to the public
- social workers need to be educated on the value of breastfeeding and the existing regulations so that women can be fully informed when dealing with employers (and especially for immigrant women).

The action plan also highlighted the need for continuing education for all staff related to maternity services.

### Summary

Breastfeeding rates in France have clearly increased since 1981 nevertheless their rates are still one of the lowest, at 63% ("brut"), in Europe. The ENP surveys which take place every six to seven years provide very little specific data on breastfeeding particularly duration. The next set of survey results is due for dissemination sometime in the latter half of 2011.

It has been suggested that the low breastfeeding rates in France may be partly due to the delays in the support of breastfeeding. Some of the provisions of the WHO Code were not adopted until 1998 (Decree no. 98-688 of 30 July 1998) and the latest legislation was enacted in 2008. The legislation partially covers most of the articles of the Code (excluding Articles 7, 8 and 11). There appears to be small-scale monitoring of compliance to the WHO Code in France by the IPA but the Infant Formula Manufacturing industry has requested that the government implement a government-affiliated monitoring body to undertake this task.

In addition to the delayed legislation, there has also been a slow uptake of the Baby Friendly Hospital Initiative with only 10 hospitals with a BFHI label (another 27 hospitals are in the process of going through assessment) according to a PNNS report from 2010. Subsequently there have been "action plans" outlining the need to appoint a national BFHI co-ordinator.

Although France has not ratified the ILO Convention, they have implemented a number of legislative texts including the right of a mother to breastfeed at the workplace (one hour per day), paid maternity leave for 16 weeks and the right to return to the same job after three years. Despite these policies in place, the cultural norm in France still appears to be bottle-feeding in lieu of breastfeeding. There are numerous non-governmental agencies advocating breastfeeding and perhaps change in breastfeeding behaviour may emerge once the BFHI, national coordinators and monitoring agencies come into effect.

## GERMANY

### Facts and figures

In Germany one of the main issues for the Government in terms of infants and family policy is the concern that more and more women remain childless. In 2008, according to the Federal Statistical Office (<http://www.destatis.de>) 21% of the 40 to 44-year-old women had no children; this was in contrast to 16% of women born 10 years earlier and 12% of women born between 1944 and 1948. Of the women between 35 and 39 years in 2008, 26% had no children. Childlessness among higher educated women is even more pronounced and has become so much of an issue that a special census was undertaken to ascertain the state of births and childlessness in Germany as national statistics have been wanting in this area. The most recent demographic data indicate that:

- in 2009 there were 665,126 live births, equating to a TFR of 1.36, or 8.1 children per 1,000
- the mean age of women in Germany expecting their first child was 28.5 years in 2008, compared with 27 years in 2001.

Data on breastfeeding rates are also lacking in Germany. Only sporadic data on breastfeeding have been available for the last 40 years (Kersting & Dulon 2002). The SuSe study conducted in 1997/98 is considered to be the first nationwide survey on breastfeeding and infant nutrition in Germany. It has also been one of the main sources of information regarding breastfeeding in Germany despite it being conducted more than 10 years ago. The findings were stratified into two groups: western mothers and eastern mothers. In the western group 88.7% of mothers starting breastfeeding at birth; this dropped to 60.5% exclusive breastfeeding at two months and 13.5% at six months. In comparison 97.1% of eastern mothers began breastfeeding, but by two and six months only 52% and 9.3% were exclusively breastfeeding.

In 2004, the Federal Institute for Risk Assessment launched a study in two Berlin clinics on the breastfeeding behaviour of women after giving birth. Little is published from this study; however it is stated that similar results were found in the Bavarian Breastfeeding Study which was undertaken by the Bavarian Regional Office for Health and Food Safety in 2005 (Kohlhuber et al 2008). Data from the Bavarian cohort study indicated that:

- around 90% of infants are breastfed in Germany during the first days after they are born.
- the breastfeeding rate (any breastfeeding) dropped to 70% after only two months and to 60% after four months.
- only about 45% and 40% of infants were exclusively breastfed at the age of two and four months respectively.
- at six months around 20% of mothers were exclusively breastfeeding compared to 51% of any breastfeeding.

From the 2005 survey, factors found to affect initiation include:

- Education: Mothers with a higher education level were more likely to breastfeed.
- Age of the mother: It was found that the younger the mother was when she gave birth the less likely she was to initiate breastfeeding, or to have breastfed in public.
- Previous experience: mothers who had previously breastfed were more likely to breastfeed subsequent children.

### Implementation of WHO Code

In Germany, the interpretation and implementation of the WHO Code is through law rather than self-regulation. The Code was first given legal effect in the Germany in 1994 with the transposing of the 1991 Directive 91/321/EEC into German law: Gesetz über die Werbung für Säuglingsanfangsnahrung und Folgenahrung (SNWG). The EU directive outlines the compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as under 12 months of age). It also outlines restrictions on advertising and the provision of information on infant and young child feeding to pregnant women and mothers of infants and young children. With the subsequent EU Directive 2006/141/EC on infant formulas and follow-on formulas, this legislation was recast into the Diaetverordnung (Verordnung über diaetetische Lebensmittel / Ordinance on dietary foodstuffs). This Regulation does not have the same legal standing as the original 1994 law. The Ordinance on dietary foodstuffs regulation also only details labelling and compositional requirements. Monitoring of the Diaetverordnung falls under the responsibility of

the individual “states” (Laender) so that each of the 16 states has its own process and mechanism of handling complaints and violations.

**Table 18: Implementation of the WHO Code in Germany**

| <b>Article of the WHO Code</b>                                | <b>Implemented</b>  | <b>Partially implemented/Not implemented</b>  |
|---|---|---|
| Article 2: Scope  | Regulations refer to compositional and labelling requirements for infant formulae and follow-on formulae intended for use by infants (defined as less than 12 months of age). | The Regulations have a very limited scope and apply only to infant formula and follow-on formula rather than the whole range products covered by the International Code (including all breast milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc).<br>Restrictions on advertising and the provision of information on infant and young child feeding to pregnant women and mothers of infants and young children are not discussed. |
| Article 4: Information & Education                            |   | Not implemented in regulations  |
| Article 5: General public & mothers                           |   | Not implemented in regulations  |
| Article 6: Health care systems                                |   | Not implemented in regulations  |
| Article 7: Health workers                                     |   | Not implemented in regulations  |
| Article 8: Persons employed by manufacturers and distributors |   | Not implemented in regulations  |
| Article 9: Labelling  | Section 22 closely mirrors article 9.   | Regulations only apply to infant formula and follow-on formula rather than the whole range products covered by the International Code (including all breast milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc).  |
| Article 10: Quality   | Section 14 Composition regulations include strict limits on pesticide residues.   |   |
| Article 11: Implementation & Monitoring                       |   | Formal monitoring of all aspects not covered in regulations.  |

### Complementary policies

#### **Implementation of the Baby Friendly Hospital Initiative (BFHI)**

It is unclear when the BFHI commenced in Germany; however data collected for the WHO Collaborating Centre for Maternal and Child Health in 2003 (EU Project on Promotion of Breastfeeding in Europe 2003) indicate that there were 18 BFH out of a possible 1,100 maternity hospital units, with only 3% of births occurring in a BFH. A subsequent article published in German in 2010 (Haager-Burkert et al 2010) states that in 2009 only 37 certified clinical with maternity units were registered, corresponding to around 4% of all German maternity facilities. The study looked at the perceived difficulties for clinical staff and maternity units in obtaining Baby Friendly certification. Both the certified clinics and those preparing for BFHI certification perceived step 6 (exclusive breastfeeding) and step 9 (no use of artificial teats or pacifiers to breastfeeding infants) of the “10 steps to successful breastfeeding” to be the biggest obstacles. A lack of knowledge and acceptance of breastfeeding by mothers and staff also played a role. In 2011 there are 65 BFHI in Germany according to the German BFHI website <http://eltern.babyfreundlich.org/willkommen.html>

**National Committee on Breastfeeding**

As per the Innocenti Declaration, a Breastfeeding Committee was set up in 1994. It currently sits within the Federal Institute for Risk Assessment (BfR). The Institute was set up in November 2002 and is responsible for the preparation of expert reports and opinions on food safety. The aims of the Committee are to advise the federal government on initiatives to increase breastfeeding and provide practical recommendations on breastfeeding issues for doctors, midwives, hospital staff and mothers. Such recommendations include the following which corresponds to the 2008 WHA resolution (61.20):

*"Infant formula can replace breast milk from birth onwards and like breast milk is suitable as the sole source of food for the first four to six months. After that infant formula plus weaning food can be given throughout the first year of life. Follow-on formula can replace breast milk at the earliest from the fifth month onwards. It is not suitable from birth onwards as it is not adapted to the needs of the very young infant. There is no compelling reason to switch from infant formula to follow-on formula. Weaning food is the name for all dietary foods intended specifically for infants (and small children) which should supplement the diet with breast milk or breast substitute products at the earliest from the 5th month and at the latest from the 7th month onwards."*

**Workplace**

Of the approximately 38 million people aged 15–64 in paid employment in Germany, women have a participation rate of 66% compared to 76% for men. Women are more likely to work part-time than men, 45% compared to 9% (Massarelli & Wozowczyk 2010). The rate of women working part-time in Germany is higher than for most other EU countries. It has been suggested that this is because of the structural difficulty for women to combine labour force participation and childrearing (Fagnani 2007). While German policy has always promoted the notion of family; it has been the traditional family model of the stay at home mother and the male breadwinner (see Table 19). This model is reflected in the German taxation law and the lack of childcare facilities for women returning to work is also indicative of this view.

**Table 19: Employment patterns in households of couples with children under six**

| <i>Employment pattern</i>       | <i>%</i> |
|---------------------------------|----------|
| Man full-time, women full-time  | 15.7     |
| Man full-time, women part-time  | 23.1     |
| Man full-time woman not working | 52.3     |
| Neither man not woman working   | 8.9      |
| Total                           | 100      |

The Government has recognised this as a barrier and a possible cause of declining birth rates and has recently begun implementing a range of changes to childcare policy and parental leave and benefits. Under the German Maternity Protection Act women are entitled to 14 weeks paid leave. This includes six weeks to be taken before the birth (unless the female employee explicitly declares they are able to perform work) and up to eight weeks after a normal birth – 12 weeks if the baby is born prematurely. Upon return to work women are entitled to breastfeeding breaks, without loss of salary.

In 2006 the Germany parliament passed the Federal Parental Benefit and Parental Leave Act (Parental allowance "Erziehungsgeld"). This law remodelled the existing paid parental leave system to be more akin to Scandinavian systems in the hope that it might increase the fertility rate. The parental allowance is paid to fathers and mothers for a maximum of 14 months, and can be divided freely between them but each partner must take at least two months. Under the new system, a mother or a father gets 67% of their net income (based on the last 12 months before the birth) however those with a very high income are considered illegible. The maximum payable is €1,800 and the parent requesting the paid parental leave must not work more than 30 hours a week after the birth. If there is no reduction of working time then only €300 can be granted which is the same amount for those who have not worked before the birth.

Under the Federal Parental Benefit and Parental Leave Act, parents are also allowed to take unpaid leave for the care and upbringing of a child until the age of three years (Parental leave "Elternzeit"). This can be taken as either shared leave (both parents take time off) or as part-time leave. A proportion of parental leave (up to 12 months) is also able to be transferred to the period between the third and eighth birthday of the child, for example, during the first school year or for parents with more than one child.

In summary:

- Women are entitled to 14 weeks paid leave: 6 weeks before the estimated birth and 8 weeks after birth.
- Under section 7 of the Maternity Protection Act breastfeeding mothers are entitled to take time of off work to breastfeed/express milk (2 breaks of 30 minutes or one 60-minute break).
- Employers may also be required to provide a suitable area to facilitate breastfeeding.
- The Maternity Protection Act also prohibits discrimination and unfair dismissal during pregnancy and up until four months after giving birth.
- Both parents are also entitled to receive a parental allowance for up to 14 months.
- The Federal Parental Benefit and Parental Leave Act grants unpaid leave for up to three years and allows the employee to return to work after three years with the same conditions.

### **Childcare arrangements for babies under one year of age**

Since 1996, parents are legally entitled to childcare for half a day for children ages 3 to 6 in a public day care centre. This entitlement means that children will receive at least three hours outside the home, which may facilitate part-time work, but does not allow for full-time employment of the main care-giving parent (Honekamp 2008). The situation for children under age three is less advanced; nationwide there is space in childcare for only 22.1% of all children under the age of three. In 2007 the German Government announced that the number of childcare spaces for children under the age of three was to triple by the year 2013, so as to provide spaces for 35% of all children in that age group. A recent UNICEF (2008) report highlighted that only 10% of children 0–3 years were enrolled in childcare, well below the OCED average of 25%. As a result many women, if they choose to return to work, would need to rely on family or friends for childcare. For these families a cash payment of €150 per month is available to support their at-home care-giving efforts. However, as of the beginning of August 2013, parents will be able to claim a legal right for a childcare space for their child under age three (the same already exists for children ages three to six).

### **Culture**

Until recently, the male breadwinner model, with the wife devoted entirely to housework and child-rearing, permeated all family policy in Germany (Fagnani 2007). As such the majority of Germans considered that the best environment for children was at home with their mother. Little has been published around attitudes towards breastfeeding in Germany. What has been published is in agreement with other findings from studies elsewhere that socio-economic status, age and education have an influence on breastfeeding rates (Dulon et al 2001).

Interestingly the concept of “family” is very much promoted in Germany. In 2001 Germany spent €180 billion on family policy which amounted to 9% of the gross domestic product (GDP). About one-third of that sum was spent on family-related tax policies and two-thirds on income transfers to families. This means that in Germany the Government pays around 46% of the cost of children for their families. Despite these measures, birth rates have remained low and many mothers perceive childrearing as a burden and that work and family are incompatible (Honekamp 2008). The Government has tried to change this attitude with a range of measures that seek to assist families with work/life balance; however, it is yet to be seen whether this will translate into a higher birth rate.

### **Health system and health worker training**

Germany has a universal health system. By law residents are required to have health insurance and this can either be under a public or private system. Public “statutory” health insurance is run by non-profit organisations, with premiums based on salary and employees and employers contributing about half each. The statutory funds are also funded in part by taxes to support the coverage of people who have never been employed or paid into the system. Some people can opt out of the public statutory funds and be covered by private “for-profit” insurance companies. Only about 10% of the German population (about 8.5 million people) is covered by private insurance.

As mentioned previously, Germany has a number of accredited BFHs and so health professionals would have access to the training associated with this initiative. However very little is documented about the training of health professionals in Germany in regards to breastfeeding. From the 2008 revised European Blueprint For Action (EU Project on Promotion of Breastfeeding in Europe 2008) it is noted that most EU countries do not have breastfeeding healthcare policies that meet current best practice standards as set out in the Global Strategy on Infant and Young Child Feeding. The use of quality-assessed courses for breastfeeding training is also low. The breastfeeding courses for pre- and in-service that do exist need to have their effectiveness evaluated and their content revised or revamped as necessary. It is probably reasonable to assume that these

statements are representative of the German healthcare system given that Germany was not one of the countries that had followed the recommendations of the first Blueprint for action.

### **Summary**

Compared to other EU countries, initial breastfeeding rates in Germany appear to be quite high. Good quality data however are lacking. There is no formal or systematic data collection for infant feeding in Germany and so what is available may not be an accurate reflection of breastfeeding behaviour.

Implementation of the WHO Code was initially given legal effect in Germany in 1994 with the transposing of the 1991 EU Directive 91/321/EEC into German law. This law was narrower in scope than the WHO Code and has since been amalgamated into Regulations concerning dietary foods. The main breastfeeding initiative in Germany appears to be the BFHI. A National Committee on Breastfeeding is in place but it is unclear how active the Committee is in terms of breastfeeding.

Germany appears to be going through a period of change in terms of family policies given the declining fertility rate. This has seen a significant shift in terms of child care services and parental leave entitlements. However it may be some years before these policies have an impact on national demographics and perhaps when they do breastfeeding will come more to the forefront in German health and family policy.

## REPUBLIC OF IRELAND

### Facts and figures

Ireland has the highest fertility rate in the EU yet one of the lowest breastfeeding initiation rates in the developed world. The rate of breastfeeding, both exclusive and non-exclusive is well below the WHO recommendations. Figures from the 2009 Perinatal Statistics Report (Health Research and Information Division 2011) show:

- 76,021 births were notified to the National Perinatal Reporting System in 2009.
- The birth rate was 17.0 per 1,000 population (corresponding to a TFR of 2.1), compared to 14.4 per 1,000 population in 2000.
- The average age of women giving birth was 31.3 years in 2009, an increase from 30.2 years in 2000.
- Over 27% of women giving birth were aged 35 years or older, up from 22% for this age group in 2000; 3% of women giving birth were aged 19 years or less, compared to almost 6% in 2000.
- Of all women giving birth in 2009, 42% gave birth for the first time, with an average age of 29.1 years for first time mothers.

Following the ratification of the International Code of Marketing of Breast-milk Substitutes, a series of surveys were commissioned by the Health Education Bureau to monitor the national incidence of breastfeeding (National Committee to Promote Breastfeeding 1994). National figures from 1984 to 1990 reveal that the incidence of breastfeeding at discharge remained more or less static in the region of 30% (31.8% in 1984, 33.9% in 1986 and 31.7% in 1990), increasing to 38% in the year 2000. In the most recent of these reports (Health Research and Information Division 2011) over 45% of babies were reported to be exclusively breastfed at discharge from hospital. However, this is still below international averages of other developed countries.

One of the problems in Ireland is the lack of high-quality breastfeeding and infant feeding data (Tarrant & Kearney 2008). Although several studies have been conducted to examine breastfeeding rates and the issues surrounding breastfeeding in Ireland, many of these studies have been criticised for the small number of participants, variation in infant ages and the bias towards mothers of higher socio-economic status. In fact in 30 years, only three nationally representative infant feeding studies (Health Service Executive 2008; McSweeney 1986; McSweeney & Kevany 1982) have been carried out in Ireland, reflecting the extent to which breastfeeding rates have been under-studied relative to the ongoing problem of the persistently low breastfeeding rates.

To address the deficit in data the Health Service Executive commissioned a three-phase study in 2008 to examine the infant feeding in Ireland to determine the rate and duration of breastfeeding; the factors influencing women to breastfeeding; and the reasons given by women for stopping breastfeeding (Health Service Executive 2008). The results from this study indicate that:

- Over 50% of women put the baby to the breast initially after birth.
- For 68% of babies this first feed took place within one hour of birth.
- Women who had a caesarean section were more likely to have discontinued breastfeeding at discharge than those who had a normal birth.
- By 48 hours (or on discharge), 42% of women were exclusively breastfeeding their babies, with a further 13% breast and bottle-feeding.
- At 3–4 months, 19% of women were exclusively breastfeeding their babies with a further 15% partially breastfeeding (combination of breast and formula or breast and water/juice).
- Over 45% of mothers at 3-4 months had given their baby something other than breast or formula milk for example water, baby rice, fruit or juices.
- At 6–7 months, 2.4% of mothers who had breastfed at birth were still exclusively breastfeeding with 9% partially breastfeeding.

From the 2008 survey, factors found to affect initiation include:

- Socio-economic status: Professional managerial and technical workers were more likely to initiate breastfeeding than those in non-manual, semi-skilled, skilled or manual employment. Introduction of food or fluids was also more common among mothers from lower socio-economic groups.
- Age of the mother: It was found that the younger the mother when she gave birth, the less likely she was to initiate breastfeeding, or to have breastfed in public.

- Knowledge of the benefits of breastfeeding: Mothers who could cite the health benefits of breastfeeding were more likely to breastfeed their infants.
- Previous experience: Mothers who had previous unsatisfactory breastfeeding experience were less likely to breastfeed their infants.
- Ethnicity: Only 50% of Irish women compared with 76% of non-Irish women initiated breastfeeding.
- Birth order/parity: Mothers who were having their first baby were more likely to breastfeed than bottle-feed

### Implementation of WHO Code

Ireland's response to the International Code of Marketing of Breast-milk Substitutes and subsequent relevant World Health Assembly (WHA) resolutions was to set up a voluntary code of practice in 1991 for the marketing of infant formulas (National Committee on Breastfeeding 2005). This code was based on the WHO Code but was drawn up by industry representatives and was very limited in terms of restrictions on advertising and sales, sponsorship and inducements, product sampling, quality and labelling requirements.

This was replaced by the transposing into Irish law of the European Communities (Infant and Formulae and Follow on Formula) Regulations Directive 1999/21/EC. This has since been updated to the European Communities (Infant Formulae and Follow-on Formulae) Regulations 2007 (S.I. No. 852 of 2007) and the European Communities (Infant Formulae and Follow on Formulae) (Amendment) Regulations 2009 (SI No 209 of 2009).

The above Regulations detail compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as less than 12 months of age). They also outline restrictions on advertising and the provision of information on infant and young child feeding to pregnant women and mothers of infants and young children. As such the main articles of the WHO Code covered by these regulations are Article 5: The general public and mothers and Article 9: Labelling. The regulations also apply only to infant formula and follow-on formula rather than the whole range of products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.).

Monitoring and enforcing legislation is the responsibility of the Food Safety Authority of Ireland (FSAI) and the Health Services Executive health areas, acting as its agents. In 2001, a guidance document for regulatory authorities, industrial manufacturers, marketing organisations, health professionals and other interested parties was published to assist with the implementation of the rules governing the composition and marketing of infant formulas and follow-on formulas (Food Safety Authority of Ireland 2001). However a search on the FSAI website ([http://www.fsai.ie/enforcement/order/enf\\_criteria.asp](http://www.fsai.ie/enforcement/order/enf_criteria.asp)) indicates that there are yet to be any prosecutions; this is despite reports from non-profit organisations of non-compliance with the regulations (<http://www.cmn.ie/cmnsitenew/training/sinead/report.htm>). The 2003 Interim Report of the National Committee on Breastfeeding also describes the results of an audit conducted among new mothers in the Midland Health Board in 2002 which found that 34% of respondents received commercial packs (gift packs from manufacturers) by a hospital staff member and 81% had their names and addresses taken by the manufacturer.

**Table 20: Implementation of the WHO Code Ireland**

| <b>Article of the WHO Code</b>     | <b>Implemented</b>  | <b>Partially implemented/Not implemented</b>   |
|------------------------------------|---|--|
| Articles 2 & 3: Scope              | Scope (Article 2) Regulations refer to compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as under 12 months of age). They also outline restrictions on advertising and the provision of information on infant and young child feeding to pregnant women and mothers of infants and young children. | Scope (Article 2): The regulations have a very limited scope and apply only to infant formula and follow-on formula rather than the whole range products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.). |
| Article 4: Information & Education | Information and education (Article 4) The regulations nearly mirror Article 4 of the WHO Code. It is required that objective and consistent information is provided on infant feeding and that this information   | Information and education (Article 4): This only refers to infant formula.   |

|   |   |   |
|---|---|---|
|   | does not refer to proprietary brands or use any pictures which may idealise the use of infant formulas.   |   |
| Article 5: General public & mothers                           | <p>Information to general public and mothers (Article 5).</p> <p>Advertising: (Article 5.1) Advertising of infant formula is restricted to “publications specialising in baby care and scientific publications” and shall only contain “information of a scientific and factual manner”. There is nothing in the regulations which states that advertising of follow-on milks may be permitted, so it could be assumed that advertisements for these products are banned.</p> <p>Samples and gifts (Article 5.2) Manufacturers and distributors of infant formula are prohibited from giving free or low-priced products, samples or any other promotional gifts to mothers either directly or indirectly.</p> <p>Point of sale advertising and samples (5.3) of infant formula are banned.</p> | <p>Advertising (Article 5.1) of infant formula is restricted – but not banned. Advertising of follow-on milks, other breast-milk substitutes or bottles and teats are not addressed and so may be allowed.</p> <p>Samples and gifts (Article 5.2). Follow-on milk is not addressed.</p> <p>Point of sale advertising and samples (Article 5.3) of follow-on milk are not addressed</p> <p>Free supplies (Article 5.4). While there are restrictions on gifts this does not explicitly extend to articles or utensils which may promote the use of milk substitute products.</p> |
| Article 6: Health care systems                                | <p>Labelling: (Article 9) For infant formula labels must not use pictures of infants and must include a statement concerning the superiority of breastfeeding and a statement that the products be used on the advice of independent health professionals. For both infant formula and follow-on formula, warnings of health hazards of inappropriate preparation are mandatory and terms such as “humanised” and “maternalised” are banned.</p> <p>For follow-on formula, labels must state that the product is only suitable for infants over six months, that follow-on milk is not to be used as a substitute for breastfeeding and that the decision to begin complementary feeding should be based on the advice of independent health professionals.</p>                                 | <p>Labelling: (Article 9) Follow-on milks are allowed to carry pictures of infants and there is no requirement to include a statement about the superiority of breastfeeding.</p> <p>In addition there is no recognition of the WHA recommendation that infants be exclusively breastfed for six months with continued breastfeeding for up to two years of age, or WHA Resolution 39.28 that the practice of providing infants with specially formulated milks (so-called “follow-up milks”) is not necessary.</p>   |
| Article 7: Health workers                                     |   | Not implemented in regulations.   |
| Article 8: Persons employed by manufacturers and distributors |   | Not implemented in regulations.   |
| Article 9: Labelling  | Section 17 and 18: Labelling (EU Article 14) closely mirrors Article 9.2. All ingredient and compositional labels are also specified as per Article 9.4.  | Some aspects related to Article 9.2 do not appear to apply to follow-on formula (“important information” notice, pictures of babies). Additional statement that labelling should avoid the risk of confusions between infant formula and follow-on formula.   |
| Article 10: Quality   | Section 29 outlines provisions that need to be made under Food Safety Act.  |   |
| Article 11: Implementation &                                  |   | Formal monitoring of all aspects not covered in Regulations.  |

## Complementary policies

### **Implementation of the Baby Friendly Hospital Initiative (BFHI)**

The joint WHO/UNICEF BFHI was launched internationally in 1991, with Ireland's BFHI commencing in 1998. By the end of 2007 seven maternity units in Ireland had achieved the baby-friendly criteria with about 38% of births taking place in a baby-friendly hospital (The Baby Friendly Initiative in Ireland 2011). This is close to the target outlined in the Breastfeeding in Ireland: a Five Year Strategic Action Plan (National Committee on Breastfeeding 2005) that states that within the five-year time frame of the action plan "at least 50% of hospital births to take place in nationally designated "Baby Friendly" maternity hospitals with 100% participation in the Baby Friendly Hospital Initiative". By May 2010,

- Of 20 maternity units in Ireland and 19 participate in the BFHI.
- Seven out of 19 maternity units have achieved baby-friendly status.
- 20–40% of births are taking place in a BFHI awarded hospitals.

In conjunction with the Health Promoting Hospitals Network, the designating authority for the BFHI in Ireland, the global WHO/UNICEF maternity project has expanded to include a national Breastfeeding Supportive Health Service Workplace project and a Breastfeeding Supportive Paediatric Unit project (Becker & Boyle 2007). The extension of the Baby Friendly Initiative into other health settings is also included in Breastfeeding in Ireland: A Five Year Strategic Action Plan.

### **National Committee on Breastfeeding/strategic plan**

As per the Innocenti Declaration, a National Breastfeeding Coordinator was appointed in 2001 and in 2002 a National Committee on Breastfeeding was established. Under its terms of reference the National Committee undertook to review the 1994 National Breastfeeding Policy (National Committee on Breastfeeding 2003) and to produce a new Strategic Action Plan which was published in 2005 (National Committee on Breastfeeding 2005): Breastfeeding in Ireland: a Five Year Strategic Plan. An interim review was to be conducted to ensure that implementation is on target; however neither an interim report or final report have yet been published.

Recommendations for a national infant feeding policy (Infant Feeding Sub Committee 1999) have also been published to complement the above policy/plan. This document again recommended promotion of breastfeeding but fell short of the WHA recommendation of six months exclusive breastfeeding instead opting for "at least 15 weeks".

## Culture

In August 2011 an article was published in the *Irish Times* by a former regional manager of health promotion with the Health Service Executive (Jones 2011). Dr Jones was commenting on the state of breastfeeding in Ireland and observed:

*"Ireland does not have a breastfeeding culture. There is no breastfeeding culture in maternity hospitals, in families and social networks, or in communities. The skill of breastfeeding has been lost and the women who choose to breastfeed often do so with great difficulty. These difficulties are not physical but are related to cultural norms and attitudes."*

While this was written for newspaper article it is a theme that recurs in the peer reviewed published literature when examining social issues around breastfeeding in Ireland. The Infant Survey shows that only 18% of mothers considered that most of their friend and family breastfeed their infants, with 34% choosing to combine formula and breast with just under 50% only giving formula milk.

As Tarrant and Kearney (2008) write, formula milk was introduced in Ireland during the mid to late 1950s and from that point in Ireland breastfeeding initiation and duration rates decreased rapidly. While they rose again slightly in the 1990s, they remain well below the average of other European countries. The impact of variables such as socio-economic status, age, smoking and education on breastfeeding rates is well documented and in the Irish context the factors associated with breastfeeding initiation have historically been strongly socio-economically related (Tarrant & Kearney 2008) and continue to be.

From the National Infant Survey (Health Service Executive 2008) there are a number of key findings that speak about the cultural acceptability of breastfeeding in Ireland. The main one is the findings related to breastfeeding in public. It was reported that by three to four months, just over half of the mothers (53%) who were breastfeeding initially had breastfed in public. When separated into ethnic groups it was found that women who are Irish were among the least likely to breastfeed in public with only 49% (n=412) having done so compared to 63% (n=100) of those from any other white background and 86% (n=6) of others including mixed backgrounds. Older mothers were also more likely to breastfeed in public with none of the breastfeeding mothers under 20 years of age having breastfed in public. When asked what factors had discouraged breastfeeding in public, 46% (n=370) cited a lack of a suitable venue. One-quarter (n=204, 25%) of mothers did not feel confident enough to breastfeed in public; 17% (n=136) had felt uncomfortable due to other people and 16% (n=131) had concerns regarding hygiene standards.

The Infant Survey (Health Service Executive 2008) also included a qualitative component which explored formula-feeding mothers' perceptions and choices around infant feeding. Themes that emerged from these discussions included the importance of personal attitudes, partner and family attitudes and perception of health professionals. Interestingly in contrast to previous research (Tarrant et al 2010), women did not implicitly highlight embarrassment as an influential factor.

Mothers who had discontinued breastfeeding between three and four months and six and nine months were also asked why they stopped breastfeeding. The main reasons were busy lifestyle, perceived insufficient milk supply and lack of facilities or uncomfortable with feeding in public.

It would seem disappointing that despite several campaigns which have been launched to improve breastfeeding in Ireland a significant proportion of women still feel uncomfortable with breastfeeding. It is apparent that in order to influence mothers, promotion must normalise breastfeeding within Irish society. This is difficult given that for many families exposure to breastfeeding has been limited. Recently the role of the partner has been identified as a potential factor to positively influence breastfeeding practices in Ireland.

### **Workplace**

Of the approximately 2 million people aged 15–64 in paid employment in Ireland, women have a participation rate of 57% compared to 66% for men. Women are more likely to work part-time than men, 33% compared to 9% (Massarelli & Wozowczyk 2010).

Under the Maternity Protection (Amendment) Act 2004, pregnant female employees are entitled to 26 weeks maternity leave together with 16 weeks additional unpaid maternity leave. At least two weeks have to be taken before the end of the week of the baby's expected birth and at least four weeks after the baby's birth. Entitlement to payment during maternity leave is normally provided through Social Welfare and is dependent upon the individual paying a certain amount of social contributions. In most cases maternity benefit is paid at 80% of average weekly earnings subject to a minimum payment of €207.80 and maximum payment of €280.00 per week. Some employment contracts do allow for payment rights during the period of leave (e.g. an employee might receive full pay minus the amount of Maternity Benefit she receives).

As well as outlining maternity leave entitlements for pregnant employees the Maternity Protection (Amendment) Act also gives provision for women to breastfeed at work. The provision applies to all women in employment who have given birth within the previous six months. Employers are not obliged to provide facilities in the workplace to facilitate breastfeeding if the provision of such facilities would give rise to considerable costs; however, at the choice of her employer, the woman may therefore opt to:

- breastfeed in the workplace or express breast milk, where facilities are provided in the workplace by the employer
- have their working hours reduced (without loss of pay) to facilitate breastfeeding where facilities are not made available.

Ireland provides for a 26-week period of maternity leave, as well as a further 16 weeks of unpaid leave. Payment during maternity leave is around 80% of gross earnings subject to previous social insurance contributions. Under section 9 of the Maternity Protection (Amendment) Act 2004, women in employment who are breastfeeding are entitled to take 1 hour (with pay) off work each day as a breastfeeding break. Employers are also obliged to provide a suitable area to facilitate breastfeeding

Figures from the 2008 Infant Feeding Survey indicated that at Phase 3 (infants around six months old), 74% of mothers were currently employees in their main job (working or on maternity leave). However, at the time of completing the survey, 34% of mothers were in paid work, compared to 83% prior to giving birth. It was found that those mothers who were not in paid employment were more likely to be breastfeeding at six months than those who were employed. This was the case for both exclusive and partial breastfeeding. Variations such as number of hours worked and age of baby when returned to work were not found to influence breastfeeding rates significantly at six months.

**Table 21: Type of feeding at six months and mothers' current employment status**

| Type of feeding at 6 months | In paid work at 6 months |             |       |
|-----------------------------|--------------------------|-------------|-------|
|                             | Yes (%)                  | No (%)      | Total |
| Exclusive breastfeeding     | 17 (28.3%)               | 43 (71.7%)  | 60    |
| Partial breastfeeding       | 75 (34.2%)               | 144 (65.8%) | 219   |
| Formula feeding             | 61 (37.9%)               | 100 (62.1%) | 161   |
| Total                       | 153 (34.8%)              | 287 (65.2%) | 440   |

Ireland also recently amended leave entitlements to parents as part of the Parental Leave (Amendment) Act 2006. Under the Act parental leave is available for each child under eight years of age and amounts to a total of 14 working weeks per child. The 14 weeks per child may be taken in one continuous period or in two separate blocks of a minimum of six weeks. There must be a gap of at least 10 weeks between the two periods of parental leave per child. Where an employee has more than one child, parental leave is limited to 14 weeks in a 12-month period. Both parents have an equal separate entitlement to parental leave; however if both parents work for the same employer it is possible to transfer parental leave entitlement to each other.

#### **Childcare arrangements for babies under one year of age**

Provision of formal childcare is very limited in Ireland with few centre-based childcare facilities and many of those centres offering only a preschool service. According to the 2002 Survey of Childcare undertaken by the Central Statistics Office of Ireland, a substantial number of parents rely on unpaid relatives as their main source of childcare.

The 1999/2000 Childcare Census found that 56,803 children attended childcare facilities nationally. The largest number of children attending childcare facilities was found in the three to six-year-old age cohort (23.6%; 37,619). In contrast only 4.8% (2,337) of children in the 0 to 1-year-age cohort attended childcare facilities. Nine percent (9.3%; 1,609) of children attending full-day care facilities were aged under one year old (ADM Ltd 2000). It could be interpreted that there is not the need for childcare places for children under one year of age. However the Childcare Census also found large numbers of children were on waiting lists for a place in a childcare facility. In the under one year age group, 1,762 were on a waiting list for a childcare facility; a number which represented three-quarters of the number of children in this age group actually attending. A another reason for the low proportion of children aged zero to one attending childcare facilities may be due to the fact that childcare providers are less willing to provide care for children under the age of one year, given the added costs of implementing the regulations for this age group (e.g. a lower adult child ratio is required for this age group than for other age groups). In a 2008 UNICEF report *The Child Care Transition* OECD countries are compared in terms of childcare provision. Looking at Ireland, enrolment of zero to three-year-olds in childcare is around 15%, well below that OECD average of 25% (UNICEF 2008). The report outlines an internationally applicable set of minimum standards – one of which is that subsidised and regulated child care services should be available for at least 25% of children under the age of three.

In 2000, the Partnership Expert Working Group on Childcare recommended a multifaceted approach to the development of childcare to meet the needs of parents in employment, education and training. From this the Equal Opportunities Childcare Programme 2000–2006 was launched (ADM Ltd 2003). This program was funded by the Irish Government and part-financed by the European Union Structural Funds under the National Development Plan 2000–2006. The main objectives of the Equal Opportunities Childcare Programme were to improve the quality of childcare; maintain and increase the number of childcare facilities and places; and to introduce a coordinated approach to the delivery of childcare services. Many of the new places however were still marked for children in the older age categories rather than children under one year of age. In 2006 the National Childcare Investment Programme 2006–2010 was set up.

### **Health system and health worker training**

All persons resident in Ireland are entitled to receive healthcare through the public healthcare system, which is managed by the Health Service Executive (HSE) and funded by general taxation. The main function of the HSE is to provide or arrange for the provision of health, community care and personal social services to the people in its area. The HSE provides many of the services directly and arranges for the provision of other services by health professionals, private health service providers, voluntary hospitals and voluntary/community organisations. The HSE Area is obliged to provide certain services, e.g. family doctor (GP) and public hospital services. All HSE Areas must provide service plans that usually review the previous year's spending and give a detailed breakdown of how funding provided by the HSE will be spent during the year in question. The Department of Health formally sets out a statement of national priorities for health, which is then addressed by the HSE in preparing their individual service plans. Breastfeeding is part of the national priorities (Health Service Executive 2008).

Prior to the BFHI the only training available to health professionals in Ireland was the 18-hour UNICEF/WHO "Breastfeeding Management and Promotion in a Baby-Friendly Hospital" course. This however was rapidly out of date in some topics as well as lacking in content in other topics and seen only as the minimum needed to address existing attitudes; present new information and practices; and change attitudes of health workers. Though many health workers were attending courses equally many were not. "The 18-hour course" was primarily aimed at midwives in hospital. Doctors, though invited, rarely attended these courses. Courses focused on the first few days in hospital only and did not meet the needs of paediatric nurses, dieticians, health promotion practitioners and others. Lactation consultants and others in specialist roles needed more than the basic course. For most courses a list of topics was available but not the expected learning outcomes.

The Interim Report of the National Committee in Breastfeeding (National Committee on Breastfeeding 2003) reviewed the situation with health worker education between the 1994 National Breastfeeding Policy and 2003. This report highlighted progress such as development of a self-study training pack by the (then) Centre for Health Promotion, University College Galway. It was also noted competency to assist with breastfeeding was not assessed as a registration requirement. As such the report concluded that in regards to breastfeeding training, there was a lack of standardisation across Ireland.

The 2005 Breastfeeding Strategic Plan outlines objectives for healthcare workers in relation to training. Since the Strategic Plan a number of initiatives have been undertaken. In 2006 a new global WHO/UNICEF course "Breastfeeding Promotion and Support in a Baby-friendly Hospital" was developed with assistance from some local academics and clinicians. The School of Nursing and Midwifery, University College Cork, were also commissioned by Population Health, HSE to establish the provision of education breastfeeding knowledge and skills. Recently the National Breastfeeding Strategy Implementation Committee has also released a report on breastfeeding education and training at pre-service and in-service levels.

### **Summary**

Ireland has seen an increase in breastfeeding rates. From a rate that had remained relatively static at around 32% there has been a significant increase in breastfeeding initiation in the last five years with the most recent figures reporting that 45% of babies were exclusively breastfed at discharge from hospital. It is difficult to tell what has led to this increase; whether it is a result of changing demographics such as an increase in maternal age or broader influences such as government policies or cultural attitudes. However despite the rise in breastfeeding initiation rates the majority of mothers continue to formula feed their babies; and of the mothers who start breastfeeding many have switched to formula by 3-4 months.

The Government has set targets for breastfeeding rates and has a number of objectives in order to achieve these as part of the recent five-year strategic plan. This includes action on the WHO International Code; WHO/UNICEF Baby Friendly Hospital Initiative; the appointment of a National Breastfeeding Coordinator and to enact legislation to protect the breastfeeding rights of women in the paid workforce

Like other countries in the EU, Ireland has implemented the WHO Code through the transposing of the EU directive into local legislation. However while the EU directive reflects many aspects of the WHO Code it is narrower in scope and it is difficult to know the level of commitment and enforcement in respect to labelling and advertising.

In terms of its health service, Ireland does appear to be trying to reorientate the culture; from one that legitimised formula feeding to one that promotes and protects breastfeeding. The BFHI was launched in Ireland in 1998 and the most of the hospital participated in the Program. The Government has also tried to make it easier for women to work and to continue to breastfeed. Ireland's maternity leave exceeds what is

recommended in the ILO and women are entitled to breastfeeding breaks without loss of pay when returning to work. The biggest challenge however is the cultural shift in society that is needed to overcome the barriers preventing many women choosing and/or *continuing* to breastfeed. Ireland does not have a breastfeeding culture and until there is continuing exposure to breastfeeding and the building up of personal history in respect to breastfeeding it is unlikely that rates will be comparable with other EU countries.

## NEW ZEALAND

### Facts and figures

- The estimated resident population at 30 June 2010 in New Zealand was 4,367,800.
- There were approximately 64,121 live births for the year ending 30 June 2010.
- The crude birth rate (births per 1,000 mean population) was 14.8.
- Total fertility rate (births per woman) was 2.2.
- The median age of women having a baby was 30.0 years.
- As a sub-group within the population, Maori women had a total fertility rate of 2.8 births per woman in 2009 and Maori women aged 20–24 had the highest fertility rate (156 births per 1,000 women) (Statistics New Zealand 2011).

New Zealand's breastfeeding rates changed very little between 1997 and 2001, with some improvement between 2001 and 2005. However, the rates among Maori and Pacific peoples are still lower than rates among the European/Other group, and the rate for Maori is lower than for Pacific peoples (New Zealand Ministry of Health 2004; New Zealand Ministry of Health, 2007).

The New Zealand breastfeeding rates by ethnicity at six weeks, three months and six months in 2006 are shown in Table 1. The Ministry of Health's goal for exclusive breastfeeding in 2005 at six weeks was 74%, at three months was 57%, and at six months was 21%. According to the 2006/2007 New Zealand Health Survey, 87.8% of children from birth to 14 years old have ever been breastfed, at six weeks of age, 70% of infants were exclusively breastfed, at three months of age only 50% were exclusively breastfed, and then at six months of age only about 8% were exclusively breastfed (New Zealand Ministry of Health 2008).

**Table 22: Exclusive and full breastfeeding in 2006 for different ethnicities in New Zealand (New Zealand Ministry of Health, 2007).**

|  | <i>Maori</i><br>(%) | <i>Pacific</i><br>(%) | <i>Asian</i><br>(%) | <i>Other</i><br>(%) | <i>All</i><br>(%) |
|--|---------------------|-----------------------|---------------------|---------------------|-------------------|
| Exclusive and full breastfeeding at 6 weeks  | 59                  | 57                    | 55                  | 70                  | 66                |
| Exclusive and full breastfeeding at 3 months | 45                  | 48                    | 53                  | 60                  | 55                |
| Exclusive and full breastfeeding at 6 months | 17                  | 19                    | 25                  | 29                  | 25                |

### Implementation of WHO Code

New Zealand adopted the WHO Code in 1983. A voluntary, self-regulatory implementation and monitoring process was set up in 1997 (New Zealand Ministry of Health 2004; New Zealand Ministry of Health, 2007). In New Zealand, it was not possible to legally restrict the advertising of products without contravening the Commerce Act 1986 and the Fair Trading Act 1986. However, the members of the New Zealand Infant Formula Marketers' Association (NZIFMA) accepted the need for a voluntary code of practice of marketing because of the widely accepted benefits of infants receiving breast milk in the first six months of life. The NZIFMA amalgamated with the Infant Formula Manufacturers' Association of Australia (IFMAA) and formed the Infant Nutrition Council (INC) in 2009. However, their current Code (published in 2007) still uses the NZIFMA name, so both names will be used in this review. The NZIFMA Code of Practice means there should be "no marketing of infant formula and no marketing of follow-on formula as a breast milk substitute in New Zealand" (New Zealand Ministry of Health, 2007). New Zealand operates a Compliance Panel which is called "The Ministry of Health WHO Compliance Panel for Implementing and Monitoring the International Code of Marketing of Breast-Milk Substitutes in New Zealand" (Burgess & Quigley 2011).

The WHO Code is implemented in New Zealand under four New Zealand codes (New Zealand Ministry of Health, 2007). The codes are:

- Code of Practice for Health Workers (Health Workers' Code) (New Zealand Ministry of Health 2009)
- Infant Nutrition Council (INC) / New Zealand Infant Formula Marketers' Association (NZIFMA) Code of Practice for the Marketing of Infant Formula (the NZIFMA Code of Practice) (Infant Nutrition Council 2011; New Zealand Infant Formula Marketers' Association 2007)
- Advertising Standards Authority Code for Advertising of Food (Advertising Standards Authority New Zealand 2010)

- Australia New Zealand Food Standards Code (Food Standards Code) (Food Standards Australia New Zealand 2010).

The Health Workers' Code and INC/NZIFMA Code of Practice are based on the WHO Code and subsequent relevant WHA resolutions. The Food Standards Code draws on the WHO Code to cover labelling, composition and quality matters. The Code for Advertising of Food endorses the INC/NZIFMA Code of Practice as the appropriate industry code of ethics (New Zealand Ministry of Health, 2007).

The Health Workers' Code, INC/NZIFMA Code of Practice and Code for Advertising of Food are:

- voluntary, with organisations subject to the codes not legally required to comply with them; but each code is a standard for practice
- self-regulatory, where health workers, INC/NZIFMA companies and the Advertising Standards Authority are required to manage their compliance processes so they comply with their codes of practice, and may be asked to change their codes in response to any upheld complaints.

The Code of Practice for Health Workers (Health Workers' Code) is aimed at protecting and promoting breastfeeding, and ensuring the proper use of breast-milk substitutes when these are necessary on the basis of adequate information and through appropriate marketing and distribution (Ministry of Health 2009). The Health Workers' Code states that they:

1. must protect, promote and support breastfeeding
2. should enable mothers to make an informed decision about infant feeding
3. must assist mothers and families to breastfeed
4. must ensure appropriate use of formula when necessary
5. should explain the benefits of breastfeeding, and the costs and health hazards of the unnecessary or improper use of formula
6. must be aware of the key principles in the NZIFMA Code of Practice
7. should not accept samples from formula companies (except for professional evaluation, research and education purposes)
8. should not accept gifts from formula companies
9. should not promote formula products in their healthcare facilities
10. ensure that formula products are not donated to their healthcare facilities.

The INC/NZIFMA voluntary Code of Marketing Practice applies to the marketing of infant formula products suitable for infants up to the age of six months. It should be noted that not all companies in New Zealand are represented by the INC. Member companies represented by INC are Bayer Ltd, Fonterra Co-operative Group Ltd, H.J. Heinz Company Ltd, Nestlé Ltd, Nutricia Pty Ltd and Wyeth Nutrition; plus there are two associate members: Dairy Goat Co-operative (NZ) Ltd and Murray Goulburn Co-operative Co. Ltd. Follow-on formula, for infants over six months of age, is excluded from the provisions of the INC/NZIFMA Code of Practice. The companies represented on the INC/NZIFMA have agreed that the following key principles will apply for the marketing of infant formula (Infant Nutrition Council 2011; New Zealand Infant Formula Marketers' Association 2007):

1. INC/NZIFMA and its member companies encourage and support breastfeeding as the best choice for babies.
2. INC/NZIFMA companies should not advertise infant formula products directly to consumers.
3. INC/NZIFMA companies should not initiate either direct or indirect contact with pregnant mothers or family members to promote infant formula.
4. INC/NZIFMA companies should not distribute samples of infant formula to pregnant women, mothers of infants, their families and infant caregivers but may provide samples to the health sector for the purpose of professional evaluation or research.
5. All infant formula educational and informational material prepared by INC/NZIFMA companies and circulated through the health sector should be in accordance with the letter and the spirit of the INC/NZIFMA Code of Practice.
6. INC/NZIFMA companies should not give financial or material incentives to health practitioners for the purpose of promoting infant formula.
7. Infant formula product and usage information published by or under the local control of INC/NZIFMA companies through the electronic media, and accessible to consumers as well

as health practitioners, should also be in accordance with the letter and the spirit of the INC/NZIFMA Code of Practice.

8. INC/NZIFMA will inform retailers of the provisions of the INC/NZIFMA Code of Practice. Retailer advertisements and the in-store promotion of infant formula products should be limited to product names, price and price savings.

Advertising Standards Authority Code for Advertising of Food has its own Code governing advertising (Advertising Standards Authority New Zealand 2010). It also recognises the INC/NZIFMA Code of Practice for the Marketing of Infant Formula (the INC/NZIFMA Code of Practice).

The Advertising Standards Authority Code for Advertising of Food has two main principles that each has sub-guidelines within them. Principle 1 states:

*“All food advertisements should be prepared with a due sense of social responsibility to consumers and to society. However food advertisements containing nutrient, nutrition or health claims, should observe a high standard of social responsibility” (Advertising Standards Authority New Zealand 2010).*

Principle 2 states:

*“Advertisements should not by implication, omission, ambiguity or exaggerated claim mislead or deceive or be likely to mislead or deceive consumers, abuse the trust of or exploit the lack of knowledge of consumers, exploit the superstitious or without justifiable reason play on fear” (Advertising Standards Authority New Zealand 2010).*

Following a review of the regulation of nutrition, health and related claims a report of findings was published in January 2011 (Blewett et al 2011).

The Food Standards Code is mandatory where organisations subject to this code are legally required to comply (Food Standards Australia New Zealand 2010; New Zealand Ministry of Health 2009). Under the Standard 2.9.1 Infant Formula Products, it states in the “Prohibited representations” section that:

*“The label on a package of infant formula product must not contain –*

- (a) *a picture of an infant; or*
- (b) *a picture that idealises the use of infant formula product; or*
- (c) *the word ‘humanised’ or ‘maternalised’ or any word or words having the same or similar effect; or*
- (d) *words claiming that the formula is suitable for all infants; or*
- (e) *information relating to the nutritional content of human milk; or*
- (f) *subject to clause 28, a reference to the presence of any nutrient or nutritive substance, except for a reference to a nutrient or nutritive substance in –*
  - i. *accordance with clause 30 – Claims relating to lactose free formula or low lactose formulas; or*
  - ii. *the statement of ingredients in accordance with Standard 1.2.4 – Labelling of Ingredients; or*
  - iii. *the nutrition information statement in accordance with clause 16 of this Standard – Declaration of nutrition information; or*
- (g) *subject to Division 3, a representation that the food is suitable for a particular condition, disease or disorder.”*

The Ministry of Health is responsible for monitoring the implementation of the Health Workers’ Code and the NZIFMA Code of Practice. The Ministry does this by receiving complaints about potential breaches of either Code of Practice (New Zealand Ministry of Health, 2010). If an issue is not resolved to the complainant’s satisfaction through a natural justice process, it will be submitted to a Compliance Panel for a decision. There is an appeal process, presided over by an adjudicator, for complaints unresolved by the Compliance Panel (New Zealand Ministry of Health, 2007).

The Advertising Standards Complaints Board (ASCB) is responsible for monitoring compliance with the Code for Advertising of Food. The New Zealand Food Safety Authority is responsible for administering and monitoring compliance with the Food Standards Code (New Zealand Ministry of Health, 2007).

A 2011 review consisting of a literature review and a qualitative survey about the complaints procedures for the WHO Code for the Ministry of Health in New Zealand states that:

*“Both complainants and those who are the subjects of complaints report feeling the process is weighted against them” and is due to “the (perceived or actual) incomplete documentation of the complaints process, and because of infringements of due process by the CP [Compliance Committee] alleged by some complainants, health workers, and manufacturers” (Burgess & Quigley 2011).*

The review further states that

*“Complaints against health workers are distinct from those against manufacturers because obligations arise and are discharged differently” where companies have “understood and agreed to a Code of Practice, health workers have not, and it was reported to us that many health workers are not aware of the Code (others reported strong understanding among health workers, which may indicate a patchy distribution of knowledge among workers). Where workers do not know about the Code, industry practices offer protection against inadvertent breach. It is reported that many workers use a rule of thumb which is to not discuss infant formula at all”.*

It was noted that many healthcare workers do not provide any advice on infant formulas for fear of complaints and breaches of the WHO Code; As a result mothers are not able to get reliable and timely information about their feeding options when they cannot or choose not to breastfeed (Burgess & Quigley 2011).

The 2011 report, *Appendix B: Complaints and Results* shows the complaints and outcomes in 2008. There were 13 complaints, with only two being about healthcare workers, and the others being for advertisements (Burgess & Quigley 2011).

Ongoing monitoring of the WHO Code is done by various organisations. One such organisation is the Infant Feeding Association of New Zealand (Infant Feeding Association of New Zealand 2011) and the Women's Health Action Trust (Women's Health Action Trust 2011), which both publish information about the WHO Code and provide information on how to report violations. The Infant Feeding Association of New Zealand seems particularly active and has materials about breaches of the WHO Code in marketing infant formula as well.

A survey of 31 stakeholders in New Zealand in 2010 revealed that some people thought that New Zealand's implementation and monitoring of the WHO Code was sufficient, while others thought it needed improvement, especially in regards to similar labelling of formula for infants both under and over six months (as the New Zealand Code only covers infants up to six months of age), marketing in hospitals and in supermarkets, and financial disincentives (Burgess & Quigley 2011).

A 2011 report on the effectiveness, implementation and monitoring of the WHO Code in New Zealand noted that compliance to the WHO Code under self-regulation is probably high (Burgess & Quigley 2011). This could be due to:

- low monitoring costs due to the public nature of advertising and promotion. Rival companies, interest groups and a sceptical public can report potential breaches
- the notion that breastfeeding is superior is an industry and interest group norm
- a high proportion of complaints that are not upheld, suggesting a high rate of complaint lodgement
- a small industry where there are large multi-product companies that are relatively vulnerable to negative retaliatory actions by consumers to their products
- infant formula being a good where brand value and reputation is very important in marketing and selling the product, and any breaches of the WHO Code or other regulations could be financially costly to the company
- no single company is dominant in the market, suggesting that a self-regulating industry is unlikely to be corrupted.

A 2011 report on the effectiveness, implementation and monitoring of the WHO Code in New Zealand noted that:

- There was a low proportion of complaints that were upheld as breaches (similar to Australia and the UK).
- Companies invest in systems and processes to achieve compliance.
- There is organised and credible opposition to and scepticism of formula manufacturers.
- Competing companies monitor and report on each other.
- Manufacturers have incentives to comply, including protection of reputation, and the threat of government interventions.
- Low access to information about formula milk by mothers.

**Table 23: Implementation of the WHO Code in NZ**

| <b>Article of the WHO Code</b>      | <b>Implemented</b>   | <b>Partially implemented / Not implemented</b>   |
|-------------------------------------|--|--|
| Articles 2 & 3: Scope               | The Code of Practice for Health Workers (Health Workers' Code) applies to all types of formula for infants (0-12 months ie. infant formula and follow-on formula)<br>Infant Nutrition Council / New Zealand Infant Formula Marketers' Association Code of Practice for the Marketing of Infant Formula (the NZIFMA Code of Practice) applies to infant formula and specifically excludes follow-on formula for infants over six months of age. | Neither code refers to the whole range of products covered by the WHO Code (including all breast-milk substitutes, bottle fed complimentary foods, baby teas, bottles and teats etc.). Does not refer to "practices related thereto."  |
| Article 4: Information & Education  | INC articles 4.2 and 4.3 closely mirror WHO Code article 4.2. Health Workers Code article 5.1 has similar wording.   | The INC does not contain a clause relating to WHO Code 4.3: donations of informational and educational materials.  |
| Article 5: General public & mothers | Article 5.4 & 5.5: The INC Code agrees with the WHO Code on these points.  | Article 5.1: The INC Code only says advertising to the public "should be avoided" whereas the WHO Code specifies that "there should be NO advertising or other form of promotion to the general public".<br>Article 5.2 & 5.3: The WHO Code does not allow advertising of any type. INC Code allows advertising at retail outlets.   |
| Article 6: Health care systems      | Article 6.1: The NZ Code of Practice for Health Workers complies with this point<br>Article 6.4: INC Code agrees with this aim. However, the INC Code says that industry representatives may be contacted if needed by healthcare professionals.<br>Article 6.5: INC Code agrees with this aim.<br>Articles 6.6, 6.7 & 6.8: INC Code agrees with these aims. The Health Workers Code complements these aims.                                   | Article 6.2: The INC Code allows information to be distributed within the healthcare system.<br>Article 6.3: The INC Code allows display of infant formula information & educational materials.<br>The INC Code says that bulk quantities of free product should be avoided. It is unclear what is meant by "bulk" as this suggests quite a large amount may be distributed. |
| Article 7: Health workers           | Article 7.1: The NZ Code of Practice for Health Workers complies with this aim.<br>Article 7.2: INC Code complies with this aim. The Health Workers Code complies with this aim. The NZ Advertising Standards Authority Code complements this aim.   | Article 7.3: INC Code partially complies with this aim. The INC Code states that inexpensive and relevant materials may be provided to healthcare professionals. The Health Workers Code complies with this aim.<br>Article 7.4: INC Code allows   |

|   |  |   |
|---|--|---|
|   |  | samples for the education of mothers. The Health Workers Code complies with this aim.<br>Article 7.5: No Codes or regulations have been made for this aim.  |
| Article 8: Persons employed by manufacturers and distributors | Article 8.2: INC Code complies with this aim.  | Article 8.1: Unclear how INC Code conforms to this. No mention about volumes of sales.  |
| Article 9: Labelling  | ANZ Food Standards Code and the INC Code (which defers to the ANZ Food Standards Code) comply with this article. ANZ Standard 2.9.1 Subdivision 4 – General Labelling and packaging requirements (#14 &20) contain the same requirements for labelling as under the WHO Code article 9.2. Requirements for ingredient and compositional labelling are also specified.  |   |
| Article 10: Quality   | Articles 10.1 & 10.2: The ANZ Food Standards Code complies with this aim. The INC Code defers to the ANZ Food Standards Code. New Zealand is a member of the Codex Alimentarius.   |   |
| Article 11: Implementation & Monitoring                       | Article 11.1 & 11.2: The NZ Ministry of Health has a complaints procedure for the WHO Code. The Advertising Standards Board and the Food Standards Australia New Zealand have their own complaints processes. The Health Workers Code refers to complaints processes that are administered by the NZ Ministry of Health.<br>Article 11.3: The INC Code complies with this aim.<br>Article 11.4: The Infant Feeding Association of New Zealand and the Women’s Health Action Trust monitor the WHO Code in NZ using their own resources.<br>Article 11.5: The INC Code complies with this aim.<br>Article 11.7: Not applicable. | Article 11.6: Unclear. The Ministry of Women’s Affairs reports to the United Nations Convention on the Elimination of All Forms of Discrimination against Women, which included updates on the legislation around breastfeeding in the workplace. |

## Complementary policies

### **Government policies and initiatives**

The New Zealand Ministry of Health has developed some initiatives to support breastfeeding (Human Rights Commission 2005):

- The development of a Breastfeeding Action Plan which aims to increase the breastfeeding rates of Maori, Pacific and other New Zealanders by strengthening and monitoring existing promotional initiatives, providing breastfeeding information and improving strategies in hospitals.
- The creation and funding of the role of a full-time Breastfeeding Advocate which is administered by the Women’s Health Action Trust.
- The funding of a contract with the New Zealand Breastfeeding Authority which implements and administers the WHO/UNICEF Baby Friendly Hospital Initiative in New Zealand.

The Ministry has funded the “Healthy Eating Healthy Action” strategy since 2003. The strategy is aimed at improving nutrition, increasing physical activity and reducing obesity (New Zealand Breastfeeding Authority 2011). This is part of the New Zealand Health Strategy (2000). Improving breastfeeding is one of the key messages in this strategy. On 1 July 2007, the Ministry of Health adopted 10 health targets in key priority

areas aimed at improving the overall health and wellbeing of New Zealanders, with one of the targets of the Healthy Eating Healthy Action strategy being “Increasing the proportion of infants exclusively and fully breastfed to: 74% at 6 weeks, 57% at 3 months and 27% at 6 months” (New Zealand Breastfeeding Authority 2011). To achieve this aim the Ministry has worked with the 21 District Health Boards (DHBs) and health providers to create the implementation plan.

### **Implementation of the Baby Friendly Hospital Initiative (BFHI)**

In 1999, the New Zealand Government contracted the New Zealand Breastfeeding Authority (NZBA) to develop and manage the BFHI in New Zealand. The NZ BFHI and the NZBA also provides guidance on dispute resolution (New Zealand Breastfeeding Authority 2009). As of March 2008, 62 of the 79 (78.5%) maternity facilities in New Zealand had achieved Baby Friendly accreditation (New Zealand Breastfeeding Authority 2011). As of 16 August 2011, there were 50 primary units, 16 secondary units and 5 tertiary units accredited or re-accredited for the BFHI. As for statistics on the numbers of infants, according to a research thesis published in 2005, in June 2005 there were 20,000 babies born in 23 baby-friendly hospitals, of which a minimum of 75% were exclusively breastfed (Jackson 2005). Up-to-date data are needed to assess the impact of the BFHI in 2011.

### **Other complementary policies**

La Leche League New Zealand (LLLNZ) is an organisation that helps to promote and support breastfeeding in New Zealand and runs the Breastfeeding Peer Counselling Programme (PCP) (La Leche League New Zealand 2011). The PCP fosters mother-to-mother support programmes in line with Ministry of Health and District Health Board goals. Administrators are fully trained and licensed by LLLNZ and have access to ongoing support, education and resources. Funders play a key role in the success of the PCP by ensuring all three stages of the program are fully resourced.

New Zealand has a strong and growing breastfeeding support culture, which is supported by various government and non-government policies and groups. There are multiple regional breastfeeding networks all around New Zealand that help to maintain a culture for supporting breastfeeding. These networks are the Auckland Regional Network, Rotorua and Taupo Breastfeeding Coordination Groups, Taranaki Breastfeeding Coalition, Marlborough Breastfeeding Coalition, Marlborough Breastfeeding Network, Nelson Bays Breastfeeding Network, Canterbury Breastfeeding Network, South Canterbury Breastfeeding Action Group, and the Dunedin Breastfeeding Network (Womens Health Action Trust 2011a).

## **Workplace**

### **Parental leave arrangements**

New parents may access four kinds of leave: maternity leave, special leave, partner's leave and extended leave. Mothers have both maternity leave (the only family leave that is paid), which lasts for up to 14 weeks, and is considered part of extended leave and counts towards the 52-week limit for leave, and special leave, which consists of up to 10 days for pregnancy-related medical care (Ray 2008). New fathers have up to two weeks of partner's leave. Parents' total allotment consists of 52 weeks of extended leave (including maternity leave), plus two weeks of partner's leave and two weeks of special leave (assuming a five-day working week), for a total of 56 weeks in all (Ray 2008). The pieces of legislation supporting these provisions are discussed below.

Paid parental leave for eligible employees was introduced in 2002, with the scheme extended to meet various objectives, including supporting the health and wellbeing of new mothers and babies. Eligible parents are entitled to 14 weeks of job/employment protected paid parental leave (PPL) under the Parental Leave and Employment Protection (Paid Parental Leave) Amendment Act 2002 (Department of Labour 2002b). To be eligible, employees must have worked continuously with the same employer for an average of at least 10 hours a week in the last 6 or 12 months immediately before the baby's birth. Employees who have worked continuously with the same employer for 12 months or more are also entitled to up to 52 weeks of job protected unpaid parental leave (extended leave) less any PPL taken.

The Employment Relations (Flexible Working Arrangements) Amendment Act 2007 provides employees who have been with their employer for six months or more and have young or dependent children the right to request part-time and flexible hours and the employer has a duty to seriously consider such requests (Department of Labour 2002a).

The Corrections (Mothers with Babies) Amendment Bill was passed in 2008 and sets out provisions for mothers to keep their children with them in prison up to two years of age. Previous legislation allowed approved low-security female prisoners to have their babies with them in prison up to six months of age, with feeding and bonding facilities available for women who do not meet the requirements to have their baby with them. The amendment raised the upper age children can reside in prison from six months to two years, and allows participation of all female prisoners with dependent children under the age of two, and not just those with a minimum security classification (Department of Corrections 2008).

### **Female workforce participation**

In the year to 30 June 2011, 1,771,800 females were aged 15 years and over, of whom 62.4% were in the labour force (NZ Department of Labour 2011).

### **Arrangements for breastfeeding in the workplace**

New Zealand has policies and practices that support breastfeeding in the workplace. It is unclear how effective these practices are as data are variable in quality and consistency. The Equal Employment Opportunities (EEO) and the Women's Health Action Trust have published a guide to help workplaces implement breastfeeding support in the workplace (Equal Employment Opportunities Trust & Womens Health Action Trust 2011).

The Department of Labour published a guide for employers in 2007 entitled "Breastfeeding in the Workplace" (Department of Labour 2007). This guide provided reasons to support returning mothers to the workforce and offered ideas to make breastfeeding in the workplace easier. It advocated four steps to facilitate better workplaces for mothers and infants: talking with your employee, time, space (facilities) and support.

The Ministry of Women's Affairs assists and supports other agencies on breastfeeding via helping them to consider women's, gender and human rights issues when developing policy and service delivery initiatives that focus on breastfeeding and infant nutrition outcomes. The Ministry participates in the United Nations Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). The Ministry recently presented New Zealand's seventh report on its implementation of the United Nations Convention on the Elimination of All Forms of Discrimination against Women, March 2006–March 2010, which included updates on the legislation around breastfeeding in the workplace (Ministry of Women's Affairs 2011).

The Employment Relations (Breaks, Infant Feeding and Other Matters) Amendment Act 2000 and Amendment Act 2008 (Department of Labour 2010) require employers to provide appropriate facilities and breaks for employees who wish to breastfeed either at the workplace or during a work period, as far as it is reasonable and practicable in the circumstances. The amendments balance the need to support the choices of employees, particularly regarding their work–life balance and caring responsibilities, with the operational requirements of New Zealand businesses. The Code of Employment Practice assists employers who want to know how to meet their obligations under the Act. Appropriate facilities, the nature of breaks, accommodating changes to meet circumstances and documenting arrangements are detailed in the Code (Department of Labour 2010; Ministry of Women's Affairs 2011).

The Breastfeeding Friendly Workplaces are group-certified workplaces to enable breastfeeding friendly work environments (Breastfeeding Friendly Workplaces 2010c). They suggest an eight-step process to implementing a Breastfeeding Friendly Workplace programme:

1. Obtain executive commitment.
2. Establish a working group.
3. Gather the facts.
4. Generate support and gain buy-in.
5. Implement the programme.
6. Achieve Breastfeeding Friendly Workplace Certification.
7. Assess the programme.
8. Publicise.

As of August 2011 only two workplaces that were certified – General Electric Money and Vero Insurance New Zealand Group (Breastfeeding Friendly Workplaces 2010a).

New Zealand has not ratified ILO Convention No. 183 (International Labour Standards Department 2011) but does have anti-discrimination Acts. The Human Rights Act (HRA) and the Employment Relations Act 2000

(ERA) contain anti-discrimination provisions which apply to breastfeeding women (Human Rights Commission 2005). The extent these provisions protect breastfeeding women has never been tested in New Zealand courts. The report states that “From mid-2000 to mid-2004, the Commission has documented 29 enquiries on matters relating to breastfeeding. The annual number of enquiries is increasing” (Human Rights Commission 2005). In 2002, Business New Zealand, the Employment Relations Service, the Equal Employment Opportunities (EEO) Trust and the Council of Trade Unions worked together with the Human Rights Commission to develop the Employers’ Guidelines for the Prevention of Pregnancy Discrimination. The guidelines encouraged employers to provide breastfeeding breaks and accommodation for breastfeeding mothers when they return to work (Human Rights Commission, 2005). In general the Human Rights Commission operates on some set principles when considering breastfeeding issues. These are:

1. Principle 1: A woman has a right to breastfeed and is protected from discrimination for breastfeeding under the HRA and international law.
2. Principle 2: The Commission should support and promote the right to breastfeed.
3. Principle 3: When considering breastfeeding complaints, a broad analysis should be used for comparisons across groups.
4. Principle 4: A woman should be permitted to breastfeed where she and her child or children would otherwise be permitted to be.
5. Principle 5: The right to breastfeed should not be limited by any individual, group or party unless the intervention is based on evidence of significant detriment to either the mother or the child.
6. Principle 6: Breastfeeding should, generally, be considered to be in the best interests of the child but in most circumstances parents should be allowed to determine what is in the best interests of their child with respect to infant-feeding.
7. Principle 7: The approach to breastfeeding discrimination should encompass the view that breastfeeding mothers and their babies form an inseparable biological and social unit.

In “Guidelines for supporting breastfeeding in the workplace” published for the New Zealand EEO Trust, it is stated that:

*“In New Zealand, the EEO Trust has publicised support for breastfeeding employees as an important family-friendly and EEO concern. As part of this advocacy, it has presented awards to a number of New Zealand enterprises whose policies include those supportive of breastfeeding workers” (Galtry & Annandale 2003).*

The report provides examples of companies that have won the EEO Trust’s Work & Family Award.

Under the Human Rights Act 1993 (Ministry of Justice 2011) breastfeeding women have the right to breastfeed or express breast milk at work. Employers are required to find ways for employees to do their job and have regular breaks to breastfeed or express milk. Treating a woman unfairly because she is breastfeeding or expressing breast milk is a form of sex discrimination (Breastfeeding Friendly Workplaces 2010b). The Human Rights Commission of New Zealand has brochures explaining the rights of pregnant workers and of women in the workplace (Human Rights Commission 2011a; Human Rights Commission 2011b).

### **Childcare arrangements for babies under one year of age**

According to a 2008 UNICEF Innocenti Research Centre report, New Zealand has a national plan with priority for disadvantaged children; subsidised and regulated childcare services for at least 25% of children under three; subsidised and accredited early education services for at least 80% of four-year-olds; at least 80% of all childcare staff are trained; at least 50% of staff in accredited early education services tertiary educated with relevant qualification; and a minimum staff-to-children ratio of 1:15 in pre-school education (UNICEF 2008).

### **Culture**

New Zealand seems to publicly promote and celebrate breastfeeding on a national scale. There was a national Big Latch On™ day on Friday 5 August for World Breastfeeding Week 2011 (from 1 to 7 August). This event was held at venues throughout the country where women and their babies gathered together and all breastfed to break the record for the most women breastfeeding simultaneously. There were 1,564 mothers who participated in this event and New Zealand broke the world Big Latch On™ record that day (Womens Health Action Trust 2011b).

New Zealand also seems to be proactive in promoting breastfeeding in public community settings and business places. For example, the non-profit group, Breastfeeding Advocacy Coalition of Kirikiriroa (BACK), has a list of almost 100 breastfeeding-friendly places in Hamilton, New Zealand, which includes 30 local cafes, 30 schools and kohanga reo, and a further 36 organisations including shopping malls, community centres and health and social service centres. Each venue supports women breastfeeding their babies on the premises. Cafes have a window sticker developed specifically for the Hamilton / Waikato region, which says “Breastfeeding Welcome Here”, and each has been issued with an information booklet on ways to support women breastfeeding within their space (Waikato District Health Board 2011). It is unclear whether other districts in New Zealand have a similar resource for promoting breastfeeding in public settings.

Plunket is the largest provider of free support services for the development, health and wellbeing of children under five in New Zealand. According to their website, Plunket sees 90% of newborns in New Zealand each year. They offer parenting information and support as well as developmental assessments of children, provide nurse support through home and clinic visits, mobile clinics and a free telephone advice service for parents. Through the provision of these services, Plunket has a large impact in New Zealand on parental care arrangements, parental attitudes towards breastfeeding, and the use of infant formula and other nutritional aspects by mothers. <http://www.plunket.org.nz/>

### **Health system and health worker training**

The New Zealand health system is primarily a public / universal health system, with some private services available. About three-quarters of government healthcare funding is administered by district health boards (DHBs). There are currently 20 DHBs in New Zealand that own and manage public hospitals (New Zealand Ministry of Health 2011).

New Zealand has a unique system where women are required to choose their lead maternity carer (LMC) for their antenatal, birth and postnatal care (New Zealand College of Midwives 2011). A LMC coordinates various aspects of maternity care. Most women and their families (over 75%) choose a midwife as their LMC. Women have access to care from midwives from early pregnancy right through until four to six weeks after the baby's birth. This system of care is free and available to all women who meet the Ministry of Health eligibility criteria. According to the New Zealand College of Midwives, “New Zealand midwives work in a partnership model of care with women. In this model each woman and her midwife are partners, working together to ensure that the woman has care that best meets her individual needs”. This system also has a dispute resolution process where mothers can make complaints about the care they are receiving.

Various New Zealand healthcare professional organisations have policies and position statements that support breastfeeding. These include position statements and policies on breastfeeding by the:

- Paediatrics & Child Health Division (Division) of The Royal Australasian College of Physicians (RACP) (2007), which states that states that “The Division supports the International Code of Marketing of Breast Milk Substitutes (1981) and the Voluntary Agreement of the Marketing in Australia of Infant Formulae (1992)” and provides guidance on actions for clinicians to take to provide the best care for mothers and infants, especially to support breastfeeding
- Public Health Association of New Zealand (2002)
- New Zealand College of Midwives (2009).

The Newborn Service within the Auckland District Health Board has an explicit feeding policy for infants, and refers to many of the national New Zealand Ministry of Health and international policies (e.g. WHO and UNICEF infant-feeding policies) supporting breastfeeding (Nicols 2009). This includes access to specific internal policies for feeding neonatal intensive care unit (NICU) preterm infants, breastfeeding policies and artificial feeding policies for healthcare staff. There does not seem to be an evaluation available of the effect of the approach taken by Auckland District Health Board on breastfeeding and awareness of the WHO Code among staff.

There was a 2008 evaluation of the breastfeeding outpatient support services offered by the Waikato District Health Board (DHB) (Hungerford & Robertson 2009). These services include postnatal outpatient service for new mothers and babies who may be experiencing difficulties with breastfeeding; for women experiencing diabetes in pregnancy who plan to breastfeed; and for allied healthcare professionals seeking advice and support for any clinical issues with lactation. This service developed from a need in the community to provide extra support to new mothers, over and above what their primary practitioner could provide. The key findings from this evaluation were that:

*“Overall the evaluation found that the Waikato DHB Breastfeeding Outpatients Service is providing an effective service that is increasing breastfeeding duration, knowledge, confidence and success for mothers, and increasing knowledge amongst health professionals. Given that the service has had limited promotion, no extra resourcing and only has one clinic a week, it is significant that so many mothers are accessing the service. There is evidence that a proportion of the population, particularly Maori, Pacific, young mothers, rural communities and low socio economic groups are not accessing the service, and as such any expansion should be focused on increasing representation in those areas in the first instance. Even without expansion the current service would benefit from increased resourcing and administrative support to enable them to more effectively manage their records and other tasks” (Hungerford & Robertson 2009).*

The New Zealand Lactation Consultants Association (NZLCA) is the professional association of Internationally Certified Lactation Consultants in New Zealand. NZLCA members have all passed a fully accredited examination set by the International Board of Lactation Consultants Examiners (IBLCE).

### **Summary**

New Zealand is proactive in implementing and monitoring the WHO Code, as well as putting in place a breastfeeding-friendly environment for families, at work, in the healthcare system and in society in general.

New Zealand adopted the WHO Code in 1983, with voluntary, self-regulatory implementation and a monitoring process was set up in 1997. There are four codes that assist in implementing the WHO Code. These are the Code of Practice for Health Workers, Infant Nutrition Council (INC) Code of Practice for the Marketing of Infant Formula, Advertising Standards Authority Code for Advertising of Food, and the Australia New Zealand Food Standards Code. The INC Code is an industry code, is self-regulating, and has deviations from the WHO Code, so may not allow New Zealand to adhere fully to the WHO Code. The Infant Feeding Association of New Zealand and the Women’s Health Action Trust both publish information about the WHO Code in New Zealand and provide information on how to report violations. The Ministry of Health also has been reviewing the complaints procedures and is aiming to improve this system.

Apart from the four codes, initiatives that are aimed at increasing breastfeeding rates and adherence include the Baby-Friendly Hospital Initiative, the Ministry of Health’s Breastfeeding Action Plan, La Leche Leagues New Zealand Breastfeeding Peer Counselling Programme, and guidance about breastfeeding given by the Department of Labour and Ministry of Women’s Affairs.

NZ women have access to limited paid maternity leave (14 weeks) but there is legislation, and numerous initiatives, to enable and support women to breastfeed in the workplace.

New Zealand has a unique system where women are required to choose their lead maternity carer (LMC) for their antenatal, birth and postnatal care. This service is freely available to all women. Various New Zealand healthcare professional organisations have policies and position statements that support breastfeeding. Some District Health Boards have explicit feeding policies for infants which refer to many of the national New Zealand Ministry of Health and international policies (e.g. WHO and UNICEF infant-feeding policies) that supporting breastfeeding. New Zealand women also have available to them professional lactation consultants through the New Zealand Lactation Consultants Association (NZLCA), which is the professional association of Internationally Certified Lactation Consultants in New Zealand.

## NORWAY

### Facts and figures

- Norway has a population of 4.9 million.
- The fertility rate in Norway is relatively high at 2.0 in 2008, assumed to be related to the Government leave and childcare policies. This is the highest fertility rate in Norway since 1975.
- The average age of first time mothers was 28.1 in 2008 and the proportion of births by caesarean section was 17% (Statistics Norway 2010).

Like many other industrialised nations, Norway saw rates of breastfeeding decline in the late 20th century and in the 1960s only 20% of mothers were breastfeeding at six months (Grovslien & Gronn 2009); however, from the 1970s rates increased and Norway currently has high rates of initiation and duration of breastfeeding.

The 2008 “Spedkost – 6 måneder” was a survey of a nationwide sample of 3,000 six-month-old infants reporting on infant nutrition. The final sample was 2,977 (67% response rate). The survey had been previously conducted in 1998. The survey was conducted by the University of Oslo, on behalf of the Health Department and the Food Safety Authority (Norwegian Health Directorate 2008).

Only 1% of infants had never received any breast milk with the rates of any breastfeeding 95% at four weeks of age, 85% at four months of age and 80% at six months of age. Rates of exclusive breastfeeding were 82% at four weeks of age, 46% at four months and 9% at six months of age. At six months of age 88% of infants had been introduced to solid food. Vitamin D supplementation is common in Norway, 80% of infants received fish oil or other vitamin D supplements daily or weekly at six months of age. Compared to the 1998 survey, the proportion of infants breastfed at six months remained stable. There was a lower proportion who were introduced to solid foods before four months of age in 2006 (11%) than in 1998 (21%) (Norwegian Health Directorate 2008).

The 2007 “Spedkost – 12 måneder” surveyed 2,872 infants at 12 months of age. The final sample was 1,635 (57% response rate). Rates of any breastfeeding were 75% at seven months of age, 63% at nine months and 46% at twelve months of age. Of those being breastfed at twelve months of age, the average was 3.5 times per days. Compared with the 1999 survey, there were higher proportions breastfed at twelve months of age in 2007 (46%) than in 1999 (36%) (Norwegian Health Directorate 2009).

Two other studies of infant feeding reported similar findings (Haggkvist et al 2010; Kristiansen et al 2010). The Norwegian Mother and Child Cohort Study (MoBa) by the Norwegian Institute of Public Health is a pregnancy cohort that in the years from 1999 to 2008 included 107,000 pregnancies. The study by Haggkvist included infants born between 2002 and 2005; the final sample was 29,621. The prevalence of full breastfeeding during the first week was 81.7%. The proportion of those exclusively breastfed was 70.5%, while 11.3% were predominantly breastfed. Among those who did not fully breastfeed, 17.0% were partially breastfed and 1.3% were not breastfed at all. Rates of any breastfeeding and of exclusive breastfeeding are presented in Table 24. Cessation of full breastfeeding during the first month of life was associated with supplementation with water, sugar water or formula during the first week of life, caesarean delivery and breastfeeding problems, but not institution size. Transfer to NICU was associated with a lower risk. Supplementation with formula was associated with a sixfold risk of cessation of full breastfeeding during the first month (RR 5.99; 95% CI 5.58, 6.42). Caesarean delivery and supplementation with water, sugar water or formula during the first week of life were still associated with an increased risk of cessation of full breastfeeding in the time interval between months 1 to 3 (Haggkvist et al 2010).

The second study consisted of a nationwide sample of about 3,000 Norwegian infants established by Statistics Norway. The sample included all infants born in Norway during a three-week period from 17 April to 8 May in 2006. Surveys were conducted at six and twelve months of age. Data from 1,490 infants who participated in both surveys were included. Ninety-two percent of the infants were exclusively breastfed at one week of age; 1.5% of the infants had never been breast-fed. The rates of any and exclusive breastfeeding are presented in Table 24. Ten percent of the infants were introduced to solid foods before four months of age. Factors associated with breastfeeding at six months and twelve months were maternal age and maternal education while a negative association was observed for maternal smoking. At 12 months of age, a negative association was also observed for having day care by other than the parents (Kristiansen et al 2010).

Data across the three surveys are consistent overall with the major variation being in rates of exclusive breastfeeding at six months which ranges from 2.1–10%.

**Table 24: Breastfeeding rates in Norway reported by three large studies**

| Study   |                         | Infant age (months) |    |    |    |    |    |    |
|---|-------------------------|---------------------|----|----|----|----|----|----|
|   |                         | 1                   | 2  | 3  | 4  | 5  | 6  | 12 |
| MoBa<br>(Haggkvist et al 2010)                  | Any breastfeeding       | 97                  | 94 | 91 | 87 | 84 | 80 |    |
|   | Full breastfeeding      | 85                  | 79 | 71 | 44 | 17 | 2  |    |
| Spedkost<br>(Norwegian Health Directorate 2009) | Any breastfeeding       | 95                  |    |    | 85 |    | 80 | 46 |
|   | Exclusive breastfeeding | 82                  |    |    | 46 |    | 9  |    |
| Statistics Norway<br>(Kristiansen et al 2010)   | Any breastfeeding       | 96                  | 92 | 89 | 86 | 84 | 82 | 46 |
|   | Exclusive breastfeeding | 84                  | 75 | 65 | 48 | 26 | 10 |    |

### Implementation of WHO Code

Shortly after the WHO Code was enacted in 1983, a voluntary agreement was entered into between the Norwegian health authorities and the children's food industry on the marketing of breast milk substitutes in Norway; this voluntary code is still in effect. There are only two infant formula manufacturers in Norway: Nestlé Norge and the Norwegian TINE Småfolk Barnemat which is a subsidiary of Semper. Infant formula is also regulated under food and drug regulations in Norway. The most recent and comprehensive regulations are the 2008 "Regulations relating to infant formula (nr 936)" (Ministry of Health and Care Services 2008) which cover the composition, labelling, marketing and advertising of infant formula, with twin aims of ensuring that infant formula is safe and that breastfeeding is promoted and protected. Regulations governing composition are in line with the EU Directive 2006/141/EC on infant formulas and follow-on formulas which gives minimum and maximum limits for nearly all nutrients for both infant formulas and cereals and includes some of the provisions of the WHO Code (European Union 2006). This directive amended Directive 199/21/EC. The 2008 revision of the 2001 Norwegian regulations were in response to this directive.

The Norwegian regulations are strongly aligned to the EU directive and state that a label must include information about breastfeeding's unsurpassed value; a request that formula be used only on the recommendation of an independent health professional; and that no pictures of babies or other images which idealise formula-feeding are permitted. Advertising of infant formula is restricted to scientific publications and must only contain information of scientific fact and character. Furthermore, handing out samples and other promotional methods is not allowed. Manufacturers and distributors are not allowed to hand out free products, offer discounted products, provide samples or provide any other promotional gifts to the public either directly or indirectly through the public health sector. Educational information for pregnant women and mothers is to include information on the possible negative effects of introducing bottle-feeding with regards to breastfeeding. Donations and offers of infant formula to institutions and organisations are also restricted. The Norwegian regulations incorporate many but not all aspects of the WHO Code. A summary is presented in Table 25.

**Table 25: Implementation of the WHO Code in Norway**

| Article of the WHO Code             | Implemented   | Partially implemented/Not implemented  |
|-------------------------------------|---|--|
| Article 2: Scope                    | Regulations refer to compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as less than 12 months of age). They also outline restrictions on advertising and the provision of information on infant and young child-feeding to pregnant women and mothers of infants and young children. | The regulations have a very limited scope and apply only to infant formula and follow-on formula rather than the whole range of products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.). |
| Article 4: Information & Education  | Chapter 5: Information and educational materials nearly mirrors Article 4 of the WHO Code.<br>Also mirrors Article 15 of the EU directive.  | Only refers to infant formula; not all material related to infant and young child nutrition.   |
| Article 5: General public & mothers | Chapter 4: Presentation, marketing and advertising (Article 14 EU directive) restricts advertising to scientific publications and to information of a scientific and factual nature (5.1. WHO Code). Point of sale advertising, giving of samples and other promotional devices to the consumer at retail level are   | Appears to include infant formula and follow-on formula (an extension on the EU directive) but still excludes other materials related to infant feeding.   |

|   |   |   |
|---|---|---|
|   | prohibited (5.2, 5.3 WHO Code).   |   |
| Article 6: Health care systems                                | Chapter 5: Information and educational materials #24 (EU Article 15 #4) closely mirrors 6.6 WHO Code restricting donations or low-price sales to infants who have to be fed on infant formula and only for as long as required. | Other aspects of Article 6 are not included.  |
| Article 7: Health workers                                     |   | Not implemented in regulations.   |
| Article 8: Persons employed by manufacturers and distributors |   | Not implemented in regulations.   |
| Article 9: Labelling  | Chapter 3: labelling (EU Article 14) closely mirrors Article 9.2. All ingredient and compositional labels are also specified as per Article 9.4.  | Some aspects related to Article 9.2 do not appear to apply to follow-on formula (“important information” notice) while others do (terms such as “humanised”). |
| Article 10: Quality   | Chapter II: Composition. EU directive and regulations include strict limits on pesticide residues.  |   |
| Article 11: Implementation & Monitoring                       | Chapter VII: Administrative provisions #25 specified that producers/importers submit specified information including a copy of the product labelling.   | Formal monitoring of all aspects not covered in regulations.  |

In addition to the voluntary code and regulations, the WHO Code is part of national nutrition policy as is the implementation of the Baby Friendly Initiative (see below), which supports the WHO Code. The Action Plan for Better Nutrition 2007–2011 includes the following objective:

*“Facilitate the incorporation of the entire WHO code of marketing of breast milk substitutes in the Norwegian legislation, and to ensure that the code is followed.”*

The document notes that the code is only partially addressed in Norway and that the voluntary agreement does not work fully. It commits to the establishment of a working group to map out how the Code and relevant resolutions can best be carried out in Norway and possibly incorporated into law as well as how the Code can be monitored (Norwegian Departementene 2007).

## Complementary policies

### Government policies and initiatives

The Norwegian Government released an Action Plan for Better Nutrition 2007–2011 with a vision of better health for the population through a healthy diet. One of the goals of the plan was that babies breastfed in line with recommendations and the following objectives were set:

- The percentage of infants who are exclusively breastfed at four months of age to increase from 44% to 70%.
- The percentage of infants who are exclusively breastfed at six months of age to increase from 7% to 20%.
- Percentage of infants breastfed at 12 months of age to increase from 36% to 50%.

The secondary objectives around breastfeeding are as follows:

- Provide updated informational material on breastfeeding, infant and young child nutrition.
- Continue and further develop the Baby Friendly Initiative.
- Facilitate the incorporation of the entire International Code of Marketing of Breast-milk Substitutes in the Norwegian legislation, and ensure that the Code is followed.

- Maintain established maternity leave arrangements for women and explore the possibility of paid breastfeeding breaks so that all women who wish to breastfeed in accordance with the health authorities' recommendations are able to do so.
- Review and develop national recommendations for infant and young child nutrition for premature infants.
- Further the measures relating to the introduction of the EU infant food directives in Norway.
- Work to establish a system for national breastfeeding statistics.
- Consider introducing a nationwide program of free vitamin D supplements for infants from non-western immigrant backgrounds (Norwegian Departementene 2007).

The plan covers the period from 2007/11 and it is not clear the extent to which these objectives have been met. Nevertheless, the plan provides a strong statement from the Norwegian Government on the value it places on breastfeeding and its strategies for promoting it. The Norwegian Government has had a strong policy on breastfeeding since the 1970s and in 2001 issued revised infant feeding recommendations in line with the WHO guidelines of exclusive breastfeeding for the first six months of life. The Health Department's publication "Food for Infants" is the most recent publication based on the 2001 recommendations. It provides the following advice:

- Infants should receive breast milk as the only food in the first six months of life. Breastfeeding should be continued throughout the first year and preferably longer.
- If breastfeeding is not possible, or there is a need for some milk as well as breast milk, infant formula should primarily be used up to 12 months of age.
- When the infant is six months old, solid foods should be gradually introduced as well as mother's milk, so that the need for energy and nutrients are covered. Some children may need solid foods before six months of age, but introduction should take place no earlier than at four months of age. Children who do not get breast milk can be introduced to solid foods at four to six months of age.
- All infants should receive daily supplements of vitamin D from four weeks old. It is recommended that infants receive vitamin D supplements in the form of cod liver oil. Children who do not get cod liver oil, should be given vitamin D drops (Helsedirektoratet 2011).

This advice mirrors the advice contained in an earlier publication aimed at health professionals (Helsedirektoratet 2001).

### ***Implementation of the Baby Friendly Hospital Initiative***

Norway was an early adopter of the Baby Friendly Hospitals Initiative and in the period 1993/96, 36 of 56 maternity hospitals were designated as baby-friendly with 77% of Norwegian infants born in these hospitals. In 1999, Norway appointed a National Breastfeeding Coordinator based at Oslo University called the National Breastfeeding Centre which is responsible for the continued implementation and monitoring of the BFHI. In 2005, this centre was approved as a National Resource Centre. It has the following functions:

- Secure national capacity building, networking and dissemination of knowledge.
- Establish necessary professional standards and communicate these.
- Contribute to research and development in the field.
- Provide advice and technical support to health services.
- Be the advisory body for the country's authorities.
- Strengthen the social factors that facilitate optimal breastfeeding.
- Strengthen international cooperation to promote breastfeeding.

As of June 2010, Norway has 43 of 53 maternity hospitals with BFI accreditation and estimated that more than 90% of babies were born at BFI accredited hospitals. From 2005, Norway has expanded its definition of the BFI to include neonatal wards and child health clinics. Norway currently has 19 of 21 neonatal wards designated baby-friendly, and is part of a Nordic and Quebec working group developing guidelines and the 10 steps for neonatal wards. There are 1,200 health centres and the initiative for these is being developed under the title "breast health expert". There are six steps for a centre to meet the criteria and during 2009/10 the first five centres were approved.

### **Other complementary policies**

The peak non-government organisation promoting breastfeeding in Norway is Ammehjelpen, the Norwegian Nursing Council which was established in 1968 and offers advice and support to breastfeeding mothers (<http://ammehjelpen.no/>).

### **Workplace**

Of the approximately 2.5 million people aged 15–74 in paid employment in Norway, women account for 47%. This is a participation rate of 71% of women and 77% of men. Women are more likely to work part-time than men, 43% compared to 13%. Women are also more likely to be employed in the public sector, 48% compared to 19% (Statistics Norway 2010). The rate of women working part-time in Norway is higher than for other Nordic countries and close to the EU average. The employment rate for women with children under three is unclear as women on leave are classified as employed; therefore, while the employment rate of women with children under three grew from 66 to 73% in the 1990s, the proportion of mothers on leave also increased from 25 to 35% (Ellingsaeter 2009).

Norway has a generous paid parental leave scheme and first introduced paid maternal leave in 1956 with 12 weeks of leave (Gupta et al 2008). In 2009, parental leave was extended by two weeks to either 46 weeks with full pay or 56 weeks with 80% pay. This leave is composed of nine weeks of maternity leave (three weeks before birth and six weeks after), 10 weeks of leave reserved for fathers, which was extended in 2009 from six weeks, and parental leave of either 27 weeks at 100% compensation or 37 weeks at 80% compensation. Leave may be taken on a part-time basis until the child is three years old. Eligibility is based on having a pensionable income in six of the ten months immediately prior to the receipt of parental benefits (Ellingsaeter 2009). Two out of three women who are entitled to parental leave opt for longer leave at 80% pay. Three out of five fathers entitled to parental leave took six or more weeks of leave (Statistics Norway 2010). Women who do not qualify for parental leave receive a lump sum grant. In addition to paid leave, each parent in Norway is entitled to an additional year of unpaid leave before the child's third birthday, therefore the total length of statutory unpaid leave is three years.

Norway has not ratified the International Labour Organization Maternity Protection Convention (No.183); however, under the Working Environment Act a woman can take half an hour twice a day to breastfeed her child, or may have reduced working hours for up to one hour per day. However, this leave is not paid. Employees of the public service are entitled to paid breastfeeding breaks of up to two hours per day. Exploring the option of paid breastfeeding breaks is an objective of the Action Plan for Better Nutrition 2007–2011 and the Norwegian Government has produced options for implementing these and has sought feedback (Norwegian Government (Regjeringen) 2011).

Care for children less than one year of age is predominantly home-based with only 3% in centre-based care whereas from one to three years 42% of this of children are cared for full-time by parents and 48% are cared for in regulated services. Since 2005, fees for childcare services are capped at 20% of the cost of services and the Government had the goal of full coverage (meeting demand) for pre-school children by the year 2006 (Organisation for Economic Co-operation and Development 2006). In addition to publicly funding childcare, the Norwegian Government provides a “cash for care” scheme designed to offer parents a choice regarding childcare. First introduced in 1998, the scheme offers parents with children aged one and two years old who do not attend publicly subsidised childcare a monthly amount equivalent to the state subsidy of a full-time place in childcare services. The cash benefit follows after the end of paid parental leave (Ellingsaeter 2003). Usage of the scheme has declined from 75% in 1999 to 34% in 2009 (Statistics Norway 2010) and the scheme did not appear to alter employment among women in the target group; that is many parents received the benefit but few used it to reduce their time in paid employment (Ellingsaeter 2003). The scheme was slated for restructuring following the introduction of universal childcare (Organisation for Economic Co-operation and Development 2006).

### **Culture**

In the introduction to a report on milk banking in Norway, the following claim was made:

*“today there is no problem with breastfeeding almost anywhere at any time. A mother might get an ugly glance once in a while, but restaurants, shopping centres, and even government offices allow breastfeeding without any discussion.”* (Grovslien & Gronn 2009)

### **Health system and health worker training**

The high level of implementation of the BFI in Norway is likely to result in a high level of health professional training regarding breastfeeding. In addition, the National Breastfeeding Centre is actively involved in

continuing education for health professionals and, in partnership with University College in Hedmark, runs a part-time course over two semesters designed to increase the competence of health professionals who work with breastfeeding mothers. It also runs an e-learning course available to all hospitals and annual medical courses.

### **Summary**

Norway has almost universal initiation of breastfeeding with only 1% of babies never receiving any breast milk and rates of any breastfeeding at six months remain high at around 80%; however, the rate of exclusive breastfeeding at six months is low at 10% with a steep decline in this measure between the 4th and 5th month of life. The Government has set targets for breastfeeding rates and has a number of objectives in order to achieve these. Additionally, since 1999 Norway has had a National Breastfeeding Coordinator based at Oslo University called the Nation Breastfeeding Centre.

Although Norway is not formally a member of the EU, implementation of the WHO Code in Norway through legislation mirrors the EU directive which reflects many aspects of the WHO Code but is narrower in scope. There is also a voluntary agreement which has been in place in Norway since 1983. There are only two infant formula manufacturers in Norway which may make a voluntary code easier to implement; nevertheless it is claimed that this agreement does not work fully. The Government committed to “facilitate the incorporation of the entire WHO Code of marketing of breast milk substitutes in the Norwegian legislation, and to ensure that the code is followed” in its Action Plan for Better Nutrition 2007–2011. It is not clear to what extent steps have been taken to do this.

Norway was an earlier adopter of the BFHI and between 1993 and 1996 designated 33 of 56 hospitals baby-friendly. Many of these hospitals have since been reassessed to ensure they retain accreditation. Currently more than 90% of babies are born at BFHI-accredited hospitals. Further to this, Norway has expanded the program to include neonatal wards of which 19 of 21 are accredited and is also working towards accreditation for 1,200 health centres.

The high workforce participation rates of women in Norway and high fertility rate reflect the family-friendly policies prevalent in Nordic countries which include generous parental leave arrangements, allowing women to care for children at home for the first year of life reflected in only 3% of these children being in centre-based care. No studies on attitudes to breastfeeding in Norway were identified and this may reflect that cultural barriers to breastfeeding are less prevalent in Norway which is considered to have relaxed attitudes towards the body and a high commitment to gender equality.

## UNITED KINGDOM

### Facts and figures

For many years UK Government policy has been to increase rates of breastfeeding based on a strong evidence base of the health benefits conferred on mothers and children. However, despite a series of initiatives by the Department of Health (DH) to promote breastfeeding, rates have increased only marginally in the past 20 years. Increasing breastfeeding initiation and duration is one of the DH's national targets for improving the health of the population, as set out in the National Service Framework (NSF) for Children (Maternity).

- In 2008 there were 794,400 live births in the UK according to the Office of National Statistics in the UK.
- The TFR in the UK was 1.96 children per woman in 2008. The last time UK fertility was higher was in 1973.
- The average (mean) age for giving birth in the UK continued to rise, from 29.3 in 2008 to 29.4 in 2009. Mothers giving birth in 2009 were one year older on average than in 1999, when the mean age was 28.4.
- In 2009, UK fertility rates for women aged 35–39 and 40+ continued to increase, in line with this long-term trend.

In the UK the main source of breastfeeding statistics has been the Infant Feeding Survey. This survey has been conducted every five years since 1975 on behalf of the four Health Departments in the UK; however, only results from 2000 onwards are accessible to the general public. The main aim of the survey is to provide estimates on the incidence, prevalence and duration of breastfeeding and other feeding practices adopted by mothers in the first eight to ten months after their baby was born. The survey is based on an initial representative sample of mothers who were selected from all births in the UK with data being collected in three stages. The first stage is collected when the babies are approximately 6–10 weeks old, the second when they are 4–6 months old and the third when they are 8–10 months old. The most recent survey was in 2010 and only preliminary results are available with a full report expected to be published mid-2012. As such the below results draw from both the 2005 (National Statistics 2005) and 2010 (The NHS Information Centre 2011) findings.

- In 2010, the incidence of breastfeeding was 81% in the UK, an increase from 76% in 2005.
- England had the highest incidence with 83% compared with Northern Ireland which had the lowest recording an initial breastfeeding rate of 64%. This compares to the 1995 survey results which reported initial breastfeeding rates of 68% in England and Wales, 45% in Northern Ireland.
- 79% of babies immediately exposed to skin-to-skin contact were breastfed, compared to 87% within an hour compared with 57% of babies with no such contact.
- There was no variation in the likelihood of breastfeeding initially by nature of birth. In addition mothers were equally likely to be breastfeeding at one week and two weeks regardless of delivery method.
- In 2005, 45% of all mothers in the UK were breastfeeding exclusively at one week this drops to 28% at 4 weeks and 21% at six weeks. At two and four months 18% and 7% of mothers are exclusively breastfeeding and at six months the proportion of mothers who were breastfeeding exclusively was negligible (<1%).
- Partially breastfeeding rates were better with 48% breastfeeding at six weeks and 25% at six months.
- By 5 months over 80% of mothers had introduced solid foods into the diet of their babies.

From the 2005 survey, factors found to affect initiation include:

- Socio-economic status: Professional managerial and technical workers were more likely to initiate breastfeeding (88%) than those in non-manual, semi-skilled, skilled or manual employment (65%). Introduction of food or fluids was also more common among mothers from lower socio-economic groups.
- Ethnicity: Mothers from all minority ethnic groups were more likely to breastfeed compared with white mothers.
- Education level: Across the UK mothers who had left full-time education at 16 years or younger were the least likely to breastfeed (59%), while those who had left full-time education at 18 or older were the most likely to breastfeed (91%).
- Age of the mother: It was found that the younger the mother when she gave birth, the less likely she was to initiate breastfeeding (regardless of standardisation of age).

- Parity/Birth order: Incidence of breastfeeding is higher among mother of first babies (79%) compared with later babies (73%), and was seen in all countries. However, the gap appears to be closing.
- Previous unsatisfactory breastfeeding experience: Data from the 2000 and 2005 surveys indicated that the proportion of mothers who did not breastfeed their previous baby and switched to breastfeeding this time around rose from 27% in 2000 to 35% in 2005.

### Implementation of WHO Code

In the UK, the WHO Code's interpretation and implementation is through law rather than self-regulation. The Code was first given legal effect in the UK in 1995 through the Infant Formula and Follow-on Formula Regulations 1995. These implemented the 1991 Directive 91/321/EEC on infant and follow-on formula, which sets out compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as less than 12 months of age). It also outlines restrictions on advertising and the provision of information on infant and young child-feeding to pregnant women and mothers of infants and young children. As such the main articles of the WHO Code covered by these regulations are Article 5: the general public and mothers and Article 9: Labelling. The 1995 Regulations restricted advertising of infant formula, permitting advertisements only in scientific publications or for the purposes of trade prior.

In 2007, the Government announced new regulations on infant formula and follow-on formula (Table 26). These regulations tightened the earlier legislation especially around follow-on formula. At the same time, a review on the effectiveness of the new controls on the advertising and presentation of follow-on formula was announced. An independent panel of experts was asked to assess whether the new controls on the way in which follow-on formula is presented and advertised have been effective in making clear to parents/parents to be and carers that advertisements for follow-on formula are meant only for babies over six months and are not perceived or confused as infant formula advertising.

The review reported in 2010 and found that overall the controls are having the desired effect, but some advertisements are sometimes interpreted as being for follow-on formula rather than infant formula. As such the review concluded that the controls in place should be enhanced/strengthened. This includes requiring manufacturers to make changes to advertising, to make it clear that follow-on formula is intended for babies over six months, for example specify the age of the child in the voiceover of television advertisements and ensure infants over six months are unambiguously displayed on advertising. The report has been submitted to the Department of Health however a response is yet to be published.

In terms of compliance and monitoring the Advertising Standards Authority (ASA) in the UK is responsible for breaches of the Infant Formula and Follow-on Formula Regulations 2007 (as amended). The ASA provides a searchable database for all adjudicated decisions back to December 2005. In a review of this database (2005/10) (Burgess & Quigley 2011), 12 adjudicated decisions related to formula were identified, with 2 of these being upheld. In terms of nutrition labelling however, the Department of Health is responsible in England, while the Food Standards Agency (FSA) retains responsibility for labelling policy in Scotland, Wales and Northern Ireland.

In 2008/09, the Baby Milk Action Group coordinated a UK monitoring project on baby food marketing practices on behalf of the Baby Feeding Law Group (BFLG). Reports were produced quarterly which were accepted by Trading Standards Home Authorities responsible for each formula manufacturer as well as their umbrella body. The reports were also sent to the Government's Independent Review Panel and to the ASA.

In addition to the above legislation, guidelines are in place in the UK in regards to health systems and health workers. NICE has published two related guidelines (NICE 2006; NICE 2011). These guidelines contain recommendations for breastfeeding and for health workers (e.g. there should be no distribution of commercial packs containing formula milk or advertisements for formula to women when they are discharged from hospital). While it is recommended that NICE guidelines are followed and tools are available for audit and implementation they are not mandatory.

**Table 26: Implementation of the WHO Code in the UK**

| <b>Article of the WHO Code</b>                                | <b>Implemented</b>   | <b>Partially implemented/Not implemented</b>   |
|---|--|--|
| Article 2: Scope  | Regulations refer to compositional and labelling requirements for infant formulas and follow-on formulas intended for use by infants (defined as less than 12 months of age). They also outline restrictions on advertising and the provision of information on infant and young child feeding to pregnant women and mothers of infants and young children.  | The regulations have a very limited scope and apply only to infant formula and follow-on formula rather than the whole range of products covered by the WHO Code (including all breast-milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc.).                   |
| Article 4: Information & Education                            | Section 24: Information and educational materials dealing with the feeding of infants nearly mirrors Article 4 of the WHO Code.  | Only refers to infant formula, not all material related to infant and young child nutrition.   |
| Article 5: General public & mothers                           | Advertising of infant formula is restricted to scientific publication or a publication not intended for the general public and shall only contain “information of a scientific and factual manner”. Follow-on formula advertising is allowed but has labelling restrictions. Samples and gifts (5.2) Manufacturers and distributors of infant formula are prohibited from giving free or low-priced products, samples or any other promotional gifts to mothers either directly or indirectly. Point of sale advertising and samples (5.3) of infant formula are banned. | Advertising of infant formula is restricted – but not banned. Advertising of follow-on milks is also allowed but with labelling requirements and other breast-milk substitutes or bottles and teats are not addressed in any of the other requirements such as provision of samples and gifts. |
| Article 6: Health care systems                                | Section 24.4 closely mirrors 6.6 WHO Code restricting donations or low-price sales to infants who have to be fed on infant formula and only for as long as required.   | Other aspects of Article 6 are not included but discussed in NICE guidelines which are not mandatory.  |
| Article 7: Health workers                                     |  | Not implemented in regulations but discussed in NICE guidelines which are not mandatory.   |
| Article 8: Persons employed by manufacturers and distributors |  | Not implemented in regulations.  |
| Article 9: Labelling  | Section 17 and 18: Labelling (EU Article 14) closely mirrors Article 9.2. All ingredient and compositional labels are also specified as per Article 9.4.   | Some aspects related to Article 9.2 do not appear to apply to follow-on formula (“important information” notice, pictures of babies). Additional statement that labelling should avoid the risk of confusions between infant formula and follow-on formula.                                    |
| Article 10: Quality   | Section 29 outlines provisions need to be made under Food Safety Act.  |  |
| Article 11: Implementation & Monitoring                       |  | Formal monitoring of all aspects not covered in regulations.   |

### Complementary policies

#### **Implementation of the Baby Friendly Initiative (BFI) in maternity and community services**

The Baby Friendly Initiative was launched in the UK in 1994. It provides a framework for the implementation of best practice by NHS trusts in terms of supporting breastfeeding. Best practice in this case is represented by the Ten Steps to Successful Breastfeeding (for maternity units). In 1998 the BFI principles were extended to

cover the work of community healthcare services the Seven Point Plan for the Protection, Promotion and Support of Breastfeeding in Community Health Care Settings. In the UK:

- 69 maternity hospitals out of 460 maternity hospitals have Baby Friendly accreditation.
- 13 community facilities have Baby Friendly accreditation
- 14% of births in England take place in a baby-friendly hospital, compared to 54% in Scotland, 58% in Wales and 61% in Northern Ireland.

In 2006, the National Institute for Health and Clinical Excellence (NICE) made implementing the UNICEF BFI in both hospital and community health care settings one of six key recommendations in its Clinical Postnatal Care Guidelines (NICE 2006). This followed on from substantial evidence which demonstrated that the BFI is both a clinically sound and cost-effective intervention to improve healthcare. Two years later, a second NICE guideline concerning the nutrition of pregnant women, mothers and babies recommended the implementation of the BFI (NICE 2011).

The Breastfeeding Manifesto Coalition in the UK (<http://www.breastfeedingmanifesto.org.uk/>) which is made up of more than 40 organisations including the Royal Colleges of Paediatrics and Child Health, Obstetricians and Gynaecologists, General Practitioners, and Midwives has called on the UK Government to support its manifesto, published in 2006. This manifesto includes seven objectives which incorporate many of the goals and strategies outlined in the overview of breastfeeding national strategies. One of these objectives also involves the inclusion of breastfeeding education in the curriculum at nursery, primary and secondary levels to enable young people to grow up with an understanding of the benefits of breastfeeding.

Healthy Start is a UK-wide government scheme to improve the health of low-income pregnant women and families on benefits and tax credits. Women who are at least 10 weeks pregnant and families with children under four years old qualify for Healthy Start if the family is getting income support. As part of the program families are given vouchers. These vouchers can be spent on plain milk, fresh or frozen fruit and vegetables, or infant formula milk. While the program does support the purchase of infant formula the vouchers cannot be used to buy follow-on formula milk. As stated in a report written by the Caroline Walker Trust (Crawley & Westland 2011) the HealthyStart voucher scheme has contributed significantly to the growth of the infant milk market in the UK. The report cites an independent study that suggests that between £15 million and £20 million of infant milk sales in the UK were through the Healthy Start scheme in 2007.

The Department of Health acknowledges that it is unclear what the positive or negative impacts of Healthy Start might be and have funded a national evaluation of the Healthy Start scheme. In addition there is also a number of large-scale intervention trials ongoing in UK with the findings expected to be published in 2013/14.

### **Culture**

Despite extensive government and community efforts promoting the benefits of breastfeeding it would still appear that there is a conflict between the known health benefits of breastfeeding and cultural attitudes to breastfeeding women. 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. Historically in the UK it was considered the cultural norm to formula feed babies and not only did most women formula feed but this practice was legitimised by the healthcare sector (Dyson et al 2010).

This is supported by a study undertaken in 1999 which looked at how infant feeding was portrayed in the British media. It was found that bottle-feeding was predominantly associated with "ordinary" families whereas breastfeeding was associated with middle class or celebrity women (Henderson et al 2000). Further, media coverage implied that breastfeeding was problematic, funny and embarrassing.

These types of "myths" around breastfeeding resulted in the Department of Health in 2004 undertaking a telephone survey of 1,000 women exploring issues around breastfeeding and the barriers preventing women giving their babies breast milk. The survey found that 34% of women believed that modern formula milks were very similar or the same as breast milk. A fifth of women aged 16–24 feared their breasts or bodies would change shape through breastfeeding. The survey also showed that 67% of women felt the general public find breastfeeding in public unacceptable. In the UK breastfeeding in public (restaurants, cafes, libraries etc.) is protected under the Sex Discrimination Act 1975 and in 2005 in Scotland specific legislation (Breastfeeding etc. (Scotland) Act 2005) was passed safeguarding the freedom of women to breastfeed in public.

A key indicator of cultural acceptability is perhaps the number of women who breastfeed in public. From the 2005 Infant Survey (National Statistics 2005) it was reported that by four to six months 39% of women in the UK had breastfed and 67% had bottle-fed in public. By eight to ten months the proportion who had breastfed in public remained at 39% while the proportion bottle-feeding in public rose to 78%. The rate of breastfeeding in public was highest in England and lowest in Northern Ireland at both stages. It was also found that mothers who were classified as having managerial or professional occupations were more likely than those in routine/manual occupations to have breastfed (63% compared to 40%). This trend was evident for older mothers (more likely to breastfeed in public if aged over 30 years) and mothers who had been educated beyond the age of 18 years. Mothers who breastfed a subsequent baby rather than their first were more likely to breastfeed their baby in public (59% compared with 45%). It is interesting to note that the first four of the above associations – education level, socio-economic group, age and birth order are all to some extent linked with duration of breastfeeding. However, while women from different ethnicity backgrounds were more likely to breastfeed they were less likely than white women to have breastfed in public; this was especially the case among Asian mothers.

The survey also asked the small group of mothers who would have liked to breastfeed in public but who had not done so the reasons for not breastfeeding in public. The two most cited reasons were a perceived lack of suitable venues and lack of confidence.

A different picture however is presented in those studies that have looked at psychosocial factors influencing infant feeding. Much of this work has been done in groups from lower socio-economic backgrounds or young mothers. Mothers aged 20 years or younger are the only group in the UK who have not experienced a significant increase in breastfeeding initiation rates over the past 10 years. In a recently published study of socially deprived pregnant teenagers the single most important factor influencing breastfeeding was the negative moral norms about breastfeeding and to the point that it was viewed as inappropriate. Sexuality and self-esteem were also themes that emerged as having an impact on this group choosing to use formula. These findings echo the research of white low-income men who had similar views. There was also a belief that formula feeding was equivalent, if not superior to breastfeeding in terms of convenience and safety (Dyson et al 2010).

The role of family, particularly fathers in the cultural acceptability of breastfeeding has received increasing attention. In a small study of 19 women paternal involvement was particularly important in those who had chosen to formula feed. Responses as to why formula feeding was chosen in general fell into one of two categories. In the first category participants seem keen to encourage fathers to share in the “daily grind” of early motherhood. The second category was related to mothers having “time out” from the continuous demands of caring for a newborn baby. Many participants in this study expressed a strong desire to re-establish their identities as non-mothers.

The fact that the UK has one of the lowest rates of breastfeeding in the developed world and yet has in place many initiatives to promote breastfeeding indicates that women’s ability to choose to breastfeed is constrained by barriers at a range of levels and is far from being a simple matter of informed choice. It requires women, preferably in advance of childbirth, to adopt a certain attitudinal and lifestyle orientation in tandem with others in their support network (Lee 2011a).

### **Workplace**

Of the approximately 29 million people aged 15–64 in paid employment in the UK, women have a participation rate of 65% of women and 75% of men. Women are more likely to work part-time than men, 42% compared to 10% (Massarelli & Wozowczyk 2010).

The UK has had a national scheme of Government-funded paid maternity leave for nearly 30 years. Since 1994, it has been progressively improved and expanded – initially to comply with the European Union Pregnant Workers Directive and the EU Equal Treatment Directive and more recently as part of the UK Government’s policy to increase women’s participation and retention in the labour market and to support working parents.

All working women in the UK are entitled to 52 weeks maternity leave regardless of how long they have been with their employer, how many hours they work or how much they are paid, as long as they meet certain notification criteria. New mothers do not have to take all their entitlement. But by law they cannot go back to work in the first two weeks after the baby has been born or for four weeks if they work in a factory.

Paid maternity leave is available to nearly all working women (95%) and is subject to some basic preconditions. To qualify for statutory maternity pay (SMP), a woman must have worked for her current employer for a minimum period of 26 weeks, and earn above the minimum earnings level for paying national insurance. As from 1 April 2007, female employees who meet these criteria are entitled to 39 weeks of paid maternity leave, with the first six weeks paid at 90% of the employee's usual earnings and the remainder at a fixed or flat rate. Working women who do not qualify for SMP are entitled to Maternity Allowance. The standard rate of maternity allowance is £123.06 or 90% of average weekly earnings, whichever is lower. This is paid for 39 weeks. In 2009, the Government announced it would not go ahead with the planned extension of statutory maternity pay from 39 to 52 weeks. It had been planned to implement this policy by April 2010 but this has now been postponed indefinitely.

While the UK offers benefits above the ILO in terms of maternity leave there is no provision for paid breastfeeding breaks or shorter working hours. Employers are encouraged to provide a private, healthy and safe environment for nursing mothers to express and store milk and some legal protection is offered in the UK under health and safety and sex discrimination laws in that employers have legal obligations to provide:

- health and safety protection
- flexible working hours and protection from indirect sex discrimination
- rest facilities
- all women 52 weeks maternity leave (26 weeks of ordinary maternity leave and 26 weeks of additional maternity leave)
- paid maternity leave for 39 weeks (6 weeks at 90% of full pay and remainder at a flat rate)

However, there are no legal provisions in the UK for breastfeeding breaks

Recently in the UK there has been some discussion around the legal entitlement of women to breastfeeding breaks at work. The issue has received some attention as a result of the proposed amendments to the European Directive on Pregnant Women. The amended directive proposes minimum standards for maternity leave and pay, health and safety protection at work, paternity leave and pay, breastfeeding breaks and other working conditions affecting pregnant women and new mothers. If passed this would extend maternity rights and protections that member states, including the UK must provide. These amendments were passed by the European Parliament in October 2010. However, the revised directive was blocked in the Council of Ministers and has been returned to the European Commission for further consideration.

Data from the Infant Feeding Survey in 2005 (National Statistics 2005) show that when statutory maternity entitlements for women increased in 2003 to six months paid leave together with a further six months unpaid leave there was an increase in women on maternity leave. The number of women who stopped breastfeeding because of returning to work also decreased between 2000 and 2005.

While around half of all mothers had returned to work by stage 3 (eight to ten months), most of these mothers (80%) returned after their baby was at least five months old. Most mothers (70%) were working part-time, and many mothers had additional access to other family-friendly policies such as flexi-time (33%) or time off for baby illnesses (36%). However, relatively few mothers had access to facilities that allowed them to breastfeed or express milk at work (15%) – this proportion was higher in Scotland (23%) but lower in Northern Ireland (10%).

Further the 2005 survey found that at both five and six months, working mothers were less likely than non-working mothers to be providing breast milk - either solely or in combination with formula milk. For example, at five months, 30% of non-working mothers were providing their baby with breast milk (10% breast milk only and 20% in conjunction with formula). This compares with 21% of working mothers (5% solely breast milk and 15% combined). At six months, the difference was more emphasised: 27% of non-working mothers were breastfeeding compared with 16% of working mothers. The survey also highlighted that some working arrangements were associated with a higher than average propensity for mothers to combine breastfeeding and work. These were:

- working less than 15 hours a week
- working in managerial or professional occupations
- given access to facilities to breastfeed and/or express breast milk.

No significant variation was found in propensity to breastfeed among working mothers by type of childcare used, and whether or not employers provided flexible working hours (such as flexi-time, different shift patterns, extended breaks and shorter working days).

**Table 27: Milk provided to babies at five and six months by working status and working hours**

|                                   | <i>All stage 3 months</i> | <i>Not in work %</i> | <i>Working %</i> | <i>Working &lt;15 hours %</i> | <i>Working 15–30 hours %</i> | <i>31+ hours %</i> |
|-----------------------------------|---------------------------|----------------------|------------------|-------------------------------|------------------------------|--------------------|
| <b>Feeding method at 5 months</b> |                           |                      |                  |                               |                              |                    |
| Breast milk only                  | 9                         | 10                   | 5                | 15                            | 3                            | 2                  |
| Formula milk only                 | 71                        | 70                   | 80               | 69                            | 83                           | 84                 |
| Mixed breast/formula              | 20                        | 30                   | 21               | 31                            | 17                           | 16                 |
| Any breast milk at 5 months       | 29                        | 30                   | 21               | 31                            | 17                           | 16                 |
| <b>Feeding method at 6 months</b> |                           |                      |                  |                               |                              |                    |
| Breast milk only                  | 8                         | 9                    | 3                | 11                            | 2                            | 3                  |
| Formula milk only                 | 75                        | 73                   | 83               | 75                            | 86                           | 85                 |
| Mixed breast/formula              | 17                        | 19                   | 13               | 15                            | 11                           | 14                 |
| Any breast milk at 6 months       | 25                        | 27                   | 16               | 26                            | 13                           | 16                 |

Compared to its European partners the UK has been slow in its development of childcare policy (Lewis 2003). The first ever UK national childcare strategy was unveiled in 1998 and an acknowledgement by New Labour that childcare in the UK was not of consistent quality; there was not enough of it; and it was not affordable. In 2004 the Government released a 10-year strategy for childcare as part of an overall investment in the early years and to expand the choices for families with children. Other initiatives have included increasing the duration and the level of maternity leave and pay and establishing the right to request flexible working. However, despite the rhetoric there are significant gaps in the provision of childcare in the UK. One of the criticisms of the strategy is that the focus is on early years of education rather than care. As such the strategy provides for an extension of the free early education up to 15 hours a week for three and four years olds but makes no mention of universal provision for one and two-year-olds.

The cost of care also remains prohibitive for many working parents with parents typically bearing 75–85% of the costs (Ball & Vincent 2005). In the UK, before accounting for childcare, the cost of entering work for an average-wage family's second earner is lower than the OECD average. After accounting for childcare, over two-thirds of the family's second wage is effectively taxed away, a rate that is well above the OECD average (68% in the UK versus 52% on average in the OECD). Childcare in the UK has traditionally been located in the private market sector or within the community on an unpaid or informally paid basis. As such most dual-earner families with small children, even if one of them works part-time, need additional help from other members of the family (mainly grandmothers).

Working Tax Credit provides financial support for those on low incomes. Extra help is available for working parents through a childcare element, to help with the cost of registered childcare. It offers up to 70% towards the costs of childcare up to a maximum level of £175 per week for 1 child and £300 per week for two or more children. However, the costs of childcare differ significantly depending upon where families live, and so for some families, childcare remains unaffordable despite the working tax credit. Higher income earners may be eligible for financial assistance through employment supported childcare. There are three type of childcare support offered through employers:

- childcare vouchers
- directly contracted childcare, or
- workplace nurseries.

However, there is no legislative requirement for employers to provide these services, and as many commentators have noted this is because government policy has done little to encourage and reward family-friendly employers.

The final criticism of the strategy is that because of the number of changes, the absence of clear mechanisms for delivery and a gap in staff recruitment and training, the sector will be unable to deliver the targets set by the Government, and a system where families have limited access to childcare will ultimately impact of women's employment rates.

### **Health system and health worker training**

In the UK, postnatal care for women is normally provided by midwives for the first 10–14 days and then transferred to the health visiting team, made up of both health visitors and nursery nurses (Ingram 2011). Health visitors are qualified and registered nurses or midwives who have undertaken further (post-registration) training in order to be able to work as a member of the primary healthcare team. Nursery nurses have a basic childcare qualification and provide support to health visitors in the care of children up to five years of age. The impact of the health system, including the training of health professionals, on the uptake and duration of breastfeeding has been the focus of several studies, particularly in relation to the Baby Friendly Hospital Initiative (BFHI) (Broadfoot et al 2005) (Ingram et al 2011). The BFHI provides a variety of courses, workshops and teaching packs to support health professionals as they work towards the stages to full Baby Friendly accreditation. In 1998, the BFHI principles were extended to cover the work of community health care services with the Seven Point Plan for the Promotion, Protection and Support of Breastfeeding in Community Health Care Settings. The Seven Point Plan was developed in the UK in order that work could be carried out collaboratively and consistently in maternity and primary care settings. In 2005, the UK BFHI introduced an accreditation program (University Best Practice Standards) for university departments responsible for midwifery, health visitor and public health nurse education. This ensures that newly qualified midwives and health visitors are equipped with the basic knowledge and skills they need to support breastfeeding effectively. The programme's emphasis on applying the standards in postnatal and education settings makes it unique among the various Baby Friendly programmes in other countries. As of 2011, nine universities across the UK offer health courses such as Bachelor of Science (Midwifery) that have received Baby Friendly accreditation. A further 20 institutions have either obtained stage 1 accreditation or have a certificate of commitment.

Around the same time the UK BFHI launched its set of University Best Practice Standards the National Institute for Health and Clinical and Health Excellence (NICE) released its Guidelines, Postnatal care: Routine postnatal care of women and their babies, followed in 2008 by guidance on maternal and child nutrition. These guidelines complement and support breastfeeding and make specific recommendations that health professionals must be competent to provide information and advice to breastfeeding mothers using the BFHI training as a minimum standard. Further, it is recommended that breastfeeding peer supporters should undertake a recognised, externally accredited training course. Such courses are run through the Breast Feeding Network of UK. The Centre for International Development in London also offers a three-week masters-level certificate and is the only advanced level international training course on breastfeeding and related topics available worldwide. It is held annually in collaboration with WHO and UNICEF.

### **Summary**

The last five years has seen the incidence of breastfeeding in the UK increase from 76% in 2005 to 81% in 2010. However it remains the case that a significant minority use formula milk as the main food for babies from birth, a majority as the main food or in addition to breast milk by two months and by six months most babies are given formula milk as their main drink (Lee 2011b)

England had the highest incidence of breastfeeding with 83% compared with Northern Ireland which had the lowest recording initial breastfeeding rate of 64%. Compared to the rates of fifteen years ago (68% in England and Wales, 45% in Northern Ireland) the strategies that the UK has put in place appears to be making an impact. It is difficult to say what strategies though, as interestingly England, despite having the highest incidence of breastfeeding in the UK also has the lowest rate of births in BF Hospitals.

Similar to other countries in the EU, the UK has implemented the WHO Code through the transposing of the EU directive into local legislation. However while the EU directive reflects many aspects of the WHO Code it is narrower in scope and it is difficult to know the level of commitment and enforcement in respect to labelling and advertising. There are known cases of legislation infringement and the value of the baby food market has increased significantly over the last few years.

Parallel to this growth has been the implementation of a number of key social and health initiatives such as the increase in maternity leave benefits, the NICE guidelines on postnatal care and child and maternal health, both of which make recommendations in respect to breastfeeding. However, while initiation has increased, the number of women continuing to breastfeeding remains low. This is perhaps an indicator of cultural issues that continue to have an impact on women breastfeeding in the medium to long post-natal period and beyond.

## USA

## Facts and figures

- As of July 2009 there were approximately 307,006,550 people in the USA.
- The number of births was 4,247,694; the birth rate was approximately 14.0 per 1,000 population, with a fertility rate of 68.6 births per 1,000 women aged 15–44 years.
- The mean age of women at first birth was 25 years. It should be noted that the population in the USA varies from state to state, as does the birth rate (Martin et al 2010).

Table 28 shows the key birth statistics in 2008 for various races in the USA (Martin et al 2010).

**Table 28: Key birth statistics in 2008 for various races**

| <i>Race of mother</i> | <i>All races</i> | <i>White</i> | <i>Black</i> | <i>American Indian or Alaskan Native</i> | <i>Asian or Pacific Islander</i> |
|-----------------------|------------------|--------------|--------------|--|----------------------------------|
| Births                | 4,247,694        | 3,274,163    | 670,809      | 49,537                                   | 253,185                          |
| Birth rate            | 14.0             | 13.4         | 16.6         | 14.5                                     | 16.8                             |
| Fertility rate        | 68.6             | 67.8         | 71.9         | 64.6                                     | 71.3                             |

Breastfeeding rates and practices in the USA vary considerably between states, racial/ethnic groups, socio-economic groups, and combinations of these factors and others. The data also vary from source to source due to differing methodologies and time points of measurement. The CDC Breastfeeding Report Card (Centers for Disease Control and Prevention 2011a) provides annual data on some breastfeeding-related indicators, but are limited in scope. Table 29 summarises the national data for various broad breastfeeding indicators.

**Table 29: National data for various breastfeeding indicators in 2010 (Centers for Disease Control and Prevention 2011a)**

| <i>Objective</i>  | <i>Data</i>   |
|---|---|
| Proportion of infants who are breastfed (%)   |   |
| Ever  | 74.6  |
| At six months   | 44.3  |
| At one year   | 23.8  |
| Exclusively through three months  | 35.0  |
| Exclusively through six months  | 14.8  |
| Proportion of employers that have worksite lactation support programs (%)   | 25.0  |
| Proportion of breastfed newborns who receive formula supplementation within the first two days of life (%)  | 24.5  |
| Proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies (Baby Friendly Hospital Initiative accredited facilities) (%) | 4.53  |
| Number of La Leche League Leaders per 1,000 live births   | 0.99  |
| Number of International Board Certified Lactation Consultants per 1,000 live births   | 2.67  |
| Number of state health department full-time equivalent (staff) dedicated to breastfeeding   | 125.06  |
| State childcare centre regulation supports lactation  | 6 regulations are optimal (Arizona, California, Delaware, Mississippi, North Carolina, and Vermont) |

Table 30 shows the breastfeeding rates among infants aged between 19 to 35 months at the time of data collection, born in 2007 in the USA.

**Table 30: Breastfeeding rates among infants born in 2007 (%) (Centers for Disease Control and Prevention 2007; U.S.Department of Health and Human Services 2011).**

| <b>Socio-demographic factor</b>        | <b>Ever breastfed</b> | <b>Breastfed at 6 months</b> | <b>Breastfed at 12 months</b> |
|--|-----------------------|------------------------------|-------------------------------|
| Total for USA                          | 75.0                  | 43.0                         | 22.4                          |
| <i>Race ethnicity</i>                  |                       |                              |                               |
| American Indian or Alaska Native       | 73.5                  | 42.4                         | 20.7                          |
| Asian or Pacific Islander              | 83.0                  | 56.4                         | 32.8                          |
| Hispanic or Latino                     | 80.6                  | 46.0                         | 24.7                          |
| Non-Hispanic Black or African American | 58.1                  | 27.5                         | 12.5                          |
| Non-Hispanic White                     | 76.2                  | 44.7                         | 23.3                          |
| <i>Receiving WIC</i>                   |                       |                              |                               |
| Yes                                    | 67.5                  | 33.7                         | 17.5                          |
| No, but eligible                       | 77.5                  | 48.2                         | 30.7                          |
| Ineligible                             | 74.6                  | 54.2                         | 27.6                          |
| <i>Maternal education</i>              |                       |                              |                               |
| Not a high school graduate             | 67.0                  | 37.0                         | 21.9                          |
| High school graduate                   | 66.1                  | 31.4                         | 15.1                          |
| Some college                           | 76.5                  | 41.0                         | 20.5                          |
| College graduate                       | 88.3                  | 59.9                         | 31.1                          |

Data from 2007 reported that there were different distributions of infants ever breastfeeding by state in the USA. It reported that the western states (including Alaska and Hawaii) had a higher breastfeeding occurrence than the eastern states, with some north-eastern states also having high breastfeeding occurrence (Centers for Disease Control and Prevention 2007; U.S.Department of Health and Human Services 2011).

A 2008 study attempted to analyse the variations in breastfeeding practices with state policies. The study aimed to determine the impact of socio-demographic and behavioural factors and state legislation on breastfeeding initiation (child ever fed breast milk) and duration (Kogan et al 2008). This study used data from a nationally representative study of children aged 6 to 71 months (n=33,121); calculated unadjusted and adjusted state estimates for breastfeeding initiation and duration; used logistic regression models to examine factors associated with never breastfeeding or breastfeeding less than 6 months; and conducted a multilevel analysis of state legislation's role. They found that:

*“there were wide state variations in breastfeeding initiation and duration. The western and northwestern states had the highest rates. Covariate adjustment accounted for 25% to 30% of the disparity. Multivariate analysis showed that the adjusted odds of not being breastfed were 2.5- to 5.15-times greater in southern states compared with Oregon (reference). Children in states without breastfeeding legislation had higher odds of not being breastfed” (Kogan et al 2008).*

It was concluded that:

*“Sociodemographic and maternal factors do not account for most breastfeeding rate variation. The association with breastfeeding legislation should be explored and may reflect cultural norms.”*

A longitudinal study on women across the USA conducted by the US Food and Drug Administration (FDA) and Centre for Disease Control and Prevention (CDC) during 2005 to 2007 showed that on average, breastfeeding women in the study group had higher levels of education, were older, were more likely to be white, were more likely to have a middle-level income, and were more likely to be employed than the overall US female population. It noted that almost half of breastfed infants were supplemented with infant formula milk while still in the hospital after birth, with more than 40% eating solid foods within the first four months after birth (Fein et al 2008).

The ongoing CDC survey of Maternity Practices in Infant Nutrition and Care (mPINC) indicates that barriers to breastfeeding are widespread during labour, delivery, postpartum care and during hospital discharge

planning. In 2007, hospitals on average scored 63 out of a possible 100 points on an overall measure of breastfeeding-related maternity care (Centers for Disease Control and Prevention 2011c).

The CDC's National Centre for Health Statistics analysis of data up to 2006 from the National Health and Nutrition Examination Surveys showed that (McDowell et al 2008):

- The percentage of infants who were ever breastfed increased from 60% among infants who were born in 1993 to 1994 to 77% among infants who were born in 2005 to 2006.
- Breastfeeding rates increased significantly among non-Hispanic black women from 36% in 1993 to 1994 to 65% in 2005 to 2006.
- Breastfeeding rates in the period 1999 to 2006 were significantly higher among those with higher income (74%) compared with those who had lower income (57%).
- Breastfeeding rates among mothers 30 years and older were significantly higher than those of younger mothers.
- There was no significant change in the rate of breastfeeding at six months of age for infants born between 1993 and 2004.

### Implementation of WHO Code

Until the late 1980s, infant formula was not marketed directly to consumers in the USA, with marketing focused on the relationship between health professional and parent in making decisions about infant feeding. However, over the past 20 years, there has been more direct-to-consumer marketing (Shealy et al 2005). This change has apparently made it more challenging for healthcare systems and health workers to comply with the WHO Code. The United States entered into a consensus agreement in 1994 endorsing the WHO Code and other World Health Assembly (WHA) resolutions up to that date. The USA also joined all other nations in consensus agreement in 1996 and 2001 on support for the Code and the resolutions being considered at each time (National Alliance for Breastfeeding Advocacy 2011).

Two major aspects of the challenge in complying with the full WHO Code in the USA involve reconciling seemingly opposing needs. The concepts and recommendations put forth in the WHO Code may seem to conflict with legislation about freedom of speech, including advertising (Shealy et al 2005). A further complication is the limited regulation of product label claims within the USA, although this is changing gradually.

The provisions of the WHO Code are not legally binding in the USA (U.S. Department of Health and Human Services 2011). Manufacturers are only voluntarily obligated to obey the WHO Code and other recommended advertising and health guidelines. According to NABA REAL:

*"The United States entered into a consensus agreement in 1994 endorsing the Code and other WHA resolutions up to that date. The US also joined all other nations in consensus agreement in 1996 and 2001 on support for the Code and the resolutions being considered at each time. The Code is a voluntary agreement that has no legislation or mandates for companies to adhere to and no sanctions for violating" (National Alliance for Breastfeeding Advocacy 2011).*

The FDA regulates and monitors infant formula nutritional composition and manufacturing activities in the USA. The FDA has specific nutrient requirements in infant formulas. Any new infant formula being marketed in the USA must register their infant formula with the FDA, notify the FDA of the manufacture of the new formula, and verify the formula as being compliant with the specific requirements of the Federal Food, Drug, and Cosmetic Act (FFDCA) (Food and Drug Administration 2006). The FDA does not advise or monitor marketing activities. It will however look at fundamental changes in the type of packaging used for infant formulas, as well as changes in nutritional content or ingredients of the formulas, where in that case labelling has to change to reflect the new composition of the formula (Food and Drug Administration 2006).

The FFDCA defines infant formula as "a food which purports to be or is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or its suitability as a complete or partial substitute for human milk" (FFDCA 201(z)). FDA regulations define infants as persons not more than 12 months old (Title 21, Code of Federal Regulations 21 CFR 105.3(e)) (Food and Drug Administration 2006).

The laws and regulations governing foods apply to infant formula. Additional statutory and regulatory requirements apply to infant formula. These additional requirements are found in section 412 of the FFDCA and FDA's implementing regulations in 21 CFR 106 and 107 (Food and Drug Administration 2011a; Food and

Drug Administration 2011b). The Center for Food Safety and Applied Nutrition is responsible for regulation of infant formula. The Office of Nutritional Products, Labeling, and Dietary Supplements (ONPLDS) has program responsibility for infant formula. The Office of Food Additive Safety (OFAS) has program responsibility for food ingredients and packaging. ONPLDS evaluates whether the infant formula manufacturer has met the requirements under section 412 of the FFDC. ONPLDS consults with OFAS regarding the safety of ingredients in infant formula and of packaging materials for infant formula. Under sections 201(s) and 409 of the FFDC, OFAS evaluates the safety of substances intended for use in or in contact with infant formula (Food and Drug Administration 2006).

A 2006 report by the US Government Accountability Office (GAO) reviewing market research and studies conducted between 1980 to 2005 found that advertising of infant formula was widespread and increasing in the USA (U.S. Government Accountability Office 2006). The GAO reports that there has been some use of the federal Women, Infants, and Children (WIC) nutrition program branding in infant formula marketing, but this is forbidden by federal law; however, states do not seem to enforce this regulation in their WIC contracts. This misleads parents into thinking that certain infant formulas are endorsed by WIC when they are not.

National Alliance for Breastfeeding Advocacy (NABA) REAL is a non-profit organisation responsible for monitoring compliance with the WHO Code in the USA. NABA REAL trains others in monitoring compliance and maintains a help centre to assist people in reporting violations of the WHO Code. NABA publishes and distributes documentation of WHO Code violations in the USA (National Alliance for Breastfeeding Advocacy 2011; U.S. Department of Health and Human Services 2011). NABA REAL monitors the Code in the USA. They have conducted two monitoring projects with their respective reports titled, "Selling Out Mothers and Babies" and "Still Selling Out Mothers and Babies" (published in 2007). Violations of the Code are spotted and reported by NABA's Code monitors. This is a volunteer group of breastfeeding advocates who have attended NABA's Code training workshop and report periodically on violations in their area of the country.

In the USA, the Federal Trade Commission is the highest authority on advertising regulations and standards; however states and local political divisions can have their own laws on advertising. In December 2009, a federal court upheld a US\$13.5 million jury verdict against manufacturer Mead Johnson & Co. for false and misleading advertising; the court permanently barred Mead Johnson from claiming that its Enfamil LIPIL infant formula would give babies better visual and brain development than ingredients in store-brand formula (BusinessWire 2009). In 2006, the GAO found that manufacturers of infant formula had violated the USDA Food and Nutrition Service rules by using the WIC logo and acronym in advertising formula (U.S. Government Accountability Office 2006).

A study published in 2006 "examined infant feeding advertisements in 87 issues of *Parents* magazine, a popular parenting magazine, from the years 1971 through 1999" using "content analysis results to predict subsequent changes in levels of breastfeeding among U.S. women [Ross Laboratories Mothers Survey]. When the frequency of hand feeding advertisements increased, the percentage change in breastfeeding rates reported the next year generally tended to decrease" (Foss & Southwell 2006). "Hand feeding" advertisements included infant formula, cereal/solid food or hand feeding equipment. This study is one such study to examine the potential influence of popular media content on US breastfeeding patterns and public health trends and show that marketing in general, beyond having advertisements abide by the WHO Code, may change breastfeeding behaviour in the general population. It should be noted that Ross Laboratories is part of Abbott Laboratories, who manufacture infant formula.

An analysis of media from 1930 to 2007 in *Parents* magazine showed that:

*"Of the 237 issues studied, 95 addressed breastfeeding, bottle-feeding, or both ... Thirty-five articles solely mentioned bottle-feeding and 29 only addressed breastfeeding. Additionally, 31 articles referred to both breast and bottle-feeding. Forty-six images of bottle or breastfeeding appeared in the issues studied: 23 of breastfeeding and 23 of bottle-feeding. The time period from the 1990s to 2008 contained the most articles and images"* (Foss 2010).

There was a large increase in breastfeeding only articles from 2000 to 2007 compared to bottle-feeding or either type combined.

**Table 31: Evaluation of the implementation of the WHO Code in the USA**

| <b>Article of the WHO Code</b>                                | <b>Implemented</b>   | <b>Partially implemented / Not implemented</b>  |
|---|--|---|
| Articles 2 & 3: Scope   | FDA regulations refer to compositional and labelling requirements for infant formula and infant foods intended for use by infants (up to 12 months old). The Federal Food, Drug, and Cosmetic Act (FFDCA) section Title 21, Code of Federal Regulations 21 CFR 105.3(e) defines what infant formula is.  | FDA regulations have a limited scope and apply only to infant formula and foods rather than the whole range products covered by the WHO Code (including all breast milk substitutes, bottle-fed complementary foods, baby teas, bottles and teats etc). The FDA regulations do not cover advertising or the provision of information.         |
| Article 4: Information & Education                            |  | No Federal regulations or codes for this article.   |
| Article 5: General public & mothers                           |  | No Federal regulations or codes for this article.   |
| Article 6: Health care systems                                |  | No Federal regulations or codes for this article.   |
| Article 7: Health workers                                     |  | No Federal regulations or codes for these article.  |
| Article 8: Persons employed by manufacturers and distributors |  | No Federal regulations or codes for these article.  |
| Article 9: Labelling  | Articles 9.1, 9.3 & 9.4: Any new infant formula being marketed in the USA must register their infant formula with the FDA, notify the FDA of the manufacture of the new formula, and verify the formula as being compliant with the specific requirements of the Federal Food, Drug, and Cosmetic Act (FFDCA). The Centre for Food Safety and Applied Nutrition is responsible for regulation of infant formula. The Office of Nutritional Products, Labelling, and Dietary Supplements (ONPLDS) has responsibility for infant formula. The Office of Food Additive Safety (OFAS) has responsibility for food ingredients and packaging. | Articles 9.2: There doesn't seem to be Federal regulations or codes for these aims. Does not include the requirements for a statement on the superiority of breastfeeding, restrictions of imagery or on terms such as 'humanised'. However, labelling needs to conform to other federal and state laws pertaining to advertising and claims. |
| Article 10: Quality   | Article 10.1: USA has several Federal regulations & bodies that work together to administer standards for product quality.<br>10.2: USA is a member of the Codex Alimentarius.   |   |
| Article 11: Implementation & Monitoring                       | Article 11.4: The National Alliance for Breastfeeding Advocacy (NABA) REAL is a non-profit organization responsible for monitoring compliance with the WHO Code in the USA.  | There are no Federal bodies that are responsible for implementing or monitoring the WHO Code, except for aspects regarding food quality and labelling standards.  |

### Complementary policies

#### **Government policies and initiatives**

There are conflicts between federal and state legislations and laws in the USA. This is also the case for breastfeeding, where state laws may override federal initiatives in directing public behaviours. As of July 2007, 47 states had passed some type of legislation in support of the right to breastfeed, with most laws addressing

some aspect of breastfeeding in public (Garner 2008). However these vary in their nature and scope. Other categories of state breastfeeding legislation include workplace issues, jury duty, family law, economic issues, and support services and education.

In terms of federal actions, according to the 2011 Surgeon General's report, numerous government agencies have programmes on breastfeeding or programmes that affect breastfeeding indirectly. The USDA has the WIC programme. The Department of Health and Human Services has several breastfeeding initiatives with the Maternal and Child Health Bureau, the National Institutes of Health, CDC, DFA, AHRQ, OWH and the Indian Health Service (U.S.Department of Health and Human Services 2011). It is noted that no formal structure exists to coordinate federal breastfeeding initiatives to reduce overlap or to identify gaps in current programmes.

In 2000, the Office on Women's Health, with other federal agencies, healthcare professional organisations, and the Office of the Surgeon General, published the HHS Blueprint for Action on Breastfeeding. This Blueprint for Action established a comprehensive breastfeeding policy for the USA. The Blueprint for Action introduced an action plan for breastfeeding based on education, training, awareness, support and research. It recognised that breastfeeding rates are influenced by various factors, and recommended actions to be taken in the healthcare system, workplaces, childcare facilities, public education and support services, and on marketing of breast milk substitutes (U.S.Department of Health and Human Services 2000).

The objectives of Healthy People 2020 for breastfeeding include:

- increasing the proportion of infants who are breastfed to:
  - 81.9% for ever breastfed
  - 60.6% for breastfed at six months
  - 34.1% for breastfed at one year
- increasing the proportion who are exclusively breastfed to:
  - 46.2% for through three months
  - 25.5% through six months
- increasing the proportion of employers that have worksite lactation support programmes to 38%
- reducing the proportion of breastfed newborns who receive formula supplementation within the first two days of life to 14.2%
- increasing the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies is 8.1% (U.S.Department of Health and Human Services 2010).

U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS) – Special Supplemental Nutrition Program for Women, Infants and Children (WIC) serves low-income and nutritionally at risk women and infants, including pregnant women (through pregnancy and up to six weeks after birth or after pregnancy ends), breastfeeding women (up to infant's first birthday), non-breastfeeding postpartum women (up to six months after the birth of an infant or after pregnancy ends), infants (up to first birthday), and children up to their fifth birthday. In 1989, the US Congress began designating a specific portion of each state's WIC budget allocation to be used exclusively for the promotion and support of breastfeeding among its participants. It is very important to note that WIC now serves 53% of all infants born in the USA (U.S.Department of Agriculture, Food and NutritionService 2011).

The benefit WIC provides to women and children are: supplemental nutritious foods, nutrition education and counselling at WIC clinics, screening and referrals to other health, welfare and social services. WIC is a federal grant program for which Congress authorises a specific amount of funds each year for the program. WIC is administered at the federal level by FNS, and administered by 90 WIC state agencies, through approximately 47,000 authorised retailers, and operates through 1,900 local agencies in 10,000 clinic sites, in 50 state health departments, 34 Indian tribal organisations, the District of Columbia, and five territories (Northern Mariana, American Samoa, Guam, Puerto Rico and the Virgin Islands). WIC services are provided in various settings such as county health departments, hospitals, mobile clinics (vans), community centres, schools, public housing sites, migrant health centres and camps, and Indian Health Service facilities (U.S.Department of Agriculture, Food and NutritionService 2011).

The WIC program is governed by various Legislative Requirements contained in Section 17 of the Child Nutrition Act of 1966, as well as various regulations (U.S.Department of Agriculture 2011b; U.S.Department of Agriculture 2011c). Regulations have called for state agencies to ensure:

1. a sustainable infrastructure for breastfeeding activities
2. the prioritisation of breastfeeding mothers and children in the WIC certification process activities to support education in nutrition for breastfeeding mothers, including peer support
3. allowances for using program funds to carry out activities that improve support for breastfeeding among WIC participants. WIC has begun a nationwide training program for all local agencies called “Using Loving Support to Grow and Glow in WIC: Breastfeeding Training for Local WIC Staff” to ensure that all WIC staff can promote and support breastfeeding (Every Mother Inc 2010).

Breastfeeding mothers on the WIC program are supported in various ways (U.S.Department of Agriculture, Food and Nutrition Service, 2011). These include:

- provision of information through counselling and breastfeeding educational materials
- receiving follow-up support through peer counsellors
- eligibility to participate in WIC longer than non-breastfeeding mothers
- receiving breast pumps, breast shells or nursing supplementers to help support the initiation and continuation of breastfeeding
- mothers who exclusively breastfeed their infants receive an enhanced food package. This means offering a food package with higher monetary value, and incorporating larger amounts of fruits and vegetables in the packages.

In a 2002 study, it was found that infants from low income families, including those in the WIC programme, were less likely to be breastfed than children in middle and upper income families (Ryan et al 2002). A 2007 study of women in the WIC program showed that 36% of women thought breastfeeding would protect babies against diarrhoea (McCann et al 2007). Another study in 2007 notes that WIC has always faced the challenge of promoting breastfeeding while simultaneously providing infant formula to mothers who choose not to breastfeed (Jackowitz et al 2007). These dual objectives raise the concern that WIC itself may influence a participant's breastfeeding choice, as the high cost of infant formula provides a strong economic incentive to breastfeed however when WIC provides the formula at no cost, that incentive is removed. Researchers used an approach that controlled for some of the factors and other incentives that influence the complex decision to breastfeed, but the study results could not establish a causal link between WIC and breastfeeding. The 2007 study still found that WIC participation was associated with lower rates of exclusive breastfeeding. The researchers found that WIC mothers were more likely than eligible non-participants to adhere to AAP guidelines to delay introducing cow's milk to their infants. However, the researchers also found that WIC participants were more likely to introduce solid foods before six months, with about one-quarter of WIC mothers introducing solid foods by four months (Jackowitz et al 2007).

In 2009, the WIC food packages underwent the most substantial revision since the program began in 1974. While the previous package provided infant cereal at four months of age, the revised WIC package does not include solid foods until the infant is six months old. The new packages are supposed to promote breastfeeding by providing a greater amount and variety of food in the WIC package for women who exclusively breastfeed. In addition, the new food package no longer includes formula for fully breastfed infants, and it provides a reduced amount of formula for partially breastfed infants (Tiehen 2010).

A 2004 study estimated the effect of WIC participation in 1999 to 2000 on breastfeeding initiation and duration and child care. This used a sample of 2,136 unmarried, low-income, urban mothers from the Fragile Families and Child Wellbeing Study. It was reported that “WIC participation was associated with small increases in the probabilities of initiating breastfeeding and having had at least 4 well-child visits since birth-behaviors that benefit infants beyond the newborn period-but not with breastfeeding duration” (Chatterji & Brooks-Gunn 2004).

About half of all infants born in the USA participate in the WIC program (Oliveira & Frazao 2010). Although WIC encourages breastfeeding, mothers can get vouchers redeemable for infant formula at authorised retail stores. A recent study estimated WIC's share of the infant formula market and determined that 57% to 68% of all infant formula sold in the USA in 2004-06 was purchased through WIC (Oliveira & Frazao 2010). In terms of economics, in fiscal year 2008, rebate savings totalled US\$2 billion for state WIC agencies. In exchange for the rebate, the manufacturer's brand is the exclusive WIC-approved formula for the state (Oliveira & Frazao 2010).

The USDA has a social marketing campaign to encourage and support breastfeeding within the WIC program called “Loving Support Makes Breastfeeding Work” (U.S.Department of Agriculture, Food and Nutrition

Service, 2011), which includes the following programs and resources: "Using Loving Support™ to Grow and Glow in WIC (Breastfeeding Competency Training", "Breastfeeding a Magical Bond of Love (WIC Hispanic Breastfeeding and Promotion Project)", "Partnering with WIC for Breastfeeding Success", "Using Loving Support to Build a Breastfeeding Friendly Community™", and "Using Loving Support to Implement Best Practices in Peer Counselling™". A 1997 evaluation of the campaign in Iowa showed an increase in the initiation of breastfeeding from 57.8% to 65.1% after one year of implementation, with breastfeeding at six months postpartum increasing from 20.4% to 32.2% after one year of the program (Social Marketing Institute 1997). However, this is an evaluation of one state, and was done over 10 years ago, so various circumstances may have changed.

The Patient Protection and Affordable Care Act of 2010, H.R. 3590, 111th Cong., 2nd Sess. (2010) includes provisions to expand home visitation programs for pregnant women and children from birth through to kindergarten entry (Senate and House of Representatives of the United States of America in Congress 2010). However, it is unclear whether or how quickly this Act can facilitate improved follow-up breastfeeding care for low-income families, and how the implementation of it will be evaluated. In 2010, the Act included a provision requiring employers to provide workplace accommodations that enable employees who are breastfeeding to express their milk. Section 4207 of the Affordable Care Act amends the Fair Labor Standards Act of 1938 by requiring employers to provide reasonable, though unpaid, break time for a mother to express milk and a place, other than a restroom, that is private and clean where she can express her milk (Senate and House of Representatives of the United States of America in Congress 2010).

Choose My Plate is a revamp of the food pyramid, where the recommended daily intake (RDI) of foods has been updated and now shown as a plate graphic instead of a pyramid graphic in the USA. Choose My Plate has a subsection on daily food plans for pregnancy and breastfeeding (U.S. Department of Agriculture 2011a). It also encourages women to breastfeed and provides resources for women wanting to find out more about nutrition during breastfeeding.

The Office of Women's Health in the Department of Health and Human Services operates a National Breastfeeding Helpline (Office on Women's Health 2011). It is staffed by trained breastfeeding peer counsellors to help answer common breastfeeding questions, and help mothers decide if they need to see a doctor or lactation consultant.

On 11 June 2009, the Breastfeeding Promotion Act was introduced in both houses of Congress, to provide a unified national policy to keep mothers, their children, and their communities healthy. The Breastfeeding Promotion Act of 2009 (H.R. 2819, S. 1244) includes five provisions (Representative Carolyn B. Maloney (NY) & Senator Jeff Merkley (OR) 2011; United States Breastfeeding Committee 2011a):

- Amends the Civil Rights Act of 1964 to protect breastfeeding women from being fired or discriminated against in the workplace.
- Provides tax incentives for businesses that establish private lactation areas in the workplace, or provide breastfeeding equipment or consultation services to their employees.
- Provides for a performance standard to ensure breast pumps are safe and effective.
- Allows breastfeeding equipment and consultation services to be tax deductible for families (amends Internal Revenue Code definition of "medical care").
- Protects the privacy of breastfeeding mothers by ensuring they have break time and a private place to pump in the workplace (applies to employers with 50 or more employees; see text of legislation for details).

However, this Bill is still being considered and has not yet become law (United States Breastfeeding Committee 2011a).

### **Implementation of the Baby Friendly Hospital Initiative (BFHI)**

As of 28 July 2011 there were 114 BFHI-accredited hospitals and birthing centre in the USA (Baby Friendly Hospital Initiative USA 2011). The percentage of births at BFHI-accredited facilities in 2011 in various states in the USA is less than 20% for all but two states. Only Alaska and Nebraska have more than 20% of births in BFHI-accredited facilities (Baby Friendly Hospital Initiative USA 2011; Centers for Disease Control and Prevention 2011a). However, even this number is still vague and could be lower or higher. According to the American Hospitals Association website, there were 5,795 registered hospitals in 2010. It is assumed that not all registered hospitals may have a maternity ward. This means that the BFHI rate is approximately 2% at the lowest estimation.

A recent study by DelliFraine found that a non-statistically significant difference in labour-and-delivery costs for the baby-friendly sites (US\$2,205 per delivery), compared with the non-baby friendly matched pair (\$2,170) (DelliFraine et al 2011). Another study by DiGirolamo found that:

*“Only 8.1% of the mothers experienced all 6 “Baby-Friendly” practices. The practices most consistently associated with breastfeeding beyond 6 weeks were initiation within 1 hour of birth, giving only breast milk, and not using pacifiers. Bringing the infant to the room for feeding at night if not rooming in and not giving pain medications to the mother during delivery were also protective against early breastfeeding termination. Compared with the mothers who experienced all 6 “Baby-Friendly” practices, mothers who experienced none were ~13 times more likely to stop breastfeeding early. Additional practices decreased the risk for early termination” (DiGirolamo et al 2008).*

A national survey done from 2001 to 2003 of baby-friendly hospitals stated that “Baby-Friendly designated hospitals in the USA have elevated rates of breastfeeding initiation and exclusivity. Elevated rates persist regardless of demographic factors that are traditionally linked with low breastfeeding rates” (Merewood et al 2005).

### **Other complementary policies**

In the USA, there are three states with no law protecting the right to nurse in public. The other states either have a law protecting nursing in public but without an enforcement provision; have a law protecting nursing in public with an enforcement provision; or only have a law excluding breastfeeding from some criminal charges (Mothering magazine Inc 2010). For example, Texas has two laws in place supporting breastfeeding (State Government of Texas 1995; WIC Nutrition Program, Texas Department of State Health Services 2009). These are:

- “Section 165.002 Legislative Finding” which states “The legislature finds that breastfeeding a baby is an important and basic act of nurture that must be encouraged in the interests of maternal and child health and family values. In compliance with the breastfeeding promotion program established under the federal Child Nutrition Act of 1966 (42 U.S.C. Section 1771 et seq.), the legislature recognizes breastfeeding as the best method of infant nutrition”
- “Section 165.002 Right to Breastfeed” which states “A mother is entitled to breastfeed her baby in any location in which the mother is authorized to be”.

The Texas Department of Health maintains a National Breastfeeding MediaWatch Campaign to monitor both positive and negative media mentions of breastfeeding and formula. Volunteers look for positive images of breastfeeding and acknowledge media outlets or other groups for any positive messages conveyed to the public. MediaWatch aims to increase the number of positive references to breastfeeding in media and thus shape societal views in favour of breastfeeding (Shealy et al 2005). Although this is a state initiative, it spans the national media, so it may be relevant for this review in terms of initiatives with national reach.

National guidelines on out-of-home child care from the National Resource Center for Health and Safety in Child Care and Early Education provide information about how childcare providers should support breastfeeding mothers and families (American Academy of Pediatrics et al 2002). The new guidelines recommend that those who provide childcare should encourage, make arrangements for, and support breastfeeding families, such as by providing a space for a mother to breastfeed or express milk for her child. The guidelines include information about preparing, storing and handling expressed human milk, as well as the importance of feeding all children on cue rather than on a schedule. A 2009 evaluation of the implementation of these guidelines reported that these guidelines were not implemented in all states, and that small services are not covered by the guidelines (Benjamin et al 2009). It is also noted that some states such as Colorado (InfanET Nutrition for Child Care Providers 2009) and Wisconsin (Wisconsin Department of Health and Family Services 2011; Wisconsin Department of Health and Family Services & Wisconsin Breastfeeding Coalition 2009) have their own guidelines and training materials for breastfed infants in childcare centres.

On 4 August 2007, the Transportation Safety Administration (TSA) instituted a new policy for transporting pumped breast milk in airplane carry-on luggage. Breast milk may now be carried in any quantity and in no special container, as long as it is declared for inspection at the airport security checkpoint. Breast milk, which the TSA now classifies as a “medical necessity,” will be treated by TSA agents as a liquid medication. Under this classification, breast milk must be presented for visual inspection and may be X-rayed (Mothering magazine Inc 2010).

“Babies Were Born to Be Breastfed” was the campaign tag line of the U.S. National Breastfeeding Awareness Campaign launched by the U.S. Department of Health and Human Services’ Office on Women’s Health and the Advertising Council. The campaign was to help promote the HHS Blueprint for Action on Breastfeeding (U.S. Department of Health and Human Services 2000). The campaign targeted first-time parents through television, radio, out-of-home, internet, and print advertising that highlighted the health consequences of not breastfeeding (Shealy et al 2005). The goal of the campaign was to increase initiation and exclusive breastfeeding rates at six months, with the public encouraged to call the National Women’s Health Information Center Breastfeeding Warmline at 1-800-994-WOMAN or visit their website at <http://www.4woman.gov> for breastfeeding information. Eighteen community demonstration projects provided breastfeeding services, community coalition building and outreach to local media.

The overall goal of the campaign was to increase the proportion of mothers who breastfeed their babies in the early postpartum period to 75% and those within six months postpartum to 50% by the year 2010 (US Department of Health and Human Services’ Office on Women’s Health 2011). The campaign aimed to empower women to commit to breastfeeding and to highlight new research that shows that babies who are exclusively breastfed for six months are less likely to develop ear infections, diarrhoea, respiratory illnesses, and may be less likely to develop childhood obesity. Besides trying to raise initiation rates, the campaign stressed the importance of exclusive breastfeeding for six months. The campaign was launched in June 2004 and ended in April 2006 (US Department of Health and Human Services’ Office on Women’s Health 2011).

The Office of Women’s Health and the Advertising Council implemented the campaign, and although the educational awareness campaign has ended, continued promotion efforts are underway with a communications contractor. This includes a World Breastfeeding week media event, print media coverage and radio interviews. The campaign was being marketed in partnership with strategically selected organisations and was done through public service announcements for television, radio, newspapers, magazines, mass transit shelters, billboards and the internet.

Sixteen community-based demonstration projects (CDPs) throughout the USA worked in coordination with the U.S. Department of Health and Human Services’ Office on Women’s Health and the Advertising Council (US Department of Health and Human Services’ Office on Women’s Health 2011). According to the Office of Women’s Health, “the CDPs attempted to build self-efficacy by working to educate women about the benefits of breastfeeding, empower them to choose to breastfeed, and create awareness that breastfeeding is normal, desirable, and achievable”. They also stated that:

*“These CDPs ensured that breastfeeding mothers had access to comprehensive, up-to-date and culturally tailored lactation services provided by trained physicians, nurses, lactation consultants and nutritionists/dieticians; developed breastfeeding education for women, their partners and other significant family members during the prenatal and postnatal periods; established family and community programs that enable breastfeeding continuation when women return to work in all possible settings; developed social support and information resources for breastfeeding women such as hotlines, peer counselling, and mother-to-mother support groups; and encouraged fathers and other family members to be actively involved throughout the breastfeeding experience” (US Department of Health and Human Services’ Office on Women’s Health 2011).*

The United States Breastfeeding Committee (USBC) provides a forum for NGOs and representatives from the federal government to collaborate on joint initiatives supporting breastfeeding. It was formed in 1995 and has as its aims to protect, promote, and support breastfeeding in the USA. In 2001, the USBC released a strategic plan to increase breastfeeding called “Breastfeeding in the United States: A National Agenda” (United States Breastfeeding Committee 2001). The USBC has also facilitated the meeting of important players in the breastfeeding movement in the USA. In 2006 there was the first National Conference of State Breastfeeding Coalitions, and these meetings have been conducted every two years since.

## **Workplace**

### ***Parental leave arrangements***

New parents in the USA may access leave through the Family Medical Leave Act (FMLA) of 1993. FMLA leave consists of 12 weeks of unpaid leave that must be taken continuously and on a full-time basis. Unlike parental leave in the other countries discussed here, FMLA leave covers both new parents and employees who are either ill or caring for ill family members. Thus, unlike their counterparts abroad, US workers who take leave upon the birth of a child forfeit the ability to take leave later in the same year if the need for medical care

arises. In addition, 13 states offer either partially-paid disability leave for new mothers or greater FMLA protections (Ray 2008). Therefore, among 173 countries the USA is one of only four without a national policy requiring paid maternity leave (Heymann et al 2010). In 2009, approximately 14% of US employers offered paid maternity leave beyond short-term disability benefits (Society for Human Resource Management 2009). The Family and Medical Leave Act of 1993 provides for up to 12 weeks of unpaid, job-protected maternity leave (U.S.Department of Labour 1993); however unpaid leave is not feasible for many low-income families. This could be interpreted as a barrier to better breastfeeding practices.

As of March 2010, five states had laws that ensure some level of paid maternity leave. These are California, Hawaii, New Jersey, New York, and Rhode Island (National Conference of State Legislatures 2009). In addition to this, Minnesota and New Mexico have at-home infant care programs that fund low-income parents to stay home with their infants (Progressive States Network 2011).

### **Female workforce participation**

According to the U.S. Department of Labor for the year 2010, of the 123 million women aged 16 years and over in the USA, 72 million, or 58.6% were labour force participants (working or looking for work). Women comprise 47% of the labour force. Approximately 66 million women were employed in the USA, with 73% of employed women worked in full-time jobs, while 27% worked on a part-time basis. The largest percentage of employed women, 40.6%, worked in management, professional and related occupations; 32.0% worked in sales and office occupations; 21.3% in service occupations; 5.2% in production, transportation and material moving occupations; and 0.9% in natural resources, construction, and maintenance occupations. The largest percentage of employed Asian (46.1%), white (40.6%), and black (33.8%) women worked in management, professional and related occupations. Hispanic women showed their strongest attachment to service occupations at 33.2% (U.S.Department of Labour 2011).

### **Arrangements for breastfeeding in the workplace**

In 2010, the Patient Protection and Affordable Care Act of 2010 included a provision requiring employers to provide workplace accommodations that enable employees who are breastfeeding to express their milk. Section 4207 of the Affordable Care Act amends the Fair Labor Standards Act of 1938 by requiring employers to provide reasonable, though unpaid, break time for a mother to express milk and a place, other than a restroom, that is private and clean where she can express her milk (Senate and House of Representatives of the United States of America in Congress 2010).

“The Business Case for Breastfeeding: Steps for Creating a Breastfeeding Friendly Worksites: Bottom Line Benefits” resource kit was developed by the Health Resources and Services Administration. The kit includes resources for business and human resource managers and employees. Program components outlined in the kit include flexible breaks and work schedules, a sanitary and private place to express milk, education for pregnant and lactating women, and support from supervisors and co-workers (Health Resources and Services Administration 2008).

Most states in the USA have either no workplace breast pumping law or no law requiring employers to allow on-site pumping. Five states have laws concerning workplace pumping but that does not require employers to allow on-site pumping (Mothering magazine Inc 2010).

The Nutrition, Physical Activity, and Obesity Program is a cooperative agreement between the CDC’s Division of Nutrition, Physical Activity and Obesity (DNPAO) and 25 state health departments as of June 2010. The program goal is to prevent and control obesity and other chronic diseases through healthy eating and physical activity. One of the aims of the program is to “increase breastfeeding initiation, duration, and exclusivity” (Centers for Disease Control and Prevention 2011b). The program states that:

*“Support for breastfeeding in the workplace includes several types of employee benefits and services including writing corporate policies to support breastfeeding women; teaching employees about breastfeeding; providing designated private space for breastfeeding or expressing milk; allowing flexible scheduling to support milk expression during work; giving mothers options for returning to work, such as teleworking, part-time work, and extended maternity leave; providing onsite or near-site child care; providing high-quality breast pumps and refrigerated storage; and offering or referring professional lactation management services and support” (Centers for Disease Control and Prevention 2011b).*

The DNPAO provide a few examples from various states that have implemented various workplace initiatives to support breastfeeding.

A review of 20 studies in the USA between 1995 and 2006 summarised that:

*“When working mothers possess certain personal characteristics and develop a strategic plan, breastfeeding is promoted. When social support is available and when support groups are utilized, lactation is also facilitated. Part-time work, lack of long mother-infant separations, supportive work environments and facilities, and child care options facilitate breastfeeding” (Johnston & Esposito 2007).*

The USA has not ratified ILO Convention No. 183 (International Labour Standards Department 2011).

### **Childcare arrangements for babies under one year of age**

According to a 2008 UNICEF Innocenti Research Centre report, the USA has subsidised and regulated childcare services for at least 25% of children under three; at least 50% of staff in accredited early education services tertiary educated with relevant qualification; and a minimum staff-to-children ratio of 1:15 in pre-school education. In general, more than 50% of under-ones are in some form of childcare – three-quarters of them from the age of four months or earlier and for an average of 28 hours per week. However, there is no federal control as early childhood services are the responsibility of individual states. In the USA data suggest that the cost of childcare is around US\$5,000 per child per year for half-day school-year programmes, and can rise to about US\$9,000 per year for full-day school-year programmes (UNICEF 2008).

An estimated 67% of mothers who had their first child in 2001/03 worked during their pregnancy, mostly on a full-time basis (Johnson 2008). In 2009, 50.1% of all mothers with children younger than 12 months were employed, and 69% of those employed worked full-time (35 or more hours per week) (U.S.Bureau of Labour Statistics 2011).

In 2001, 26% of nine-month-old infants were regularly cared for by relatives; 15% were cared for by a non-relative in either their own or another family’s home; and 9% were in centre-based care. By percentage, more black than white infants were in centre-based care (U.S.Child Care Bureau 2003). A review of studies from the 2011 report by the Surgeon General states that among employed mothers, there is a lower initiation rate for breastfeeding and shorter duration of breastfeeding, but rates are higher in women who have longer maternity leave, who work part-time, and have breastfeeding support programs in their workplace (U.S.Department of Health and Human Services 2011).

In 2009, 15 states required that employers support breastfeeding employees when they return to work (Centers for Disease Control and Prevention 2011a). A 2009 employee benefits survey found that 25% of employers have on-site lactation rooms, with smaller businesses least likely to have these rooms ((Society for Human Resource Management 2009).

The Child Care and Development Fund helps low-income families obtain childcare so they can work or attend training or education. Among infants served by this program, 49% were in centre-based care (Flanagan & West 2004).

### **Culture**

La Leche League ([www.llli.org](http://www.llli.org)) is a major advocate for breastfeeding. There are also various racial / ethnic support groups such as the African-American Breastfeeding Alliance, the Black Mothers’ Breastfeeding Association ([www.blackmothersbreastfeeding.org](http://www.blackmothersbreastfeeding.org)), and Mocha Moms ([www.mochamoms.org](http://www.mochamoms.org)). All 50 states have breastfeeding coalitions, and there are many local, tribal, and territorial coalitions as well (United States Breastfeeding Committee 2011b), with most of these being small and unfunded.

According to the US Surgeon General’s 2011 call to supporting breastfeeding, several cultural barriers were identified. These includes mothers’ lack of knowledge about breastfeeding, social norms against breastfeeding, poor family and social support, embarrassment, lactation problems, employment and childcare arrangements that discourage breastfeeding, and barriers related to health services (U.S.Department of Health and Human Services 2011).

In a 2002 study, it was found that infants from low-income families, including those in the WIC programme, were less likely to be breastfed than children in middle and upper income families (Ryan et al 2002). However, other factors apart from income and race / ethnicity are also cited as influencing breastfeeding rates, including educational status (higher educated women are more likely to breastfeed); geographical disparities (south-eastern states are less likely to breastfeed; rural women are less likely to breastfeed); negative media stories about breastfeeding; hospital policies and practices; recommendations by WIC counsellors; marketing of

infant formula; policies on work and parental leave; legislation; social and cultural norms; and advice from family and friends (U.S.Department of Health and Human Services 2011).

There are beliefs in the USA that bigger babies are healthier and thus supplemental formula feeding and earlier introduction of solid foods is common. There is also a misconception that infants might benefit from being fed both breast milk and other food sources to get “extra” nutrients (e.g. infant formula), so both are given (U.S.Department of Health and Human Services 2011).

### **Health system and health worker training**

The US healthcare system is a complex patchwork of players. In general, the USA consists of many separate legal entities that manage healthcare. Healthcare facilities are mostly owned and managed by the private sector with federal, state, county, and city governments owning certain facilities. There are also non-profit hospitals and for-profit hospitals in operation. Health insurance is now primarily provided by the Government in the public sector, with most being provided by programs such as Medicare, Medicaid, TRICARE, the Children's Health Insurance Program, and the Veterans Health Administration. Most citizens receive their health insurance through their employers. With the new “Obamacare” healthcare reform package being implemented, changes will apparently see improvements in the way healthcare is provided in the USA.

Every two years, the CDC administers a national survey of maternity care practices related to breastfeeding, known as the Maternity Practices in Infant Nutrition and Care (mPINC) Survey to all maternity care facilities in the USA. In 2007, the first national survey was done, and this survey established a baseline measure of these practices and documented the extent to which practices vary by state. The mPINC Survey is a key element of CDC's coordinated activities addressing maternity care practices and policies as they relate to breastfeeding outcomes (CDC Division of Nutrition,Physical Activity,and Obesity 2011).

The US Surgeon General released a “Call to Action to Support Breastfeeding” in 2011 in support of breastfeeding and to increase awareness of the importance of breastfeeding (U.S.Department of Health and Human Services 2011). This is a report that summarises the current status of programmes and initiatives in the USA to encourage breastfeeding and outlines actions to encourage breastfeeding in the future.

The CDC Division of Nutrition, Physical Activity, and Obesity (DNPAO) suggests that supportive hospital practices include (CDC Division of Nutrition,Physical Activity,and Obesity 2011):

- skin-to-skin contact
- teaching about breastfeeding
- early and frequent breastfeeding
- exclusive breastfeeding
- rooming-in
- active follow-up after discharge.

DNPAO collaborates with state governments to provide initiatives to support better maternity care practices that occur during the intrapartum hospital stay. The DNPAO states that “Some maternity care practices with the potential to influence breastfeeding include developing a written policy on breastfeeding, providing all staff with education and training, encouraging early breastfeeding initiation, supporting cue-based feeding, restricting supplements and pacifiers for breastfed infants, and providing post-discharge follow-up” (Centers for Disease Control and Prevention 2011b). Various states have a variety of initiatives and policies to support mothers and infants during their hospital stay, which can be found on the DNPAO website.

Breastfeeding has been endorsed by various health and medical organisations and associations, including:

- American Academy of Pediatrics (AAP) (2011)
- American Academy of Family Physicians (AAFP) (2007)
- American College of Obstetricians and Gynecologists (2007)
- American College of Nurse–Midwives (2004)
- American Dietetic Association (James et al 2009),
- American Public Health Association (2007).

These organisations recommend that most infants be breastfed for at least 12 months, and recommend that for about the first six months, infants be exclusively breastfed, meaning they should not be given any foods or liquids other than breast milk, not even water.

The AAP has an “American Academy of Pediatrics Breastfeeding Initiatives” website and “Safe and Healthy Beginnings: A Resource Toolkit for Hospitals and Physicians' Offices” that provides resources and a framework for continuity of care for the infant from childbirth and beyond, and includes various tools for clinicians, including:

- Clinical Care Path for Breastfeeding
- Sample Hospital Breastfeeding Policy for Newborns
- Infant Breastfeeding Assessment Tool (IBFAT)
- LATCH: A Breastfeeding Charting System and Documentation Tool
- Mother-Baby Assessment Tool
- A Clinician’s Guide: Suggested Questions to Assess Breastfeeding in Primary Care Practice
- Breastfeeding Assessment Checklist for Mothers in Primary Care Practice (English and Spanish versions included)
- Assessing Your Local Breastfeeding Resources (English and Spanish versions included).

The USBC has a guidance document called “Core Competencies in Breastfeeding Care and Services for All Health Professionals. Revised edition” published in 2010 that lists the core competencies that healthcare staff should have when providing breastfeeding care and services (United States Breastfeeding Committee 2001).

The AAFP explicitly discourages formula use for healthy infants in its policies stating that:

*“The AAFP encourages that hospital staff respect the decision of the mother who chooses to breastfeed exclusively by not offering formula, water or pacifiers to an infant unless there is a specific physician order. The AAFP discourages distribution of formula or coupons for free or discounted formula in hospital discharge or physician office packets given to mothers who choose to breastfeed exclusively” (American Academy of Family Physicians 2007).*

International Board of Certified Lactation Consultants (IBCLC) are healthcare professionals who specialise in the clinical management of breastfeeding, and carry certification by the International Board of Lactation Consultant Examiners (IBLCE). IBLCE is like other US certification boards for healthcare professionals and is under the direction of the US National Commission for Certifying Agencies. IBCLCs work in inpatient, ambulatory and community care settings. There are studies that show having IBLCE as staff improves breastfeeding rates; however their presence varies widely from facility to facility in the USA (U.S.Department of Health and Human Services 2011).

Most state health departments have no staff to support breastfeeding activities, except for the WIC program. This lack of infrastructure makes it difficult to carry out any breastfeeding programs at the state level (U.S.Department of Health and Human Services 2011).

Breast milk donated to the banks associated with the Human Milk Banking Association of North America (HMBANA) generally go to help other infants who are sick or fragile (e.g. preterm infants), or to infants whose mothers cannot provide them with enough or any breast milk. HMBANA and milk banks can be seen as facilities that encourage breastfeeding in the face of natural circumstances that may prevent normal breastfeeding. On 6 December 2010, the U.S. Food and Drug Administration’s Office of Pediatric Therapeutics convened a meeting of national experts, including directors of two HMBANA milk banks, to discuss the safety, ethics and regulatory implications of donor human milk. The FDA Pediatric Advisory Committee endorsed donor human milk banking and deemed informal sharing of human milk to be unsafe. HMBANA also support the concepts laid out by the Baby-Friendly Initiative and the WHO Code (Human Milk Banking Association of North America 2011a; Human Milk Banking Association of North America 2011b).

## Summary

The USA has limited regulations to support the WHO Code on infant formula, with only some groups monitoring marketing of infant formula. Various federal and state policies and initiatives help to implement and support some of the other WHO Code articles to varying degrees, as do other national and state healthcare organisations. The FDA regulates and monitors infant formula nutritional composition, labelling and

manufacturing activities in the USA. The US Government Accountability Office (GAO) has reviewed market research and studies conducted between 1980 and 2005 and found that advertising of infant formula was widespread and increasing in the USA; however it is unclear whether it monitors marketing regularly. The National Alliance for Breastfeeding Advocacy (NABA) REAL is a non-profit organisation responsible for monitoring compliance with the WHO Code in the USA. The Federal Trade Commission is the highest authority on advertising regulations and standards; however states and local political divisions can have their own laws on advertising. There also does not seem to be any national industry code that adheres to the WHO Code.

In terms of complementary policies, the USA has many federal initiatives, but there are also confounding state policies that may override federal policies. This review did not investigate in detail all individual state policies. However, as of July 2007, 47 states had passed some type of legislation in support of the right to breastfeed, with most laws addressing some aspect of breastfeeding in public. These vary in their nature and scope. Other categories of state breastfeeding legislation include workplace issues, jury duty, family law, economic issues, and support services and education. In the USA, there are three states with no law protecting the right to breastfeed in public. The other states either have a law protecting nursing in public but without an enforcement provision; have a law protecting nursing in public with an enforcement provision; or only have a law excluding breastfeeding from some criminal charges. It is noted that no formal structure exists to coordinate federal and state breastfeeding initiatives to reduce overlap or to identify gaps in current programs.

The WIC program is a major influence on nutrition and feeding behaviours in the USA. A portion of each state's WIC budget is allocated for the promotion and support of breastfeeding. WIC now serves 53% of all infants born in the USA. It has been found that infants from low-income families, including those in the WIC programme, were less likely to be breastfed than children in middle and upper income families, and the WIC program has always faced the challenge of promoting breastfeeding, while simultaneously providing infant formula to mothers who choose not to breastfeed.

In terms of other federal initiatives, the USA's national Healthy People 2010 initiative that calls for 75% of mothers to initiate breastfeeding; for 50% of mothers to continue breastfeeding for six months; and 25% to continue breastfeeding for one year. The new "Choose My Plate" initiative, which replaces the food pyramid, has a subsection on daily food plans for pregnancy and breastfeeding, which encourages women to breastfeed and provides resources for women wanting to find out more about nutrition during breastfeeding. The Office of Women's Health in the Department of Health and Human Services operates a National Breastfeeding Helpline, and there are also national guidelines on out-of-home childcare and breastfeeding from the National Resource Centre for Health and Safety in Child Care and Early Education.

In 2009, in terms of workplace support, 15 states required that employers support breastfeeding employees when they return to work, and an employee benefits survey found that 25% of employers have on-site lactation rooms, with smaller businesses least likely to have these rooms. New parents in the USA may access leave through the Family Medical Leave Act (FMLA) of 1993. FMLA leave consists of 12 weeks of unpaid leave that must be taken continuously and on a full-time basis. As of March 2010, five states had laws that ensure some level of paid maternity leave, and two extra states had at-home infant care programmes that fund low-income parents to stay home with their infants. In addition to this, the USA has the Child Care and Development Fund that helps low-income families obtain childcare so they can work or attend training or education.

The Health Resources and Services Administration (HRSA) developed "The Business Case for Breastfeeding: Steps for Creating a Breastfeeding Friendly Worksite: Bottom Line Benefits" resource kit to promote breastfeeding in the workplace. The Patient Protection and Affordable Care Act of 2010 includes a provision requiring employers to provide workplace accommodations that enable employees who are breastfeeding to express their milk. However, most states in the USA have either no workplace breast pumping law or no law requiring employers to allow on-site pumping. The Nutrition, Physical Activity, and Obesity Program (NPAO) is a cooperative agreement between the CDC's Division of Nutrition, Physical Activity and Obesity (DNPAO) and 25 state health departments, with one of the aims of the program being to "increase breastfeeding initiation, duration, and exclusivity". The USA has not ratified ILO Convention No 183 that supports breastfeeding in the workplace.

The USA has various organisations that contribute to increasing social awareness of breastfeeding. The US Breastfeeding Committee provides a forum for NGOs and representatives from the federal government to collaborate on joint initiatives supporting breastfeeding. The La Leche League is a major advocate for

breastfeeding, and all 50 states have breastfeeding coalitions, as well as many local, tribal, territorial coalitions, and racial / ethnic support groups. “Babies Were Born to Be Breastfed” was the campaign tag line of the U.S. National Breastfeeding Awareness Campaign launched by the U.S. Department of Health and Human Services’ Office on Women’s Health and the Advertising Council, and although the educational awareness campaign has ended, continued promotion efforts are underway. In relation to social and public enablement of breastfeeding, on 4 August 2007, the TSA instituted a new policy for transporting pumped breast milk in airplane carry-on luggage.

There are also many cultural barriers to breastfeeding in the USA. There is the belief that bigger babies are healthier and thus supplemental formula feeding and earlier introduction of solid foods is common. There is also a misconception that infants might benefit from being fed both breast milk and other food sources to get “extra” nutrients (e.g. infant formula), so both are given. According to the US Surgeon General’s 2011 call to supporting breastfeeding, cultural barriers include a mothers’ lack of knowledge about breastfeeding, social norms against breastfeeding, poor family and social support, embarrassment, lactation problems, employment and childcare arrangements that discourage breastfeeding, and barriers related to health services.

For the healthcare system, every two years, the CDC administers a national survey of maternity care practices related to breastfeeding, known as the “Maternity Practices in Infant Nutrition and Care (mPINC) Survey” to all maternity care facilities in the USA. This helps to identify breastfeeding trends. Breastfeeding has been endorsed by various health and medical organisations and associations, including the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists, American College of Nurse–Midwives, American Dietetic Association and the American Public Health Association. The USA also has the Baby-Friendly Hospital Initiative for hospitals to support and encourage breastfeeding. As of 28 July 2011, there were 114 BFHI-accredited hospitals and birthing centres in the USA. The percentage of births at BFHI-accredited facilities in 2011 in various states in the USA is less than 20% for all but two states. Only Alaska and Nebraska have more than 20% of births in BFHI-accredited facilities.

## FINDINGS AND CONCLUSIONS

The positive effects of breastfeeding on the health and wellbeing of mother and infant are extensive and widely acknowledged worldwide (National Health Service Health Development Agency 2003). In response to concerns about declining breastfeeding rates, unregulated marketing of breast-milk substitutes, and the potential effect of artificial feeding on child and infant mortality, the World Health Organization (WHO) International Code of Marketing of Breast-milk Substitutes (WHO Code) was adopted by 118 member states at the 34th World Health Assembly in 1981 (WHO 1981). The WHO Code was formulated with the aim of contributing to “the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breast milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution” and was adopted as a recommendation rather than as a regulation (WHO 1981).

It is an appropriate time for countries such as Australia to assess the feasibility and effectiveness of strategies to enact the WHO Code within their unique domestic context. In the 30 years since it was adopted there have been a number of global breastfeeding policy developments such as the Innocenti Declaration, the Baby Friendly Hospital Initiative and Baby Friendly Health Initiative, the ILO Maternity Protection Convention and the Global Strategy For Infant and Young Child Feeding (Australian Health Ministers' Conference 2009; International Labour Organization 2000; UNICEF 1990; UNICEF 2005; World Health Organisation and UNICEF 2003; World Health Organization and UNICEF 2009). Although there is a large amount of literature on the effectiveness of interventions to promote breastfeeding in general (see section on breastfeeding: a research overview), Dyson et al (2005) note that research that specifically “evaluates the impact of adopting and/or implementing the ... WHO Code ... is urgently needed”. Furthermore, the effectiveness of large scale health interventions at a national level (such as an evaluation of the Baby Friendly Hospitals Initiative) are less amenable to research than single interventions or at an individual or group setting and thereby makes it difficult to draw out any causal associations.

Despite the complexity and breadth of this topic, there is a growing recognition that the feasibility and effectiveness of strategies to enact the WHO Code vary according to the domestic context. This comparative study has assessed the implementation of the WHO Code across nine developed countries as outlined and discussed with the Department of Health and Ageing. These included Australia, Canada, France, Germany, Ireland, New Zealand, Norway, the UK and the USA and the aim was to gather information on the impact of implementing the WHO Code on breastfeeding rates and infant feeding practices in these countries. In order to consider the broader context, this study has considered other policies and support mechanisms in place which are outside the scope of the WHO Code or the WHO/UNICEF initiatives but have the potential to affect breastfeeding rates.

## INTERNATIONAL COMPARISONS

### Breastfeeding Rates

Historically, developed countries have experienced a decline in breastfeeding rates over the first half of the 20<sup>th</sup> century reaching a minimum in the 1960s, which was then followed by a rise in the 1970s. It is widely accepted that the decline was related to the medicalisation of birth, the influence of medical advice and the introduction of infant formula. In contrast, the rise in the 1970s was often attributed to the rise of the women's movement and the associated social movements of the time as well as the recognition of the health benefits of breastfeeding.

A number of measures are used to describe breastfeeding rates and while there are internationally recommended terms outlined by the WHO (Table 1) not all countries collect data in line with these definitions. In addition, there is variation in the method and frequency of data collection. Therefore comparisons of rates across countries are prone to difficulties in interpretation and should be considered with these qualifications.

When considering our pre-specified countries of interest, initiation rates of breastfeeding were high in the majority of the countries (>80% in Australia, Canada, Germany, Norway and the UK) with Norway having almost universal rates of initiation. Two countries stood out as having particularly low rates of initiation and these were France and Ireland.

As the WHO recommends exclusive breastfeeding for the first six months, this is the time-point at which data are most frequently collected and reported. However this time-point is problematic with respect to both the associated definition (i.e. exclusive breastfeeding at six months compared to up to six months) and its

usefulness (as this is around the recommended time to introduce solid food and is therefore unlikely to be a stable indicator). The rates of exclusive or full breastfeeding at six months are low across all the assessed countries with no country having a rate greater than 30%. The rate is particularly low in the UK (<1%) and Norway, considered a model for breastfeeding success, also has low rates of exclusive breastfeeding at six months (2 to 10% depending on the survey). The rate of any breastfeeding at six months may provide a more stable measure. In this measure, Norway ranks considerably higher than the other countries with rates of 80 to 82%. A band of countries have reported rates around 50% including Australia, Canada, Germany and the USA while the UK and Ireland have markedly lower rates.

### **Implementation of the WHO Code**

The WHO Code states under Article 11.1 that “Governments should take action to give effect to the principles and aim of the Code, as appropriate to their social and legislative framework.” Reflecting this, there are notable differences in the mechanisms and degree by which the WHO Code has been implemented across the eight countries, however all of the countries assessed are members of the Codex Alimentarius which develops food standards, under the Joint FAO/WHO Food Standards Programme. These food standards encompass infant formula and all eight countries have enacted legislation to ensure high quality of infant formula thereby meeting Article 10 of the WHO Code. In contrast, none of the countries have regulations or voluntary codes which cover the whole range of products outlined in Article 3 of the WHO Code; the majority cover infant formula and follow-on milk while some only cover infant formula.

There is some consistency across those countries part of the European Union, and Norway, which have all adopted partial legislation of the WHO Code in line with the European Directive (EU Directive 2006/141/EC). The EU directive covers Articles 2 to 6 and Article 9 of the WHO Code; however none of the European countries have regulations or codes covering WHO Code Articles 7 and 8. There is also limited coverage of Article 11.

In contrast to European Union countries and Norway, Canada and the USA have a restricted implementation of the WHO Code with only Articles 9 and 11 implemented in national legislation. There are no national voluntary codes in operation and extensive marketing and advertising of infant formula takes place. The implementation of the WHO Code in these countries with legislation is considered likely to breach free-trade agreements and while Canada had a voluntary code in the 1980s, the arrival of Nestle into the market and subsequent changes in the behaviour of infant-formula manufacturers in North America suggests that a voluntary code would no longer be possible in these markets.

Both Australia and NZ have voluntary codes in operation which, unlike the EU Directive, covers all Articles of the WHO Code although they defer to the ANZ Food Standards Code for Articles 9 and 10. However, similar to the EU Directive, these codes are limited in scope to infant formula and follow-on formula and furthermore, they only cover signatories to the code and there is a limited ability to enforce them. Nevertheless, both are formally monitored and there appears to be few violations. Norway also has a voluntary code in operation, in addition to national legislation; however the details of this code were not identified in the study. See Table 32 for a comparison of implementation of the WHO Code across countries.

In addition, NZ has a separate code for Health Workers, which is also formally monitored. A formal code may be problematic, with one NZ review noting that unlike manufacturers who have agreed to a code of practice, health workers have not. Health workers could be subjected to a complaint under a code of which they are not aware of or may fail to provide necessary advice on infant formula for fear of breaching the code. Health workers conduct under the WHO Code is also affected by the implementation of the BFHI.

Although Norway's implementation of the WHO Code appears to mirror that of other European nations, it is unique amongst the eight countries in including full implementation of the WHO Code into legislation as an objective under its Action Plan for better Nutrition 2007-2011. The extent to which this has occurred remains unclear.

### **Potential facilitators and barriers**

#### ***The Baby-Friendly Hospital Initiative***

Although all eight countries have made some progress towards implementing the BFHI, the extent and the timing of implementation has varied considerably. Norway, with over 90% of births in BFHs and 19 out of 21 accredited neonatal, has the highest rate of implementation. This initiative has a long history in Norway with 77% of births occurring in BFHI accredited hospitals by 1996. The implementation of the BFHI in NZ is also

high but has a more recent history and impetus coming from a 1999 Government decision to fund the NZBA to drive the initiative. All other countries have considerably lower rates of implementation (Table 33).

Notably, the two countries, with a high percentage of accredited Baby Friend Hospitals, are small and centralised and have government-funded authorities responsible for the implementation of the initiative. For larger, decentralised countries such as Canada and the USA, these types of decisions are delegated to their Provinces or States and therefore there are significantly different rates of implementation across the country. For example, Quebec has mandated implementation of the BFHI and has 17 of Canada's 22 BFHs. It is unlikely that these countries will progress by instigating a nation-wide and co-ordinated implementation of the BFHI.

The remaining countries included in the study have, to some extent, national recommendations for implementation but it is limited by factors such as resources, funding and the strength of the recommendation. In Australia there is a designated body, the Australian College of Midwives, to implement the BFHI. However there is no associated government funding despite it being a recommendation of the Best Start Inquiry. France has included extra requirements for BFHI accreditation beyond the ten steps but while implementation is recommended by a number of government bodies, there is no mention of the funding available to action this. Similarly, the Irish government has included targets for the BFHI in its breastfeeding strategic plan yet the targets do not call for full implementation. In the UK, recommendations to implement the BFHI were made by NICE based on a review of the evidence for effectiveness and cost-effectiveness. These recommendations carry significant weight in the National Health System in the UK and may spur greater uptake.

There is some evidence of the effectiveness of the BFHI, notably the large cluster-RCT conducted in Belarus which demonstrated improved health outcomes following the implementation of a breastfeeding program modelled on the BFHI. One of the steps of the BFHI is to ensure training of health workers. Widespread implementation of the BFHI may be a mechanism in which to improve compliance with Article 7 of the WHO Code as it applies to health workers and would limit the difficulties noted for the Health Workers Code in NZ. Appropriate professional training through the BFHI would be expected to ensure that health workers are equipped with the skills and knowledge necessary to support the principles of the WHO Code.

The majority of the countries have begun extending the BFHI to include community settings, predominately utilising the seven steps first developed in the UK. In addition Norway and Quebec have worked to develop ten steps for implementation in neonatal units and Norway has made significant progress in implementing this. Evidence for implementing the BFHI in these settings is currently lacking.

### ***Parental leave, childcare and other government initiatives***

The provision of both paid and unpaid maternity, paternity and parental leave varies greatly across the eight countries reflecting the differing social systems and approaches to family and public spending. The most generous leave arrangements are in Norway, which has an extended and well paid parental leave scheme. This appears to be linked to high rates of female workforce participation and high fertility rates. There is also a low rate of childcare utilisation for children less than one year but high rates for those less than three years. In contrast, the USA statutory requirement is 12 weeks of unpaid maternity leave and an estimated 50.1% of mothers with children less than 12 months are employed.

In France, New Zealand and recently Australia, they have paid leave in the range of 14 to 18 weeks, which is at or slightly above the minimum requirements specified by the Maternity Protection Convention. Germany has recently adopted an extended period of paid leave modelled on the Scandinavian approach, in an attempt to boost fertility rates.

There are different types of family policies and one study characterised these as:

- *General family support* (e.g. cash child allowances, family tax benefits, public day care for older children). These policies support, or are neutral to, a traditional gendered division of labour.
- *Dual earner support* (e.g. paid maternity and paternity leave, public day care for the youngest children).

The study ranked 18 OECD countries and only Scandinavian countries (including Norway) ranked high on dual earner support while Germany and France ranked high on general family support. A third group of countries were ranked low on both measures and classified as market oriented and these included Australia, Canada, New Zealand, the UK and the USA (Korpi 2000). Although this study is dated, these

characterisations highlight the links between culture and policy which may have an impact on the choices made by families.

Demonstrating that these policies can influence breastfeeding rates, but the influence may be limited, is a study from Canada which compared breastfeeding duration before and after an increase in paid parental leave from 25 to 50 weeks. The length of time away from work increased by almost 2.3 months while the months of breastfeeding increased by just 0.75 months. Supporting this viewpoint, the Infant Survey in the UK reported that a lower proportion of mothers mentioned return to work as a factor behind giving up breastfeeding after the introduction of extended maternity leave benefits.

Direct government promotion and support for breastfeeding was evident in all eight countries with differences in the timing, degree and type of support. Similar to the implementation of the BFHI, in decentralised countries such as the USA and Canada, government initiatives in individual Provinces or States differ greatly and are likely to be equally influential. The majority of countries have formal plans on breastfeeding (whether stand alone or within larger government plans) and have appointed a breastfeeding committee. Canada is an exception to this where responsibility for breastfeeding has been delegated to the Provinces. In a historical study of breastfeeding in Canada, Nathoo notes that in the 1980s Canada had well-funded government promotion efforts, but the rapid increase in breastfeeding rates preceded these initiatives and remained relatively flat during these initiatives (Nathoo & Ostry 2009). It is likely that governmental support for breastfeeding has been more sustained in Norway compared with other countries in this study.

Cultural aspects are likely to have a significant influence of breastfeeding practice, and some consistent findings across the countries include higher rates of breastfeeding in women who are older, have higher levels of education and have a higher socioeconomic status. However, it is difficult to compare attitudes, beliefs and values relating to breastfeeding across countries as unlike many of the other aspects considered so far in this comparative study, there are no standard quantitative measures (e.g. percentage of women who have breastfed in public). We did not identify qualitative studies from Norway and there did not appear to be any barriers to breastfeeding discussed in the retrieved government publications. This absence of information supports the notion that there are few barriers to public breastfeeding in Norway and widespread acceptance of breastfeeding as the normal means of infant feeding. In contrast, many of the other countries (e.g. Canada, Australia, France, Ireland, UK) had a body of qualitative literature documenting the barriers women experience, particularly around breastfeeding in public. These factors are likely to have an impact particularly on breastfeeding duration, having their greatest effect in the medium to long post-natal period and beyond. New Zealand seems to have accepting and supportive culture for breastfeeding, as shown by the support for World Breastfeeding Week as well as local business support for public breastfeeding in various locations. The cultural impact on breastfeeding is harder to define and is heterogeneous in the USA due to the unique laws and cultures in each state and how state policies tend to take precedence over national efforts.

Our review of both the international guidelines and medical literature identifies a number of interventions which have been shown to be effective for increasing both the initiation and duration of breastfeeding. A frequent finding is the effectiveness of providing skilled or professional support and similarly, training and education of health professionals to enable them to provide this support. Across the eight countries, it was difficult to gauge the quality and extent of health worker training in lactation support. One measure of this is the implementation of the BFHI but other mechanisms to ensure widespread and high-quality training are feasible. This review also highlighted a number of practices related to the BFHI as being effective, including avoiding supplementary fluids and foods, providing early and unrestricted skin-to-skin contact and rooming in as well as the BFHI as a whole.

One finding of the evidence review, supported by the findings from this study, runs parallel with the conclusions made by the EU. The EU report articulated that a “combination of multi-faceted integrated programs seems to have a synergistic effect.” This is a consistent finding across a range of public health interventions in which single interventions may show limited effectiveness but sustained and multi-pronged approaches create synergistic effects and build upon established gains.

#### **LIMITATIONS OF THE STUDY**

This study was conducted in a rapid time-frame and attempts to cover a wide range of factors beyond the implementation of the WHO Code. For the comparisons between countries, a systematic approach to the identification of literature was possible to a limited extent and website searches, references and information sources cited within identified references were also relied on. While every effort was made to extract data without bias, without a formal systematic review, this type of comparative study is at risk of selection bias in

the identification and inclusion of studies and data. Furthermore, a number of the countries used in this study were non-English and therefore our ability to retrieve the evidence available may have been limited and there is some chance that we have missed data or key information from these countries. Finally, with regards to the data included in the study, and as aforementioned, breastfeeding rates should be interpreted with caution due to the apparent differences in methods of data collection and breastfeeding definitions.

Table 32: International comparison of degree of implementation of the WHO Code

| Country     | Implementation  | WHO Code Articles |    |    |    |    |     |               |             |                  |
|-------------|-----------------|-------------------|----|----|----|----|-----|---------------|-------------|------------------|
|             |                 | 2                 | 4  | 5  | 6  | 7  | 8   | 9             | 10          | 11               |
| Australia   | Extent          | ++                | ++ | ++ | ++ | ++ | +++ | +++           | +++         | ++               |
|             | Type of measure | Voluntary code    |    |    |    |    |     | ←Legislation→ |             | Vol code         |
| Canada      | Extent          | +                 | NE | NE | NE | NE | NE  | ++            | +++         | NE               |
|             | Type of measure | Legislation       |    |    |    |    |     | ←Legislation→ |             |                  |
| France      | Extent          | ++                | ++ | ++ | ++ | NE | NE  | ++            | +++         | NE               |
|             | Type of measure | ←Legislation→     |    |    |    |    |     | Legislation   | Legislation |                  |
| Germany     | Extent          | ++                | NE | NE | NE | NE | NE  | ++            | NE          | ++               |
|             | Type of measure | Legislation       |    |    |    |    |     | Legislation   |             | Provisional code |
| Ireland     | Extent          | ++                | ++ | ++ | ++ | NE | NE  | ++            | +++         | ++               |
|             | Type of measure | ←Legislation→     |    |    |    |    |     | Legislation   | Legislation |                  |
| New Zealand | Extent          | ++                | ++ | ++ | ++ | ++ | ++  | ++            | +++         | +++              |
|             | Type of measure | Voluntary code    |    |    |    |    |     | Legislation   |             | Vol code         |
| Norway      | Type of measure | ++                | ++ | ++ | ++ | NE | NE  | ++            | ++          | ++               |
|             | Extent          | ←Legislation→     |    |    |    |    |     | ←Legislation→ |             |                  |
| UK          | Type of measure | ++                | ++ | ++ | ++ | NE | NE  | ++            | ++          | NE               |
|             | Extent          | ←Legislation→     |    |    |    |    |     |               |             |                  |
| USA         | Type of measure | +                 | NE | NE | NE | NE | NE  | ++            | +++         | NE               |
|             | Type of measure | Legislation       |    |    |    |    |     | Legislation   |             |                  |

Articles: Article 2. Scope of the code; Article 4. Information and education; Article 5. The general public and mothers; Article 6. Health care systems; Article 7. Health workers; Article 8. Persons employed by manufacturers and distributors; Article 9. Labelling; Article 10. Quality; Article 11. Implementation and monitoring.

**Key:** NE = Non-existent; + = Reduced implementation; ++ = Partial implementation; +++ = Total implementation

Table 33: International comparison of breastfeeding rates and influential factors

| Country   |  | Australia              | Canada                        | France            | Germany     | Ireland     | New Zealand | Norway   | UK          | USA   |
|---|--|------------------------|-------------------------------|-------------------|-------------|-------------|-------------|--|-------------|---|
| Total population                                  |  | 22.6 million           | 33 million                    | 56 million        | 82 million  | 4.5 million | 4.4 million | 4.9 million  | 62 million  | 307 million   |
| Total fertility rate (year)                       |  | 1.90 (2009)            | 1.68 (2008)                   | 1.99 (2009)       | 1.36 (2009) | 2.1 (2009)  | 2.2 (2011)  | 2.0 (2008)   | 1.96 (2008) | 2.05 (2009)   |
| Breastfeeding data                                | Is there any government (systematic) collection of data? | Yes                    | No                            | No                | No          | No          | Yes         | Yes  | Yes         | Yes   |
|   | Initial rate   | 92%                    | 87%                           | 63%               | 90%         | 50%         | 88%         | 99%  | 81%         | 75%   |
|   | 6 months rate (any)                                      | 56%                    | 54%                           | N/A               | 51%         | 9%          | N/A         | 80–82%   | 25%         | 44%   |
|   | 6 months rate (exclusive or fully)                       | 14%                    | 28%                           | N/A               | 10–20%      | 2.4%        | 25%         | 2–10%  | <1%         | 15%   |
| National strategies                               | Plan to promote breastfeeding?                           | In development         | No                            | Yes               | No          | Yes         | Yes         | Yes  | No          | Yes   |
|   | Breastfeeding Committee?                                 | Yes                    | No                            | No                | Yes         | Yes         | Yes         | Yes  | Yes         | Yes   |
| BFHI  | No. accredited hospitals/total no. maternity hospitals   | 77/330                 | 22/500                        | 10                | 65          | 7/20        | 71/79       | 43/53 (19/21 neonatal wards)   | 69/460      | 114   |
|   | % of births accredited hospitals                         | 23%                    | N/A                           | N/A               | N/A         | 20–40%      | N/A         | >90%   | 14–61%      | <20%  |
|   | Extended?  | No                     | Yes                           | No                | No          | Yes         | Yes         | Yes  | Yes         | Yes   |
| Statutory parental leave and breastfeeding breaks | Length of unpaid parental leave                          | 12 months              | 52–54 weeks (Quebec 70 weeks) | 36 months         | 36 months   | 40 weeks    | 56 weeks    | 12 months  | 12 months   | 12 weeks  |
|   | Length and rate of paid parental leave                   | 18 weeks, minimum wage | 50 weeks, 55% of earnings     | 16 weeks full pay | 14 months   | 26 weeks    | 14 weeks    | 46 weeks full pay or 56 weeks at 80% pay (10 weeks of which are reserved for the father) | 39 weeks    | None. Seven states have some paid parental leave or support legislation |
|   | Allowance for breastfeeding breaks at work?              | No                     | No                            | No                | Yes         | Yes         | Yes         | Yes – but not paid   | No          | Yes   |

|                               |   |                  |                  |                  |                  |                  |                  |                |                  |                 |
|-------------------------------|---|------------------|------------------|------------------|------------------|------------------|------------------|----------------|------------------|-----------------|
| Workforce participation rates | All women (men)                                     | 59.1%<br>(72.2%) | 58.3%<br>(65.2%) | 60.1%<br>(68.5%) | 66.2%<br>(75.6%) | 57.4%<br>(66.3%) | 62.4%<br>(73%)   | 71% (77)%      | 65.0%<br>(74.8%) | 58% (71%)       |
|                               | Women part-time rate (men)                          | 45.7%<br>(16.1%) | 26.9%<br>(11.9%) | 29.7%<br>(5.7%)  | 44.8%<br>(8.6%)  | 33.4%<br>(9.8%)  | 35.2%<br>(11.8%) | 43.0%<br>(13%) | 41.7%<br>(10.4%) | 18.8%<br>(8.1%) |
| Childcare arrangements        | % of infants less than 3 year enrolled in childcare | 29               | 24               | 42               | 18               | 31               | 38               | 51             | 41               | 31              |

## APPENDIX 1: METHODS

### METHODS FOR THE RESEARCH OVERVIEW

In order to report on the evidence base regarding interventions and programmes to promote the initiation and duration of breastfeeding, a rapid systematic review of the medical literature was conducted to identify relevant studies. This types of evidence considered were restricted to level 1 evidence (i.e. systematic reviews, meta-analysis) and level 2 evidence (i.e. RCTs) which was limited to our pre-specified countries (Australia, Canada, France, Germany, Ireland, New Zealand, Norway, the UK, the USA).

The database searched was the Cochrane Central Register of Controlled Trials (CENTRAL) which included details of published articles taken from bibliographic databases (notably MEDLINE and EMBASE), and other published and unpublished sources. The search strategy was developed using key terms for breastfeeding and infant formula feeding and is shown in Table 34.

**Table 34: Search strategy for CENTRAL (containing MEDLINE and EMBASE)**

|   | Search terms  |
|---|---|
| 1 | MeSH descriptor <b>Breast Feeding</b> explode all trees |
| 2 | MeSH descriptor <b>Infant Formula</b> explode all trees |
| 3 | MeSH descriptor <b>Bottle Feeding</b> explode all trees |
| 4 | (breast feeding):ti,ab,kw                               |
| 5 | (infant formula):ti,ab,kw                               |
| 6 | OR (1-5)  |

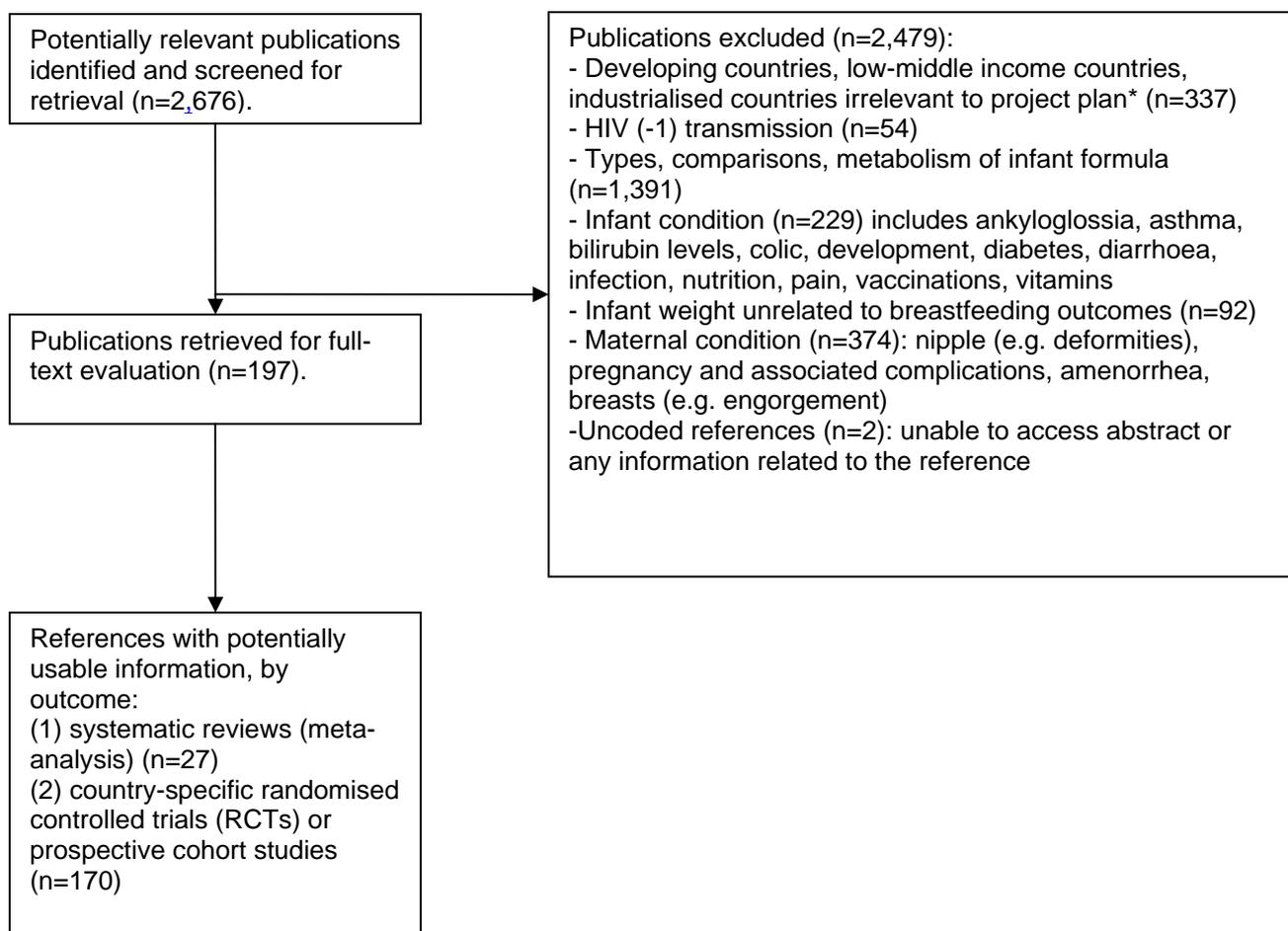
The following eligibility criteria were applied to all retrieved citations:

- Publication type:
  - systematic review
  - randomised controlled trial (including cluster randomised controlled trials)
  - published from 1980 onwards.
- Population:
  - any systematic reviews
  - countries included in the current study for RCTs.
- Intervention
  - interventions designed to promote the initiation or duration of breastfeeding
  - excluded interventions designed to address medical problems associated with breastfeeding including maternal problems (e.g. mastitis, engorgement) and infant problems (e.g. tongue tie).
- Outcomes
  - only included studies which reported on breastfeeding initiation or duration.

### Search results

The search strategy retrieved a total of 2,677 non-duplicate citations. These citations were evaluated to determine whether the retrieved studies met the eligibility criteria. Based on these criteria, 2,476 citations were excluded from the review. The QUORUM flow chart summarises the results of the literature search and the application of the study exclusion criteria.

**Figure 1: Quorum flow chart summarising the results of the literature search and the application of eligibility criteria**



The 197 references meeting the criteria for inclusion in the review are 27 systematic reviews and 170 RCTs.

The RCTs were categorised according to country of origin and type of interventions as follows:

- **USA (n=72)**
  - a. Home visits n=2 (includes low-income families)
  - b. Support: from counsellors n=2, from peers n=6, from lactation specialists/midwives n=8 (includes low income)
  - c. Education: antenatal n=9 (includes low-income families and fathers only)
  - d. Training (of midwives, medical staff) n=2
  - e. Skin-to-skin contact n=3
  - f. Duration of hospital stay n=2
  - g. Analgesia n=2
  - h. Costs (of breastfeeding, infant formula) n=5
  - i. Pacifiers n=3
  - j. Bottle use n=3
  - k. Discharge packs n=7
  - l. Telephone calls n=1
  - m. Caesarean n=1
  - n. Multifaceted interventions: video & counselling n=2 (includes low income), counselling, telephone calls & discharge packs n=1, counselling & telephone calls n=1, antenatal & home visits n=1, support from lactation specialists & education n=1, home visits & telephone support n=4
  - o. Health promotion n=2
  - p. Type of hospital n=1
  - q. Advertising n=1
  - r. Nasogastric (preterm babies) n=1
  - s. Attitudes of medical staff n=1
- **UK (n=31)**
  - a. Home visits n=1

- b. Support: from counsellors n=3, from peers n=4 (1 on low-birthweight babies), from lactation specialists/midwives n=3, from community n=1
  - c. Education: antenatal n=3, migrants n=1
  - d. Training (of midwives, medical staff) n=2
  - e. Skin-to-skin contact n=2
  - f. Duration of hospital stay n=1
  - g. Analgesia n=2
  - h. Costs (of breastfeeding, infant formula, breastfeeding support) n=4
  - i. Breast shells n=1
  - j. Risk factors n=2
  - k. Work n=1
- **Canada (n=24)**
  - a. Duration of hospital stay n=2
  - b. Discharge packs n=1
  - c. Multifaceted intervention: counselling & education program n=1; home visits & telephone calls n=1; counselling & education n=1
  - d. Support: from peers n=5; lactation specialists n=1; from nurses n=1
  - e. Training: of nurses n=1
  - f. Education: adolescents n=2, antenatal n=1
  - g. Home visits: n=2
  - h. Caesarean n=2
  - i. Pacifier n=1
  - j. Health promotion n=1
  - k. Costs n=1
- **Scandinavia (n=17)**
  - a. Home visits n=2 (1 on preterm babies)
  - b. Support (from nurses) n=1
  - c. Skin-to-skin contact n=4 (1 on preterm babies)
  - d. Duration of hospital stay n=2
  - e. Training (of midwives, nurses, health visitors) n=3
  - f. Type of hospital n=1
  - g. Pacifier use n=1
  - h. Caesarean n=1
  - i. Risk factors n=1
- **Australia (n=16)**
  - a. Home visits n=1
  - b. Education: antenatal (including attitudes) n=5 (1 primary RCT with 3 secondary citations); midwifery education n=1; booklets for parents n=1, migrants n=1
  - c. Support (from midwives, GPs & lactation specialists) n=3
  - d. Analgesia n=1
  - e. Bottle use n=1
  - f. Costs n=1
- **Germany (n=5)**
  - a. Skin-to-skin contact n=1
  - b. Multifaceted intervention: telephone call & booklets n=1
  - c. Bottle use n=2
  - d. Type of hospital n=1
- **France (n=3)**
  - a. Education (antenatal, in hospital) n=1
  - b. Support (from ward staff & paediatricians) n=1
  - c. Campaign n=1
- **New Zealand (n=1)**
  - a. Duration of hospital stay n=1
- **Ireland (n=1)**
  - a. Education (antenatal) n=1

The systematic reviews were appraised for quality using seven criteria as outlined in Table 35. For the criterion addressing heterogeneity, systematic reviews that did not undertake a meta-analysis were rated “not applicable” (N/A), unless heterogeneity was specifically mentioned. Studies were required to meet all seven criteria to be assessed as high quality. A study with four or fewer “yes” or N/A ratings was considered to be of low quality.

**Table 35: Quality checklist for systematic reviews**

| Study design       | Quality checklist  |
|--------------------|--|
| Systematic reviews | Was the research question specified?                     |
|                    | Was the search strategy explicit and comprehensive?      |
|                    | Were the eligibility criteria explicit and appropriate?  |
|                    | Was a quality assessment of included studies undertaken? |
|                    | Were the methods of the study appraisal reproducible?    |
|                    | Were sources of heterogeneity explored?                  |
|                    | Was a summary of the main results clear and appropriate? |

High quality = yes or N/A to all seven criteria; low quality = four or less yes or N/A. Other studies assessed as fair quality.

As the review was a rapid review and almost 30 systematic reviews were retrieved, the quality of the RCTs was not assessed. The results of key RCTs, identified on the basis of recent publication and covering of topics not considered in the systematic reviews, are presented as an addendum to the systematic reviews; however, they should not be given the same weight as the quality appraised systematic reviews.

#### **Additional electronic academic databases**

A rapid systematic search on the following published literature databases was conducted to identify published or ongoing research on breastfeeding and the use of breast-milk substitutes in each country.

- Maternity and Infant Care (MIDIRS via Ovid SP) which contains pamphlets, reports and audiovisual materials relating to midwifery, birth, postnatal care and neonatal care.
- Health Collection (<http://www.informit.com.au/health.html>).
- Sociological abstracts (<http://www.csa.com/factsheets/socioabs-set-c.php>).
- Australian Public Affairs (<http://www.nla.gov.au/pathways/jnls/newsite/view/324.html/>).

The following search terms were used to identify papers in these databases:

|   |
|---|
| 'breast feeding'OR<br>'artificial milk'<br>'infant milk'<br>Bottle-feeding'<br>AND<br>'WHO Code'<br>'marketing'<br>'law'<br>'workplace'<br>'policy'<br>'government regulation'<br>'social belief'<br>'staff training'<br>'family leave'<br>'breast feeding education'<br>'attitude to breast feeding' |
|---|

The following eligibility criteria were applied to all retrieved citations:

- Publication type:
  - published in a peer reviewed publication
  - particular emphasis was placed on identifying qualitative studies associated with the cultural acceptability of breastfeeding
  - published from 1990 onwards.
- Population:
  - studies that reported on breastfeeding/infant formula in Australia, Canada, France, Germany, Ireland, New Zealand, Norway, the UK and the USA.

- Intervention
  - excluded studies assessing effectiveness of particular interventional in relation to breastfeeding (e.g. use of pacifiers, parent bed sharing practices) or studies designed to address medical problems associated with breastfeeding (e.g. mastitis, engorgement) and infant problems (e.g. tongue tie).
- Outcomes
  - only included studies which reported on social determinates of breastfeeding initiation or duration
  - studies that reported on clinical outcomes were excluded.

### Search results

The search strategy retrieved a total of 578 non-duplicate citations. These citations were evaluated to determine whether the retrieved studies met the above eligibility criteria. Based on these criteria, 421 citations were excluded from the review. The remaining studies were obtained and used alongside policy documents and statistics to answer the questions specific to this review.

### Quality assessment

All systematic reviews reported on in the study were assessed for quality.

**Table 36: Assessment of the systematic review on pacifier use (Jaafar et al 2011):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>                     |
|--------------------------|--|-----------------------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                               |
|                          | Was the search strategy explicit and comprehensive?        | Yes                               |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                               |
|                          | Was the quality assessment of included studies undertaken? | Yes                               |
|                          | Were the methods of the study appraisal reproducible?      | Yes                               |
|                          | Were sources of heterogeneity explored?                    | Yes, no significant heterogeneity |
|                          | Was a summary of the main results clear and appropriate?   | Yes                               |
| <b>Final assessment</b>  |  | <b>*High quality*</b>             |

**Table 37: Assessment of the systematic review on early skin-to-skin contact (Moore et al 2007):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>  |
|--------------------------|--|--|
| <b>Systematic review</b> | Was the research question specified?                       | Yes  |
|                          | Was the search strategy explicit and comprehensive?        | Yes  |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes  |
|                          | Was the quality assessment of included studies undertaken? | Yes, although not fully complete (selection bias, attrition bias and performance bias were assessed; detection and reporting were not) |
|                          | Were the methods of the study appraisal reproducible?      | Yes  |
|                          | Were sources of heterogeneity explored?                    | Yes, some heterogeneity depending on the outcome   |
|                          | Was a summary of the main results clear and appropriate?   | Yes  |
| <b>Final assessment</b>  |  | <b>*High quality*</b>  |

**Table 38: Assessment of the systematic review on educational interventions for health professionals (Watkins & Dodgson 2010):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>                      |
|--------------------------|--|------------------------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                                |
|                          | Was the search strategy explicit and comprehensive?        | No, no search string provided      |
|                          | Were the eligibility criteria explicit and appropriate?    | No                                 |
|                          | Was the quality assessment of included studies undertaken? | No, no risk of bias table provided |
|                          | Were the methods of the study appraisal reproducible?      | No                                 |
|                          | Were sources of heterogeneity explored?                    | No                                 |
|                          | Was a summary of the main results clear and appropriate?   | Yes                                |
| <b>Final assessment</b>  |  | <b>*Low quality*</b>               |

**Table 39: Assessment of the systematic review on training and support (Renfrew et al 2009):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>         |
|--------------------------|--|-----------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                   |
|                          | Was the search strategy explicit and comprehensive?        | Yes                   |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                   |
|                          | Was the quality assessment of included studies undertaken? | Yes                   |
|                          | Were the methods of the study appraisal reproducible?      | Yes                   |
|                          | Were sources of heterogeneity explored?                    | No                    |
|                          | Was a summary of the main results clear and appropriate?   | Yes                   |
| <b>Final assessment</b>  |  | <b>*Fair quality*</b> |

**Table 40: Assessment of the systematic review on education and promotion packs (Dyson et al 2005):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>         |
|--------------------------|--|-----------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                   |
|                          | Was the search strategy explicit and comprehensive?        | Yes                   |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                   |
|                          | Was the quality assessment of included studies undertaken? | Yes                   |
|                          | Were the methods of the study appraisal reproducible?      | Yes                   |
|                          | Were sources of heterogeneity explored?                    | Yes                   |
|                          | Was a summary of the main results clear and appropriate?   | Yes                   |
| <b>Final assessment</b>  |  | <b>*High quality*</b> |

**Table 41: Assessment of the systematic review on e-based interventions (Pate 2009):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>                     |
|--------------------------|--|-----------------------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                               |
|                          | Was the search strategy explicit and comprehensive?        | No, no search string provided     |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                               |
|                          | Was the quality assessment of included studies undertaken? | Yes, although not fully described |
|                          | Were the methods of the study appraisal reproducible?      | Yes                               |
|                          | Were sources of heterogeneity explored?                    | No                                |
|                          | Was a summary of the main results clear and appropriate?   | Yes                               |

|                  |                       |
|------------------|-----------------------|
| Final assessment | <b>*Fair quality*</b> |
|------------------|-----------------------|

**Table 42: Assessment of the systematic review on professional and lay support (Britton et al 2009):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>                             |
|--------------------------|--|---|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                                       |
|                          | Was the search strategy explicit and comprehensive?        | Yes                                       |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                                       |
|                          | Was the quality assessment of included studies undertaken? | No, only allocation concealment addressed |
|                          | Were the methods of the study appraisal reproducible?      | Yes                                       |
|                          | Were sources of heterogeneity explored?                    | Yes                                       |
|                          | Was a summary of the main results clear and appropriate?   | Yes                                       |
| <b>Final assessment</b>  |  | <b>*Fair quality*</b>                     |

**Table 43: Assessment of the systematic review on the effects of supplemental foods (Szajewska et al 2006):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>         |
|--------------------------|--|-----------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                   |
|                          | Was the search strategy explicit and comprehensive?        | No                    |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                   |
|                          | Was the quality assessment of included studies undertaken? | Yes, partially        |
|                          | Were the methods of the study appraisal reproducible?      | Yes                   |
|                          | Were sources of heterogeneity explored?                    | No                    |
|                          | Was a summary of the main results clear and appropriate?   | Yes                   |
| <b>Final assessment</b>  |  | <b>*Fair quality*</b> |

**Table 44: Assessment of the systematic review on pre- and post-discharge interventions (Ahmed & Sands 2010):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b>                 |
|--------------------------|--|-------------------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                           |
|                          | Was the search strategy explicit and comprehensive?        | No, no search string provided |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                           |
|                          | Was the quality assessment of included studies undertaken? | Yes                           |
|                          | Were the methods of the study appraisal reproducible?      | Yes                           |
|                          | Were sources of heterogeneity explored?                    | No                            |
|                          | Was a summary of the main results clear and appropriate?   | Yes                           |
| <b>Final assessment</b>  |  | <b>*Fair quality*</b>         |

**Table 45: Assessment of the systematic review on the effects of cup feeding (Collins et al 2008):**

| <b>Study design</b>      | <b>Quality checklist</b>                                   | <b>Result</b> |
|--------------------------|--|---------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes           |
|                          | Was the search strategy explicit and comprehensive?        | Yes           |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes           |
|                          | Was the quality assessment of included studies undertaken? | Yes           |
|                          | Were the methods of the study appraisal reproducible?      | Yes           |

|                         |  |                       |
|-------------------------|--|-----------------------|
|                         | reproducible?  |                       |
|                         | Were sources of heterogeneity explored?                  | Yes                   |
|                         | Was a summary of the main results clear and appropriate? | Yes                   |
| <b>Final assessment</b> |  | <b>*High quality*</b> |

**Table 46: Assessment of the systematic review on support for adolescent mothers (Hall et al 2007):**

| <i>Study design</i>      | <i>Quality checklist</i>                                   | <i>Result</i>                 |
|--------------------------|--|-------------------------------|
| <b>Systematic review</b> | Was the research question specified?                       | Yes                           |
|                          | Was the search strategy explicit and comprehensive?        | No, no search string provided |
|                          | Were the eligibility criteria explicit and appropriate?    | Yes                           |
|                          | Was the quality assessment of included studies undertaken? | Yes                           |
|                          | Were the methods of the study appraisal reproducible?      | Yes                           |
|                          | Were sources of heterogeneity explored?                    | No                            |
|                          | Was a summary of the main results clear and appropriate?   | Yes                           |
|                          | <b>Final assessment</b>                                    |                               |

#### **METHODS FOR THE INTERNATIONAL COMPARATIVE OVERVIEW**

The international comparative overview was not a formal systematic review; however, a systematic process of literature identification and retrieval was undertaken. This included searching electronic databases and websites, as well as other sources of information, either through references from experts, government sources or through stakeholder consultations.

The search was designed to identify all relevant national campaigns and policy reports and documents from government health and family welfare departments, and includes statistics reported by national government departments and bureaus. It was also designed to retrieve policies, reports and statistics on national initiatives and campaigns implemented by non-governmental organisations (NGOs), consumer and/or healthcare peak bodies, and research centres from universities and healthcare systems that are in the maternal and infant care sphere.

#### ***Types of populations and settings***

This review analysed national-level policies and outcomes from Canada, France, Germany, Ireland, New Zealand, Norway, the UK and the USA.

The impact of the WHO Code in both the general public and in healthcare settings was considered. These settings, mentioned in the Australian National Breastfeeding Strategy 2010–2015, include:

- birthing services (hospital and community, and early discharge services)
- homes
- health and community services
- public spaces
- broader community
- workplaces
- childcare
- child protection services.

Where possible, consideration of specific populations including Indigenous populations, rural and remote communities, culturally and linguistically diverse (CALD) populations, women from low socio-economic communities and young mothers were considered in our analysis.

### **Types of interventions**

The intervention is the World Health Organization's International Code of Marketing of Breast-milk Substitutes (WHO Code). The code aims to contribute "to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution" (Article 1, WHO Code).

Interventions considered are:

- national campaigns, initiatives or policies that promote breastfeeding
- national clinical practice guidelines that promote breastfeeding
- national campaigns, initiatives or policies that control the marketing and use of breast-milk substitutes. These may include infant formula, other milk products, foods and beverages such as bottle-fed complimentary foods, feeding bottles and teats
- international campaigns, initiatives or policies that promote healthy feeding practices such as the Global Strategy for Infant and Young Child Feeding, the Baby Friendly Hospital Initiative, and the Innocenti Declaration on the Protection, Promotion, and Support of Breastfeeding.

### **Primary outcomes**

The primary outcomes relate to the statistics on breastfeeding rates and infant feeding practices between countries.

### **Secondary outcomes**

Secondary outcomes to be analysed between countries relating to the evaluation of the implementation of healthy infant feeding practices will be:

1. degree of implementation of the WHO Code
2. mechanisms of implementation
3. coverage of sectors and products
4. monitoring of compliance
5. complementary policies
6. training provisions
7. other legislation, policies or regulations used
8. aspects not implemented.

Secondary outcomes to be analysed relating to specific social factors influencing infant feeding practices between countries and before versus after the implementation of policies, initiatives and campaigns are:

1. reach of advertising, social marketing campaigns and other publicity relating to breastfeeding or breast-milk substitutes and infant formula
2. awareness, knowledge and attitudes towards breastfeeding
3. women's intentions and behaviour with regards to breastfeeding
4. workforce participation rates for women and care arrangements for babies under one year of age.

### **Websites and databases to retrieve information on each country selected**

To elucidate the extent to which each country has implemented the WHO Code, the mechanisms by which this has been done and the policy environment in which it has been undertaken, this search considered the following in addition to the above listed databases:

- **a review of international conventions** which may or may not be ratified in each country
- **a review of the legislation and interpretation of these acts** relating to human rights, parental leave and employment, labelling and marketing of infant formula and any other voluntary codes or provisions on the content and labelling of breast-milk substitutes and obligations of the manufacturers and importers
- **a review of the Ministry of Health website and their bulletins** on breastfeeding and breast-milk substitutes in each country to identify initiatives, campaigns and information provided to their public
- **a search and review of the national-led guidelines** published by each country. For example, in the UK these include the National Institute for Health and Clinical Excellence (NICE) guidelines. This also included the TRIP database (<http://www.tripdatabase.com/>) which retrieves clinical guidelines, patient information and news items published worldwide
- **a search of the statistical bureaus** in each country. For example, the Centres for Disease Control and Prevention (CDC) breastfeeding data and statistics in the USA (<http://www.cdc.gov/breastfeeding/data/index.htm>) and UK Infant Feeding Survey (<http://www.statistics.gov.uk>)
- **A search of internationally reputable data portals.** These include (as examples):
  - Organisation for Economic Co-operation and Development (OECD) Family Database (<http://www.oecd.org>) which contains data on the breastfeeding rates, parental leave systems and maternal employment statistics across OECD countries
  - WHO ICTRP search portal (<http://apps.who.int/trialsearch/>) which contains all prospectively registered and ongoing clinical trials undertaken worldwide.

These resources were a starting point. This research was inevitably iterative and the search expanded to include other relevant data sources.

### **Searching other resources**

Reports from international group websites such as the International Baby Food Action Network, International Lactation Consultant Association and the World Alliance for Breastfeeding Action were searched. Reference lists of included studies or reports were also searched for additional information relevant to the review.

### **STAKEHOLDER CONSULTATIONS**

The draft summaries for each country were circulated to the list of stakeholders supplied by the Department of Health and Ageing. We requested feedback regarding the accuracy of the information and gaps in the data. We received feedback from 12 stakeholders and incorporated the majority of their feedback (if within the scope of the project) into the final report.

## APPENDIX 2: LIST OF WEBSITES CONSULTED

| Country  | Organisation   | Website   |
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| Canada   | Breastfeeding Committee for Canada   | <a href="http://breastfeedingcanada.ca/">http://breastfeedingcanada.ca/</a>   |
|  | Canadian Food Inspection Agency  | <a href="http://www.inspection.gc.ca/english/toce.shtml">http://www.inspection.gc.ca/english/toce.shtml</a>   |
|  | Canadian Paediatric Society  | <a href="http://www.cps.ca/english/index.htm">http://www.cps.ca/english/index.htm</a>   |
|  | Childcare Resource and Research Unit                                       | <a href="http://childcarecanada.org/">http://childcarecanada.org/</a>   |
|  | Dieticians of Canada   | <a href="http://www.dietitians.ca/">http://www.dietitians.ca/</a>   |
|  | Early Childhood Development (Govt website)                                 | <a href="http://www.ecd-elcc.ca/eng/ecd/ecd_home.shtml">http://www.ecd-elcc.ca/eng/ecd/ecd_home.shtml</a>   |
|  | Health Canada  | <a href="http://www.hc-sc.gc.ca/index-eng.php">http://www.hc-sc.gc.ca/index-eng.php</a>   |
|  | Infant Feeding Action Coalition  | <a href="http://www.infactcanada.ca/">http://www.infactcanada.ca/</a>   |
|  | Labour Canada – Maternity Leave  | <a href="http://www.hrsdc.gc.ca/eng/lp/spila/wlb/wfp/11maternity_leave.shtml#tphp">http://www.hrsdc.gc.ca/eng/lp/spila/wlb/wfp/11maternity_leave.shtml#tphp</a>     |
|  | La Leche League Canada   | <a href="http://www.lllc.ca/">http://www.lllc.ca/</a>   |
|  | The Manitoba Baby Friendly Co-ordinating Committee Breastfeeding Resources | <a href="http://www.gov.mb.ca/healthyliving/hlp/nutrition/breastfeeding.html">http://www.gov.mb.ca/healthyliving/hlp/nutrition/breastfeeding.html</a>               |
|  | Motherisk  | <a href="http://www.motherisk.org/women/breastfeeding.jsp">http://www.motherisk.org/women/breastfeeding.jsp</a>   |
|  | New Brunswick Govt - BFI   | <a href="http://www.gnb.ca/0053/bfi/index-e.asp">http://www.gnb.ca/0053/bfi/index-e.asp</a>   |
|  | Quintessence Foundation  | <a href="http://www.babyfriendly.ca/">http://www.babyfriendly.ca/</a>   |
|  | Saskatchewan – BFI policy  | <a href="http://www.saskatoonhealthregion.ca/your_health/ps_bf_bfi_saskatchewan.htm">http://www.saskatoonhealthregion.ca/your_health/ps_bf_bfi_saskatchewan.htm</a> |
|  | Society of Obstetricians and Gynaecologists of Canada                      | <a href="http://www.sogc.org/index_e.asp">http://www.sogc.org/index_e.asp</a>   |
|  | Statistics Canada  | <a href="http://www.statcan.gc.ca/start-debut-eng.html">http://www.statcan.gc.ca/start-debut-eng.html</a>   |
|  | The College of Family Physicians of Canada                                 | <a href="http://www.cfpc.ca/Home/">http://www.cfpc.ca/Home/</a>   |
|  | France   | Association des Consultants en Lactation Professionnels de Sante  |
| Accueil de Information Pour l'Allaitement  |  | <a href="http://www.info-allaitement.org/">http://www.info-allaitement.org/</a>   |
| Co-naître  |  | <a href="http://www.co-naître.net/">http://www.co-naître.net/</a>   |
| Conseil National de l'Alimentation   |  | <a href="http://cna-alimentation.fr/">http://cna-alimentation.fr/</a>   |
| Coordination Française pour l'Allaitement Maternel   |  | <a href="http://coordination-allaitement.org/">http://coordination-allaitement.org/</a>   |
| Enquête National Périnatale  |  | <a href="http://www.perinat-france.org">http://www.perinat-france.org</a>   |
| Legifrance.gouv.fr – French legislation  |  | <a href="http://www.legifrance.gouv.fr">www.legifrance.gouv.fr</a>  |
| French Nutritionist Dieticians Association (AFDN) Association Française des Diététiciens Nutritionnistes |  | <a href="http://www.afdn.org/">http://www.afdn.org/</a>   |
| General Directorate of Competition, Consumption and Repression of Fraud (food control)                   |  | <a href="http://www.dgccrf.bercy.gouv.fr/dgccrf/index.htm">http://www.dgccrf.bercy.gouv.fr/dgccrf/index.htm</a>   |
| Haute Autorité de santé (HAS)  |  | <a href="http://www.has-sante.fr/portail/jcms/j_5/home">http://www.has-sante.fr/portail/jcms/j_5/home</a>   |
| Institut National de la Statistique et des Études Économiques  |  | <a href="http://www.insee.fr/en/default.asp">http://www.insee.fr/en/default.asp</a>   |
| La Leche League  |  | <a href="http://www.lllfrance.org/">http://www.lllfrance.org/</a>   |
| National Agency for Food, Environment and Labour Safety (Anses)  |  | <a href="http://www.anses.fr/">http://www.anses.fr/</a>   |
| Programme National Nutrition Santé   |  | <a href="http://www.sante.gouv.fr/programme-national-nutrition-sante-2006-2010.html">http://www.sante.gouv.fr/programme-national-nutrition-sante-2006-2010.html</a> |
| Service D'Information Alimentaire de la Federation des Entreprises du Commerce et de la Distribution     |  | <a href="http://www.fcd.asso.fr/">http://www.fcd.asso.fr/</a>   |
| Société Européenne pour le   |  | <a href="http://www.allaite.org/">http://www.allaite.org/</a>   |

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|                        | Soutien à l'Allaitement Maternel                                  |   |
| Germany                | Baby Friendly Initiative Germany                                  | <a href="http://www.stillfreundlich.de/">http://www.stillfreundlich.de/</a>   |
|                        | European Lactation Consultants Alliance                           | <a href="http://www.stillen.org/">http://www.stillen.org/</a>   |
|                        | Federal Statistical Office (Destatis)                             | <a href="http://www.destatis.de/jetspeed/portal/cms/">http://www.destatis.de/jetspeed/portal/cms/</a>   |
|                        | Ministry of Consumer Protection, Food and Agriculture             | <a href="http://www.bmelv.de/DE/Startseite/startseite_node.html">http://www.bmelv.de/DE/Startseite/startseite_node.html</a>                           |
|                        | Ministry of Health  | <a href="http://www.bmg.bund.de/">http://www.bmg.bund.de/</a>   |
|                        | National Breastfeeding Committee                                  | <a href="http://www.bfr.bund.de/en/national_breastfeeding_committee-742.html">http://www.bfr.bund.de/en/national_breastfeeding_committee-742.html</a> |
| Ireland                | Association of Lactation Consultants in Ireland                   | <a href="http://www.alcireland.ie/">http://www.alcireland.ie/</a>   |
|                        | Baby Friendly Hospital Initiative in Ireland                      | <a href="http://www.ihph.ie/babyfriendlyinitiative/index.htm">http://www.ihph.ie/babyfriendlyinitiative/index.htm</a>                                 |
|                        | Breastfeeding.ie  | <a href="http://www.breastfeeding.ie/">http://www.breastfeeding.ie/</a>   |
|                        | Central Statistics Office Ireland                                 | <a href="http://www.cso.ie/">http://www.cso.ie/</a>   |
|                        | Department of Health  | <a href="http://www.dohc.ie/">http://www.dohc.ie/</a>   |
|                        | Food Safety Authority of Ireland                                  | <a href="http://www.fsai.ie/">http://www.fsai.ie/</a>   |
|                        | Irish Nutrition and Dietetic Institute                            | <a href="http://www.indi.ie/">http://www.indi.ie/</a>   |
|                        | La Leche League of Ireland  | <a href="http://www.lalecheleagueireland.com/">http://www.lalecheleagueireland.com/</a>   |
|                        | Public Health Agency  | <a href="http://www.publichealth.hscni.net/">http://www.publichealth.hscni.net/</a>   |
|                        | Royal College of General Practitioners                            | <a href="http://www.rcgp.org.uk/default.aspx?page=864">http://www.rcgp.org.uk/default.aspx?page=864</a>   |
|                        | Royal College of Physicians of Ireland                            | <a href="http://www.rcpi.ie/pages/home.aspx">http://www.rcpi.ie/pages/home.aspx</a>   |
| New Zealand            | Advertising Standards Authority New Zealand                       | <a href="http://www.asa.co.nz/code_food.php">http://www.asa.co.nz/code_food.php</a>   |
|                        | Breastfeeding Friendly Workplaces                                 | <a href="http://www.bfw.org.nz/">http://www.bfw.org.nz/</a>   |
|                        | Dieticians NZ   | <a href="https://www.dietitians.org.nz/">https://www.dietitians.org.nz/</a>   |
|                        | Equal Opportunity Trust   | <a href="http://www.eeotrust.org.nz/">http://www.eeotrust.org.nz/</a>   |
|                        | Food Safety Authority   | <a href="http://www.foodsafety.govt.nz/index.htm">http://www.foodsafety.govt.nz/index.htm</a>   |
|                        | Food Standards Australia New Zealand                              | <a href="http://www.foodstandards.gov.au/foodstandards/foodstandardscode.cfm">http://www.foodstandards.gov.au/foodstandards/foodstandardscode.cfm</a> |
|                        | Human Rights Commission   | <a href="http://www.hrc.co.nz/">http://www.hrc.co.nz/</a>   |
|                        | Infant Feeding Association of New Zealand                         | <a href="http://www.ifanz-ibfan.org.nz/campaigns3.htm">http://www.ifanz-ibfan.org.nz/campaigns3.htm</a>   |
|                        | Infant Nutrition Council  | <a href="http://infantnutritioncouncil.com/">http://infantnutritioncouncil.com/</a>   |
|                        | International Board of Lactation Consultant Examiners             | <a href="http://icarus.websiteactive.com/~iblce/index.php">http://icarus.websiteactive.com/~iblce/index.php</a>                                       |
|                        | La Leche League NZ  | <a href="http://www.lalecheleague.org.nz/">http://www.lalecheleague.org.nz/</a>   |
|                        | Ministry of Women's Affairs                                       | <a href="http://www.mwa.govt.nz/">http://www.mwa.govt.nz/</a>   |
|                        | New Zealand Breastfeeding Authority                               | <a href="http://www.babyfriendly.org.nz/">http://www.babyfriendly.org.nz/</a>   |
|                        | New Zealand College of Midwives                                   | <a href="http://www.midwife.org.nz/">http://www.midwife.org.nz/</a>   |
|                        | New Zealand Department of Labour                                  | <a href="http://www.dol.govt.nz/">http://www.dol.govt.nz/</a>   |
|                        | New Zealand Health Information Service                            | <a href="http://www.nzhis.govt.nz/">http://www.nzhis.govt.nz/</a>   |
|                        | New Zealand Lactation Consultants Association                     | <a href="http://www.nzlca.org.nz/">http://www.nzlca.org.nz/</a>   |
|                        | New Zealand Legislation   | <a href="http://www.legislation.govt.nz/default.aspx">http://www.legislation.govt.nz/default.aspx</a>   |
|                        | New Zealand Ministry of Health - breastfeeding                    | <a href="http://www.moh.govt.nz/moh.nsf/indexmh/breastfeeding">http://www.moh.govt.nz/moh.nsf/indexmh/breastfeeding</a>                               |
|                        | NZ Breastfeeding Authority  | <a href="http://www.babyfriendly.org.nz/">http://www.babyfriendly.org.nz/</a>   |
|                        | Public Health Association of New Zealand                          | <a href="http://www.pha.org.nz/">http://www.pha.org.nz/</a>   |
|                        | Royal Australasian College of Physicians                          | <a href="http://www.racp.edu.au/">http://www.racp.edu.au/</a>   |
|                        | Royal New Zealand Plunket Society                                 | <a href="http://www.plunket.org.nz/">http://www.plunket.org.nz/</a>   |
| Statistics New Zealand | <a href="http://www.stats.govt.nz/">http://www.stats.govt.nz/</a> |   |

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|   | Women's Health Action Trust                                  | <a href="http://www.womens-health.org.nz/">http://www.womens-health.org.nz/</a>   |
| Norway  | Health Directorate   | <a href="http://www.helsedirektoratet.no/ernaering/spedbarnsern_ring/">http://www.helsedirektoratet.no/ernaering/spedbarnsern_ring/</a>   |
|   | Ministry of Health and Social Affairs                        | <a href="http://www.regjeringen.no/en.html?id=4">http://www.regjeringen.no/en.html?id=4</a>   |
|   | Norwegian Board of Health                                    | <a href="http://www.helsetilsynet.no/">http://www.helsetilsynet.no/</a>   |
|   | Norwegian Dietetic Association                               | <a href="http://www.matomsorg.no/">http://www.matomsorg.no/</a>   |
|   | Norwegian Food Safety Authority                              | <a href="http://www.mattilsynet.no/">http://www.mattilsynet.no/</a>   |
|   | Norwegian Medicines Agency                                   | <a href="http://www.legemiddelverket.no/">http://www.legemiddelverket.no/</a>   |
|   | Norwegian Scientific Committee for Food Safety               | <a href="http://www.vkm.no/">http://www.vkm.no/</a>   |
|   | Norwegian breastfeeding Association                          | <a href="http://ammehjelpen.no/">http://ammehjelpen.no/</a>   |
|   | Oslo University – National Centre for Breastfeeding          | <a href="http://www.oslo-universitetssykehus.no/omoss/avdelinger/nasjonalt-kompetansesenter-for-ammings/Sider/InEnglish.aspx">http://www.oslo-universitetssykehus.no/omoss/avdelinger/nasjonalt-kompetansesenter-for-ammings/Sider/InEnglish.aspx</a> |
|   | Regulations relating to infant formula                       | <a href="http://www.lovdato.no/for/sf/ho/xo-20080813-0936.html">http://www.lovdato.no/for/sf/ho/xo-20080813-0936.html</a> ,   |
|   | Statistics Norway  | <a href="http://www.ssb.no/english/">http://www.ssb.no/english/</a>   |
| UK  | Association of Breastfeeding Mothers                         | <a href="http://abm.me.uk/">http://abm.me.uk/</a>   |
|   | Baby Friendly Initiative UNICEF UK                           | <a href="http://www.unicef.org.uk/babyfriendly/">http://www.unicef.org.uk/babyfriendly/</a>   |
|   | British Dietetic Association                                 | <a href="http://www.bda.uk.com/">http://www.bda.uk.com/</a>   |
|   | Department for Environment, Food and Rural Affairs           | <a href="http://www.defra.gov.uk/">http://www.defra.gov.uk/</a>   |
|   | Department of Health   | <a href="http://www.dh.gov.uk/en/index.htm">http://www.dh.gov.uk/en/index.htm</a>   |
|   | Food Standards Agency  | <a href="http://www.food.gov.uk/">http://www.food.gov.uk/</a>   |
|   | Health Protection Agency                                     | <a href="http://www.hpa.org.uk/">http://www.hpa.org.uk/</a>   |
|   | La Leche League UK   | <a href="http://www.laleche.org.uk/">http://www.laleche.org.uk/</a>   |
|   | Medicines and Healthcare Products Regulatory Agency          | <a href="http://www.mhra.gov.uk/index.htm">http://www.mhra.gov.uk/index.htm</a>   |
|   | National Childbirth Trust                                    | <a href="http://www.nct.org.uk/">http://www.nct.org.uk/</a>   |
|   | National Health Service - breastfeeding                      | <a href="http://www.nhs.uk/planners/breastfeeding/pages/breastfeeding.aspx">http://www.nhs.uk/planners/breastfeeding/pages/breastfeeding.aspx</a>   |
|   | National Institute for Health and Clinical Excellence (NICE) | <a href="http://www.nice.org.uk/">http://www.nice.org.uk/</a>   |
|   | Royal College of General Practitioners                       | <a href="http://www.rcgp.org.uk/default.aspx?page=864">http://www.rcgp.org.uk/default.aspx?page=864</a>   |
|   | Royal College of Obstetricians and Gynaecologists UK         | <a href="http://www.rcog.org.uk/">http://www.rcog.org.uk/</a>   |
|   | Royal College of Paediatrics and Child Health                | <a href="http://www.rcpch.ac.uk/">http://www.rcpch.ac.uk/</a>   |
|   | UK Association for Milk Banking                              | <a href="http://www.ukamb.org/">http://www.ukamb.org/</a>   |
|   | UK National Statistics Publication Hub                       | <a href="http://www.statistics.gov.uk/hub/index.html">http://www.statistics.gov.uk/hub/index.html</a>   |
|   | USA  | Academy of Breastfeeding Medicine   |
| Agency for Healthcare Research and Quality (AHRQ)   |  | <a href="http://www.ahrq.gov/">http://www.ahrq.gov/</a>   |
| American Academy of Family Physicians               |  | <a href="http://www.aafp.org/online/en/home.html">http://www.aafp.org/online/en/home.html</a>   |
| American Academy of Paediatrics                     |  | <a href="http://www.aap.org/">http://www.aap.org/</a>   |
| American College of Nurses - Midwives               |  | <a href="http://www.midwife.org/">http://www.midwife.org/</a>   |
| American College of Obstetricians and Gynecologists |  | <a href="http://www.acog.org/">http://www.acog.org/</a>   |
| American College of Paediatricians                  |  | <a href="http://www.acped.org/">http://www.acped.org/</a>   |
| American Dental Association                         |  | <a href="http://www.ada.org">http://www.ada.org</a>   |
| American Dietetic Association                       |  | <a href="http://www.eatright.org/default.aspx">http://www.eatright.org/default.aspx</a>   |
| American Public Health Association                  |  | <a href="http://www.apha.org/">http://www.apha.org/</a>   |
| Baby-Friendly Hospital Initiative                   |  | <a href="http://www.babyfriendlyusa.org/eng/index.html">http://www.babyfriendlyusa.org/eng/index.html</a>   |

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| USA  |   |
| California WIC Association   | <a href="http://www.calwic.org/">http://www.calwic.org/</a>   |
| Centre for Disease Control and Prevention  | <a href="http://www.cdc.gov/breastfeeding/">http://www.cdc.gov/breastfeeding/</a>   |
| Child Care & Early Education Research Connections  | <a href="http://www.childcareresearch.org/childcare/welcome">http://www.childcareresearch.org/childcare/welcome</a>   |
| Eunice Kennedy Shriver National Institute of Child Health and Human Development (NIH)              | <a href="http://www.nichd.nih.gov/health/topics/Breastfeeding.cfm">http://www.nichd.nih.gov/health/topics/Breastfeeding.cfm</a>                                     |
| Every Mother Inc   | <a href="http://everymother.org/">http://everymother.org/</a>   |
| FedStats   | <a href="http://www.fedstats.gov/">http://www.fedstats.gov/</a>   |
| GovTrack.us  | <a href="http://www.govtrack.us/congress/legislation.xpd">http://www.govtrack.us/congress/legislation.xpd</a>   |
| Healthy People 2020  | <a href="http://www.healthypeople.gov/2020/default.aspx">http://www.healthypeople.gov/2020/default.aspx</a>   |
| Human Milk Banking Association of North America  | <a href="http://www.hmbana.org/">http://www.hmbana.org/</a>   |
| InfanET Nutrition for Child Care Providers   | <a href="http://www.infanet.caahs.colostate.edu/breastmilk.htm">http://www.infanet.caahs.colostate.edu/breastmilk.htm</a>   |
| International Board of Lactation Consultant Examiners  | <a href="http://americas.iblce.org/home">http://americas.iblce.org/home</a>   |
| Joint Commission on Accreditation of Healthcare Organizations                                      | <a href="http://www.jointcommission.org/">http://www.jointcommission.org/</a>   |
| Loving Support Makes Breastfeeding Work  | <a href="http://www.nal.usda.gov/wicworks/Learning_Center/loving_support.html">http://www.nal.usda.gov/wicworks/Learning_Center/loving_support.html</a>             |
| Mothering Magazine Inc   | <a href="http://mothering.com/breastfeeding/">http://mothering.com/breastfeeding/</a>   |
| National Alliance for Breastfeeding Advocacy   | <a href="http://www.naba-breastfeeding.org/">http://www.naba-breastfeeding.org/</a>   |
| National Conference of State Legislatures  | <a href="http://www.ncsl.org/default.aspx?tabid=13311">http://www.ncsl.org/default.aspx?tabid=13311</a>   |
| National Women's Health Information Centre (US)  | <a href="http://www.womenshealth.gov/breastfeeding/">http://www.womenshealth.gov/breastfeeding/</a>   |
| Office of the Surgeon General  | <a href="http://www.surgeongeneral.gov">http://www.surgeongeneral.gov</a>   |
| Progressive States Network   | <a href="http://www.progressivestates.org/content/369/maternity-and-paternity-leave">http://www.progressivestates.org/content/369/maternity-and-paternity-leave</a> |
| Social Marketing Institute   | <a href="http://www.social-marketing.org/index.html">http://www.social-marketing.org/index.html</a>   |
| Society for Human Resource Management  | <a href="http://www.shrm.org/Pages/default.aspx">http://www.shrm.org/Pages/default.aspx</a>   |
| United States Breastfeeding Committee  | <a href="http://www.usbreastfeeding.org/">http://www.usbreastfeeding.org/</a>   |
| US Bureau of Labor Statistics  | <a href="http://www.bls.gov/">http://www.bls.gov/</a>   |
| US Census Bureau   | <a href="http://www.census.gov/">http://www.census.gov/</a>   |
| U.S. Department of Agriculture's Choose My Plate   | <a href="http://www.choosemyplate.gov/mypyramidmoms/">http://www.choosemyplate.gov/mypyramidmoms/</a>   |
| U.S. Department of Agriculture's Economic Research Service   | <a href="http://www.ers.usda.gov/">http://www.ers.usda.gov/</a>   |
| U.S. Department of Agriculture's Food and Nutrition Service's Women, Infants, and Children Section | <a href="http://www.fns.usda.gov/wic/">http://www.fns.usda.gov/wic/</a>   |
| U.S. Department of Health and Human Services' Office on Women's Health                             | <a href="http://www.womenshealth.gov/breastfeeding/">http://www.womenshealth.gov/breastfeeding/</a>   |
| U.S. Department of Health and Human Services; Health Resources and Services Administration         | <a href="http://www.hrsa.gov/index.html">http://www.hrsa.gov/index.html</a>   |
| U.S. Department of Health and Human Services' Administration for Children and Families             | <a href="http://www.acf.hhs.gov/programs/ccb/">http://www.acf.hhs.gov/programs/ccb/</a>   |
| U.S. Department of Labor   | <a href="http://www.dol.gov/">http://www.dol.gov/</a>   |
| US Food and Drug Administration  | <a href="http://www.fda.gov/default.htm">http://www.fda.gov/default.htm</a>   |

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|               | US Government Accountability Office                            | <a href="http://www.gao.gov/">http://www.gao.gov/</a>   |
|               | US Preventative Services Task Force                            | <a href="http://www.uspreventiveservicestaskforce.org/">http://www.uspreventiveservicestaskforce.org/</a>   |
| International | International Baby Food Action Network                         | <a href="http://www.ibfan.org/">http://www.ibfan.org/</a>   |
|               | International Breastfeeding Journal                            | <a href="http://www.internationalbreastfeedingjournal.com/">http://www.internationalbreastfeedingjournal.com/</a>                                   |
|               | International Confederation of Dietetic Associations           | <a href="http://www.internationaldietetics.org/">http://www.internationaldietetics.org/</a>   |
|               | International Labour Organisation                              | <a href="http://www.ilo.org/global/lang--en/index.htm">http://www.ilo.org/global/lang--en/index.htm</a>   |
|               | International Lactation Consultant Association                 | <a href="http://www.ilca.org/i4a/pages/index.cfm?pageid=1">http://www.ilca.org/i4a/pages/index.cfm?pageid=1</a>                                     |
|               | International Milk Banking Initiative                          | <a href="http://www.internationalmilkbanking.org/">http://www.internationalmilkbanking.org/</a>   |
|               | International Society for Research in Human Milk and Lactation | <a href="http://www.isrhml.org/">http://www.isrhml.org/</a>   |
|               | Journal of Human Lactation                                     | <a href="http://jhl.sagepub.com/">http://jhl.sagepub.com/</a>   |
|               | La Leche League International                                  | <a href="http://www.llli.org/">http://www.llli.org/</a>   |
|               | Linkages Project   | <a href="http://www.linkagesproject.org/">http://www.linkagesproject.org/</a>   |
|               | OECD   | <a href="http://www.oecd.org">http://www.oecd.org</a>   |
|               | Partnership for Maternal, Newborn, and Child Health            | <a href="http://www.who.int/pmnch/en/index.html">http://www.who.int/pmnch/en/index.html</a>   |
|               | Picker Institute   | <a href="http://pickerinstitute.org/">http://pickerinstitute.org/</a>   |
|               | The WHO Global Data Bank on Infant and Young Child Feeding     | <a href="http://www.who.int/nutrition/databases/infantfeeding/en/index.html">http://www.who.int/nutrition/databases/infantfeeding/en/index.html</a> |
|               | UNICEF   | <a href="http://www.unicef.org">http://www.unicef.org</a>   |
|               | Wellstart International  | <a href="http://www.wellstart.org/">http://www.wellstart.org/</a>   |
|               | WHO  | <a href="http://www.who.org">http://www.who.org</a>   |
|               | WHO Nutrition Landscape Information System (NLIS)              | <a href="http://www.who.int/nutrition/nlis/en/index.html">http://www.who.int/nutrition/nlis/en/index.html</a>                                       |
|               | World Alliance for Breastfeeding Action                        | <a href="http://www.waba.org.my/">http://www.waba.org.my/</a>   |

## APPENDIX 3: EXAMPLES OF MARKETING MATERIAL

### Canada

Government publications

[http://www.phac-aspc.gc.ca/hp-ps/dca-dea/stages-etapes/childhood-enfance\\_0-2/nutrition/tips-cons-eng.php](http://www.phac-aspc.gc.ca/hp-ps/dca-dea/stages-etapes/childhood-enfance_0-2/nutrition/tips-cons-eng.php)

[http://www.phac-aspc.gc.ca/hp-ps/dca-dea/stages-etapes/childhood-enfance\\_0-2/nutrition/reasons-raisons-eng.php](http://www.phac-aspc.gc.ca/hp-ps/dca-dea/stages-etapes/childhood-enfance_0-2/nutrition/reasons-raisons-eng.php)

<http://www.babyfriendlynl.ca/>

Industry advertising

<https://www.nestle-baby.ca/>

<http://similac.ca/en/>

<http://www.enfamil.ca/>

Industry violations

<http://infactcanada.ca/200D.PDF>

<http://www.infactcanada.ca/mall/booklets.asp>

### France

Government publications

[http://www.inpes.sante.fr/30000/pdf/0910\\_allaitement/Guide\\_allaitement\\_web.pdf](http://www.inpes.sante.fr/30000/pdf/0910_allaitement/Guide_allaitement_web.pdf)

Industry advertising

<http://www.bledina.com/fr/alimentation-nutrition/tout-savoir-sur-les-laits>

Industry violations

<http://www.babymilkaction.org/pdfs/btr10summary.pdf> (page 4)

[http://www.info-allaitement.org/uploads/Textes%20en%20PDF/information\\_commerciale.pdf](http://www.info-allaitement.org/uploads/Textes%20en%20PDF/information_commerciale.pdf)

### Ireland

Government publications

<http://www.healthpromotion.ie/uploads/docs/HPM00367.pdf>

<http://www.healthpromotion.ie/uploads/docs/HPM00343.pdf>

Industry advertising

<http://www.smanutrition.ie/sma-products/staydown-infant-milk/staydown-infant-milk/product-621.aspx>

Industry violations

<http://www.feedingforlife.ie/>

### Germany

Government publications

[http://www.bfr.bund.de/cm/364/stillempfehlungen\\_fuer\\_schwangere\\_englisch.pdf](http://www.bfr.bund.de/cm/364/stillempfehlungen_fuer_schwangere_englisch.pdf)

Industry

<http://www.topfer.de/lang-en/Startseite/Babyfood/c132.html>

Industry violations

<http://www.ibfan.org/art/hipp-p1.pdf>

### Norway

Government publications

[http://www.helsedirektoratet.no/publikasjoner/faktahefter/mat\\_for\\_spedbarn\\_brosjyre\\_15566](http://www.helsedirektoratet.no/publikasjoner/faktahefter/mat_for_spedbarn_brosjyre_15566)

[http://www.helsedirektoratet.no/publikasjoner/faktahefter/hvordan\\_du\\_ammer\\_ditt\\_barn\\_hefte\\_is\\_2092\\_2648](http://www.helsedirektoratet.no/publikasjoner/faktahefter/hvordan_du_ammer_ditt_barn_hefte_is_2092_2648)

Industry

<http://www.smaafolk.no/barn-mat/fra-fodselen-0>

### UK

Government publications

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_107706.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_107706.pdf)

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_124526.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_124526.pdf)

Industry advertising

<http://www.hipp.co.uk/expert-advice/baby-0-to-4-months/breastfeeding-your-baby/combining-breast-and-bottle>

Industry violations

<http://www.babyfeedinglawgroup.org.uk/sites/babyfeedinglawgroup.org.uk/files/bflgmonreportaug08.pdf>

<http://www.babyfeedinglawgroup.org.uk/sites/babyfeedinglawgroup.org.uk/files/bflgmonrepmarch09sm.pdf>

## LIST OF ABBREVIATIONS

|         |  |
|---------|--|
| AAFP    | American Academy of Family Physicians                                      |
| AAP     | American Academy of Pediatrics   |
| ABA     | Australian Breastfeeding Association                                       |
| AFPA    | Association Française de Pédiatrie Ambulatoire                             |
| AFSSAPS | Agence Française de Sécurité Sanitaire des Produits de Santé               |
| AHRQ    | Agency for Healthcare Research and Quality (USA)                           |
| ANAES   | Agence National d'Accréditation et d'Evaluation en Santé                   |
| APMAIF  | Advisory Panel on the Marketing in Australia of Infant Formula             |
| ARS     | Agencies Régionales de Santé (France)                                      |
| ASA     | Advertising Standards Authority (USA, UK)                                  |
| ASCB    | Advertising Standards Complaints Board (USA)                               |
| BCC     | Breastfeeding Committee for Canada   |
| BFHI    | Baby Friendly Hospital (Health) Initiative                                 |
| BFI     | Baby Friendly Initiative   |
| CDC     | Centers for Disease Control and Prevention (USA)                           |
| CEDAW   | Convention on the Elimination of All Forms of Discrimination Against Women |
| CFIA    | Canadian Food Inspection Agency  |
| CFR     | Code of Federal Regulations (USA)  |
| CI      | Confidence Interval  |
| CIFA    | Canadian Infant Formula Association  |
| CoFAM   | Coordination Française pour l'Allaitement Maternel                         |
| CNA     | Conseil National de l'Alimentation   |
| CNGOF   | Collège National des Gynécologues-Obstrétiens Français                     |
| CNSF    | Collège National des Sages-Femmes  |
| CPS     | Canadian Paediatric Society  |
| CTPH    | Canadian Taskforce on Preventative Health                                  |
| CTU     | Council of Trade Unions (USA)  |
| DHB     | District Health Board  |
| DNPAO   | Division of Nutrition, Physical Activity, and Obesity                      |

|        |   |
|--------|---|
| EEO    | Equal Employment Opportunities                                |
| EI     | Employment Insurance (Canada)                                 |
| ERA    | Employment Relations Act                                      |
| EU     | European Union  |
| FAO    | Food and Agriculture Organisation of the United Nations       |
| FSAI   | Food Safety Authority of Ireland                              |
| FDA    | US Food and Drug Administration                               |
| FDA    | Food and Drug Administration                                  |
| FFDCA  | Federal Food, Drug, and Cosmetic Act                          |
| FMLA   | Family Medical Leave Act (USA)                                |
| FNS    | Food and Nutrition Service                                    |
| FSA    | Food Standards Agency (UK)                                    |
| FSANZ  | Food Standards Australia New Zealand                          |
| GAO    | Government Accountability Office                              |
| HAS    | Haute Autorité de Santé                                       |
| HHS    | Health and Human Services                                     |
| HMBANA | Human Milk Banking Association of North America               |
| HRA    | Human Rights Act  |
| IBCLC  | International Board of Certified Lactation Consultants        |
| IBFAN  | International Baby Food Action Network                        |
| IBLCE  | International Board of Lactation Consultants Examiners        |
| INFACT | Infant Feeding Action Coalition                               |
| INPES  | Institute National de Prevention et d'Education pour la Santé |
| IFMAA  | Infant Formula Manufacturers' Association of Australia        |
| ILO    | International Labour Organization                             |
| INC    | Infant Nutrition Council                                      |
| INSEE  | Institut National de la Statistique et des Etudes Economiques |
| INSERM | Institut National de la Santé et de la Recherche Médicale     |
| InVS   | Institut de Veille Sanitaire                                  |
| IPA    | Association Information Pour l'Allaitement                    |

|           |   |
|-----------|---|
| LLLNZ     | La Leche League New Zealand   |
| LMC       | lead maternity carer  |
| MAIF      | Marketing in Australia of Infant Formula: Manufacturers and Importers Agreement |
| mPINC     | Maternity Practices in Infant Nutrition and Care                                |
| NABA REAL | National Alliance for Breastfeeding Advocacy                                    |
| NGO       | non-governmental organisation   |
| NHMRC     | National Health and Medical Research Council (Australia)                        |
| NICE      | National Institute for Health and Clinical Excellence                           |
| NICU      | neonatal intensive care unit  |
| NZ        | New Zealand   |
| NZBA      | New Zealand Breastfeeding Authority   |
| NZIFMA    | New Zealand Infant Formula Marketers' Association                               |
| NZLCA     | New Zealand Lactation Consultants Association                                   |
| OECD      | Organisation for Economic Co-operation and Development                          |
| OFAS      | Office of Food Additive Safety  |
| ONPLDS    | Office of Nutritional Products, Labeling, and Dietary Supplements               |
| OWH       | Office on Women's Health  |
| PCP       | Peer Counselling Programme  |
| PNNS      | Program National Nutrition Santé (France)                                       |
| PPL       | paid parental leave   |
| RACP      | Royal Australasian College of Physicians  |
| RCT       | randomised controlled trial   |
| RDI       | recommended daily intake  |
| RR        | Relative Risk   |
| SFP       | Société Française de Pédiatrie  |
| TFR       | total fertility rate  |
| TSA       | Transportation Safety Administration (USA)                                      |
| UN        | United Nations  |
| UNICEF    | United Nations International Children's Emergency Fund                          |
| USBC      | United States Breastfeeding Committee   |

|        |   |
|--------|---|
| USDA   | U.S. Department of Agriculture                |
| USPSTF | United States Preventative Services Taskforce |
| WHA    | World Health Assembly                         |
| WHO    | World Health Organization                     |
| WIC    | Women, Infants and Children                   |

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