



Productivity Commission
GPO Box 1428
CANBERRA CITY ACT 2601
31 July 2008

Submission by the Australian Breastfeeding Association to the Inquiry into Paid Maternity, Paternity and Parental Leave

Established in 1963, the Australian Breastfeeding Association (ABA), formerly the Nursing Mothers' Association of Australia, is one of the country's largest women's not-for-profit organisations and leading source of breastfeeding information and support.

The Association aims to support and encourage women who want to breastfeed their babies, and to raise community awareness of the importance of breastfeeding and human milk to infant and maternal health. More information about ABA can be found on the organisation's website at www.breastfeeding.asn.au

Please do not hesitate to contact me if you would like further information about the Australian Breastfeeding Association or this submission.

Yours sincerely

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Executive Summary

The Australian Breastfeeding Association (ABA) welcomes this inquiry and debate on paid maternity, paternity and parental leave.

The Association believes that all Australian mothers should have access to a minimum of 6 months paid maternity leave from birth regardless of their employment status. Paid maternity leave is a legal and social recognition of the important contribution of mothering.

As one of only two OECD countries that hasn't implemented paid maternity leave, it is clear Australia has not kept pace with other industrialised countries that offer more family friendly provisions. New Zealand has implemented paid maternity leave and is in the process of legislating for workplace provisions for breastfeeding women. Canada doubled their paid maternity leave provision to 50 weeks for mothers who had been in paid employment for 12 months prior to the birth of their child. This resulted in a 40% increase in exclusive breastfeeding at 6 months. Mothers tended to increase their time at home by 12–14 weeks and the length of breastfeeding duration increased.¹ Paid maternity leave isn't limited to those countries with wealthy economies to support it, as demonstrated by the example of Tanzania.²

While the focus of our submission is maternity leave, the ABA acknowledges the important role of partners and the need for paternity leave and workplace flexibility to assist in providing care for their children. Paternity provisions would be in addition to the maternity scheme and we would urge the government to allow families to decide how they access this leave. This provides flexibility for families to make choices that best suit their individual circumstances.

We all have a vested interest in providing conditions that enable our most vulnerable Australians to receive the intensive care they need to thrive into healthy, independent and productive adults. The quality of the attachment that forms between infants and their caregivers can have a profound influence on children's social, emotional and cognitive development. The foundations that are laid down in infancy have a significant influence on the psychological, physical and mental health of the mature adult. It is the extensive experiences through interactions with the caregiver that have been identified as necessary for the growth of brain and neurological functions.³ A consistent and responsive carer assists with secure attachment that promotes good social and psychological development.⁴

Paid maternity leave is one of a range of initiatives required to support an increase in the duration of breastfeeding in Australia.⁵ The Australian National Health and Medical Research Council's (NHMRC) Dietary Guidelines for Infant Feeding reflect the World Health Organization (WHO) recommendation that infants be exclusively breastfed for the first 6 months of life, with ongoing breastfeeding until 2 years and beyond with appropriate complementary foods.⁶ Employment has been demonstrated to have a negative effect on breastfeeding duration and therefore, a negative

1 Baker, M. and K. Milligan (2008). 'Maternal employment, breastfeeding, and health: Evidence from maternity leave mandates.' *Journal of Health Economics* 27(4): 871–887.

2 <http://www.ilo.org/public/english/employment/gems/eeo/law/tanzania/la.htm>

3 Schore, R. (1997). *Rethinking the brain*. New York, Families and work institute.

4 Stanley F, Richardson S, Prior M. 2005 *Children of the Lucky Country? How Australian society has turned its back on children and why children matter*. Macmillan, Sydney

5 Australian Breastfeeding Association. 2002 Submission to Valuing Parenthood, Options for Paid Maternity Leave in Australia, Inquiry by the Sex Discrimination Commissioner. <http://www.breastfeeding.asn.au/advocacy/matleave.html> Accessed 24/03/2008.

6 World Health Assembly (Fifty Fourth) 2001, Infant and Young Child Nutrition: Resolution 54.2.

effect on the health of mothers and babies.^{7 8} Mothers returning to work for financial reasons are less likely to breastfeed.⁹

In addition to 6 months paid maternity leave after birth for all women, the Association calls on the Government to include provisions that will require employers to provide breastfeeding-friendly workplaces. These provisions will enable mothers to continue breastfeeding after their return to work in line with public health recommendations. Paid maternity leave and employment conditions that support continued breastfeeding recognise the important contributions that women make to caring for the babies when they are most vulnerable.

Recommendations:

- That the government ratify the ILO Convention 183 that establishes women's rights to paid maternity leave, paid lactation breaks and facilities in the workplace, consistent with Australia's commitments to women under CEDAW
- That the Productivity Commission consider the health and welfare of Australian mothers and babies in their deliberations, including the protection and promotion of breastfeeding as a fundamental right and health issue.
- That all Australian mothers should have access to a minimum of 6 months paid maternity leave from birth regardless of their employment status.
- That provision is made for breastfeeding-friendly employment conditions such as permanent part-time employment, flexible working hours, job sharing or job splitting, lactation breaks and workplace facilities.
- That any changes to industrial relations legislation be evaluated in terms of their effect on maternal and child health, and in particular their effect in increasing the initiation and duration of breastfeeding in Australia.
- That workplace support for breastfeeding includes educational programs and strategies aimed at promoting positive cultural attitudes for breastfeeding support.
- That the important role of partners and their needs be considered in addition to the maternity scheme, with paternity leave and workplace flexibility available to assist them in providing care for their children.
- That a review be undertaken that examines the benefit to infant welfare of the current 'baby bonus' payment.

7 Cooklin, AR, Donath, SM, Amir, LH. 2008 Maternal employment and breastfeeding: results from the longitudinal study of Australian children. *Acta Paediatrica* 97, pp. 620–623

8 Scott JA, Binns CW, Oddy WH, Graham KI 2006 Predictors of Breastfeeding Duration: Evidence From a Cohort Study. *Pediatrics* 117; 646–655

9 Hawkins SS, Griffiths LJ, Dezateux C, Law C, The Millennium Cohort Study Health Group 2007 Maternal employment and breastfeeding initiation: findings from the Millennium Cohort Study *Paediatric & Perinatal Epidemiology* 21: 242–247.

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1. Introduction

This is a critical time in Australia with increasing numbers of women returning to work soon after the birth of their babies. Looming skills shortages, a tight labour market, housing affordability and financial pressures mean that women's workforce participation will probably continue to increase.

The Australian Breastfeeding Association (ABA) frequently receives reports from women about needing to wean their babies in order to return to the paid workforce. Returning to work after maternity leave isn't easy for any mother. The workplace is often a hostile environment to families and their needs, especially to women who want to continue breastfeeding. Women often feel reluctant to negotiate with their employer about their employment needs through fear of compromising their employment status. It is therefore not surprising to find that maternal employment has been found to have a negative impact on breastfeeding duration.^{10 11 12}

The National Health Survey showed that the trend to workforce participation by new mothers may impact adversely on breastfeeding, with one in ten mothers reporting return to work as a reason for premature weaning, and with an increased proportion of children receiving solids or breastmilk substitutes during the first 6 months of life, contrary to the recommendation of health authorities. The Australian National Health and Medical Research Council's (NHMRC) Dietary Guidelines for Infant Feeding reflect the World Health Organization (WHO) recommendation that infants be exclusively breastfed for the first 6 months of life, with ongoing breastfeeding until 2 years and beyond with appropriate complementary foods.¹³ A recent study in NSW showed that exclusive breastfeeding may be declining since the early 1990s.¹⁴

The vast majority of female workers are within small to medium sized workplaces and in industries without access to employer funded maternity leave. Only 23% of workplaces in Australia presently offer paid maternity leave to working mothers, and the average period of leave is 8 weeks.¹⁵ The more a working mother earns, the more likely she is to receive paid maternity leave.¹⁶ Less than half of women giving birth have any entitlement to even unpaid statutory leave, as evidenced in 'The Australian Time Use Survey of New Mothers — Implications for Policy' and other studies.¹⁷ Given that the first 12 to 14 weeks after birth are critical in establishing breastfeeding, these figures raise the concern that some women are compelled to return to paid employment too soon after the birth of their baby out of financial necessity, with consequential impacts on breastfeeding, maternal and child health. It is especially a concern that mothers in lower socio-economic groups are significantly less likely to breastfeed beyond the early weeks.¹⁸

10 Cooklin, AR, Donath, SM, Amir, LH. 2008 Maternal employment and breastfeeding: results from the longitudinal study of Australian children. *Acta Paediatrica* 97, pp. 620–623

11 Hawkins SS, Griffiths LJ, Dezateux C, Law C, The Millennium Cohort Study Child Health Group Ms. Summer S. Hawkins, Health Group. Maternal employment and breast-feeding initiation: findings from the Centre for Paediatric Millennium Cohort Study. *Paediatric and Perinatal Epidemiology* 2007; 21: 242–247.

12 Cooklin AR, Donath SM, & Amir, LH 2008 Maternal employment and breastfeeding: results from the longitudinal study of Australian children *Acta Paediatrica/Acta Paediatrica* 2008 97, pp. 620–623.

13 World Health Assembly (Fifty Fourth) 2001, Infant and Young Child Nutrition: Resolution 54.2.

14 Hector D, Webb K, and Lymer S 2004, *Report on Breastfeeding in NSW 2004*, NSW Centre for Public Health Nutrition, NSW Department of Health, Sydney.

15 Pocock B. *The Work Life Collision*, Centre for Labour Research: Adelaide University; 2003.

16 Work Research Cluster. Sydney University; March 2003.

17 Smith, J.P.; Craig, L. and Ellwood, M.. 'The Australian Time Use Survey of New Mothers — Implications for Policy.' *Australian Journal of Labour Economics*, 2007

18 Donath S, Amir LH. Rates of breastfeeding in Australia by State and socio-economic status: Evidence from the 1995 National Health Survey. *J Paediatr. Child Health* 2000;36:164–168.

Table 1: Reported Maternity Leave Access and Entitlements (percentage)

<i>Maternity Leave Access</i>	<i>Time Use Survey of New Mothers</i>	<i>Longitudinal Survey of Australian Children^a</i>	<i>Maternity Leave Entitlements of Employees^b</i>
paid	17	14	44
unpaid	42	32	78
no entitlement	41	46	n.a

^a Employees who took leave (Whitehouse, 2007); ^b ABS, access in current job.

Source: Smith, J.P.; Craig, L and Ellwood, M.. 'The Australian Time Use Survey of New Mothers — Implications for Policy.' *Australian Journal of Labour Economics*, 2007

The Association's extensive experience in counselling mothers, through our Breastfeeding Helpline and face-to-face in group meetings, indicates that some mothers either do not initiate breastfeeding, or only do so for a matter of weeks, if they are returning to the paid workforce in the early months after the birth. In a recent Perth study, maternal age and a mother's return to work were the two most important socio-demographic factors that affected the duration of breastfeeding for up to 12 months. Return to work was also the only socio-demographic factor that determined levels of exclusive breastfeeding to 6 months for mothers who returned to work before 12 months.¹⁹

Currently the Commonwealth Government allocates a lump sum baby bonus to all women following the birth of their baby. We recommend that this be extended and converted into a paid maternity leave provision for all mothers in order to support and protect breastfeeding.

To achieve the NHMRC targets for Australia of 80% of infants to breastfeed for at least 6 months of age²⁰, support in the workplace is paramount for continued breastfeeding. ABA considers that the Productivity Commission inquiry is a timely opportunity to bring industrial legislation in line with public health recommendations and to remove a major barrier to breastfeeding.

2. Eligibility

ABA would like to see a paid maternity scheme that includes all women regardless of employment status. This would not discriminate against families where mothers are unemployed, self-employed or working part-time or casually. Some may not have been employed for the designated length of time before they qualify for maternity leave. Others may not have worked outside the home before the birth of the baby but are under financial pressure with the addition of a baby in the family home.

The Association also considers that adoptive families should be included in the scope for eligibility for paid leave since their need to establish a relationship with their new child is just as important as other new parents. There should be no age limit on the adoption leave for parents as many overseas adoptions involve much older children, and beginning a new family with these children requires a considerable investment of time.

19 Binns C, Graham K. Project report of the Perth Infant Feeding Study Mark II (2002–2004) for the Australian Government Department of Health and Ageing. Perth: Curtin University of Technology; 2005.

20 Binns CW. Encourage and support breastfeeding. Dietary Guidelines for Children and Adolescents in Australia. Commonwealth of Australia 2003:1–19.

3. Duration and generosity of benefits

We would urge the Commonwealth Government to implement provisions for a 6 month paid maternity leave scheme to all mothers, commencing after the birth of each child. To be a viable alternative to early return to the paid workforce, it would need to be paid at the rate of at least the minimum wage. The Government could replace the current 'baby bonus' payment with this maternity leave scheme, as there has been no evidence to demonstrate that the baby bonus benefits infant welfare. Employers could then top up this allowance for their employees who are on a higher salary.

4. Health Protection

Breastfeeding is an important preventative health behaviour with implications for infant and maternal health, national health costs and the environment. The public health benefits of breastfeeding are well documented and continue to accumulate.

Breastfeeding is important for normal infant health, growth and development. Artificial feeding substantially increases an infant's risk of obesity, hypertension, diabetes and hypercholesterolemia throughout the life course. Infants fed artificial milk formulas are also significantly more susceptible to gastrointestinal illness, respiratory illness and infection, eczema, and necrotising enterocolitis. Evidence of an association between artificial feeding and other chronic or serious illnesses or conditions such as urinary tract infection, certain types of cancers, diseases of the digestive system such as coeliac disease and Crohn's disease, liver disease and cot death is strengthening. Infants who are not breastfed are known to have poorer cognitive development and lower IQ, central nervous system development, visual acuity, and speech and jaw development. Breastfeeding also helps protect mothers against breast cancer and other cancers of the reproductive organs, and osteoporosis.²¹ (See Appendix A for further details).

Based on Australian research, the cost attributed to the hospitalisation of prematurely weaned babies alone is around \$60–120 million annually for just five common childhood illnesses.²² Unless employment conditions support breastfeeding, rates in Australia could decline with further economic burden for the public health system.

Premature weaning from breastfeeding results in an unnecessary disease burden on our health care system. A recent study from a developed country population found that hospitalisation rates for children under 12 months could be more than halved if all babies were fully breastfed for 4 months or more.²³

Another study in the US looked at just three illnesses (lower respiratory tract illness, middle ear infection and gastrointestinal illness) and found that for every 1000 babies never breastfed, compared with 1000 babies exclusively breastfed for 3 months, there were 2033 extra visits to the doctor, 212 extra days of hospitalisation and 609 extra prescriptions in the first year of life.²⁴ It is therefore not surprising that increasing breastfeeding rates have been shown to decrease the frequency of illness at a community level.²⁵

21 See for example Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, Eidelman AI, American Academy of Pediatrics Section on Breastfeeding 2005. Breastfeeding and the use of human milk. *Pediatrics* 115(2): 496–506.

22 Smith J, Thompson J, Ellwood D. Hospital system costs of artificial infant feeding: Estimates for the Australian Capital Territory. *ANZ J Public Health* 2002; 26(6): 542–551.

23 Talayero JMP, Lizán-García M, Puime AO, Benlloch Muncharaz MJ, Beseler Soto B, Sánchez-Palomares M, et al. Full Breastfeeding and Hospitalization as a Result of Infections in the First Year of Life. *Pediatrics* 2006; 118:e92–e99.

24 Ball TM, Wright AL. Health Care costs of formula feeding in the first year of life. *Pediatrics* 1999; 103:870–876.

25 Wright AL, Bauer M, Naylor A, Sutcliffe E, Clark. Increasing breastfeeding rates to reduce infant illness at the community level. *Pediatrics* 1998; 101:837–844.

5. Breastfeeding Breaks and facilities

Breastfeeding-friendly work conditions, such as lactation breaks, supportive workplace policies and practices, and facilities provided for women to express breastmilk or breastfeed their babies, are vitally important to ensuring ongoing breastfeeding. Industrial relations legislation should support and protect breastfeeding as the physiologically and socially normal mode of infant feeding for all mothers and babies, irrespective of socio-economic background.

Women, especially those in low paid casual employment, may have particular difficulty negotiating paid maternity leave and improved breastfeeding-friendly employment conditions. It would be highly inequitable if industrial relations changes resulted in paid maternity leave and breastfeeding-friendly work conditions only being made available to women with significant influence or with forward-thinking employers.

ABA would like to see programs initiated by the workplace that encourage breastfeeding-friendly environments and include a training component for educating employers about the benefits of such workplace flexibility. ABA's Breastfeeding Friendly Workplace Accreditation (BFWA) program is an example of the type of initiative with the potential to bring widespread change within the workplace culture (details of this particular program are discussed below).

A woman may make choices, whilst pregnant, about returning to work after the birth, based on workplace arrangements. Women return to work for diverse reasons, including financial need and investment in a career. Many feel that they must choose between breastfeeding and returning to work. Women need to see institutional support for combining breastfeeding and working, to feel that this is an option.

Paid lactation breaks for employees is an internationally recognised solution and is offered in at least 92 countries.²⁶ The International Labour Organization in 2000 adopted a revised Maternity Protection Convention 183²⁷ and Recommendation 191²⁸, establishing women's right to paid maternity leave, paid lactation breaks and facilities in the workplace to allow for continued breastfeeding. We urge the government to ratify the ILO Maternity Convention 183 and include paid maternity leave, paid lactation breaks and facilities for all working women by including these elements in the industrial relations legislation.

6. Job Protection and Non-Discrimination

Commonwealth Government responsibilities under the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and domestic anti-discrimination law are relevant. By becoming a party to CEDAW on 17 July 1980, Australia committed to take all appropriate measures, including introducing legislation and temporary special measures, so that women could enjoy all their human rights and fundamental freedoms. CEDAW defines discrimination against women as:

'... any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field.'
(Article 1)²⁹

²⁶ Paul J. Healthy Beginnings: guidance on safe maternity at work. Geneva: International Labour office; 2004.

²⁷ <http://www.ilo.org/ilolex/cgi-lex/convde.pl?C183>

²⁸ <http://www.ilo.org/ilolex/cgi-lex/convde.pl?R191>

²⁹ Human Rights and Equal Opportunities Commission. http://www.hreoc.gov.au/sex_discrimination/cedaw/what_is_cedaw.html.

National and state anti-discrimination laws provide some protection for breastfeeding women against discrimination by employers. However, Australia has been slow to implement maternity protection measures including paid leave and lactation breaks that are recommended to enable women to maintain breastfeeding while in paid employment.

Breastfeeding and human milk is the biological norm for human infants and has been identified by a number of international conventions and agreements as a human right. Women have a right to breastfeed their children, and Article 24 of the UNICEF Convention on the Rights of the Child states that breastfeeding is an essential component in assuring the child's right to the highest attainable standard of health. Women do not lose this right when they return to paid employment.³⁰ Australia is obliged under this Convention to ensure an environment conducive for women to breastfeed their children.

7. Workplace support for breastfeeding and benefits to employers

This Association recognises the challenges involved by employers in accommodating mothers in the paid workforce. While 6 months paid maternity leave is consistent with the recommended period for exclusive breastfeeding, women also need workplace provisions and facilities so that they can successfully re-enter the workforce and continue breastfeeding.

Through its substantial experience in this area, ABA has developed an understanding of the benefit employers perceive from supporting staff to combine work and breastfeeding — benefits that have a real impact on the bottom-line for their organisation. Employers cite benefits of improved retention of female employees after maternity leave, thus preventing loss of skilled staff and the costs associated with recruitment and retraining or replacement. Other benefits include reduced absenteeism and staff turnover because of the improved health of mother and baby, and increased staff loyalty from the support they provide.

Increased illness in non-breastfed babies results in decreased productivity and increased absenteeism amongst parents in the paid workforce.³¹ There are some limited overseas studies that have shown promising results from company-sponsored lactation programs.³² A large employer in the US instigated a lactation program to support employees continuing to breastfeed once they returned to work. It was found that over a 1-year period, 93% of bottle-fed babies of employees were sick enough to require a doctor's visit compared with 50% of breastfed babies.³³ Since bottle-fed babies were not only sicker, but sicker for longer, the parents of bottle-bed babies had an absenteeism rate that was seven times higher than parents of breastfed babies. In addition, some research has found that women who are supported in breastfeeding their babies by their employers are more likely to return to work after their baby is born.³⁴

Given the known health impacts, the reduced spending on health budgets, the benefits to families and the bottom-line benefits of employers, it is clear that everyone benefits when mothers breastfeed their babies. Therefore, everyone has a social responsibility to support breastfeeding workers.³⁵

30 Latham M. A mother's right to breastfeed: removing the obstacles.: The United Nations University; 1999.

31 Cohen R, Mrtek MB, Mrtek R (1995) Comparison of Maternal Absenteeism and Infant Illness Rates Among Breast-feeding and Formula-feeding Women in Two Corporations American Journal of Health Promotion 10(2): 148–153.

32 Ortiz J, McGilligan K, Kelly, P (2004) Duration of Breastmilk Expression Among Working Mothers Enrolled in an Employer-Sponsored Lactation Program. Paediatric Nursing 30(2): 111–119.

33 Geisel J. Lactation program yields multiple benefits. Business Insurance 1994;28(12).

34 Katcher, Lanese. Breast-feeding by employed mothers: a reasonable accommodation in the work place. Pediatrics 1985;75:644–647.

35 World Alliance for Breastfeeding Action. Breastfeeding and the Workplace. Why does breastfeeding make a difference? 2002:1–5.

8. Conclusion

This a timely opportunity for the Commonwealth Government to take a lead role in renewing its commitment to public health through workplace support for breastfeeding.

ABA would urge the Productivity Commission to include support in the form of paid maternity leave and breastfeeding-friendly working conditions. These mechanisms that provide more choice to women about when and whether they will return to the paid workforce are likely to have a positive impact on the duration of breastfeeding and on workforce participation.

Australia women will continue to be disadvantaged under the current proposal until there are legislated minimum standards to ensure mothers receive adequate maternity leave to establish breastfeeding in the first 6 months and are then enabled to continue to breastfeed in the workplace. It is time for Australia to see maternity as part of the lifecycle that is normal, necessary and valued for the health of the population and future labour force, and that it is accommodated as a matter of course by employers.

Recommendations:

- That the government ratify the ILO Convention 183 that establishes women's rights to paid maternity leave, paid lactation breaks and facilities in the workplace, consistent with Australia's commitments to women under CEDAW
- That the Productivity Commission consider the health and welfare of Australian mothers and babies in their deliberations, including the protection and promotion of breastfeeding as a fundamental right and health issue.
- That all Australian mothers should have access to a minimum of 6 months paid maternity leave from birth regardless of their employment status.
- That provision is made for breastfeeding-friendly employment conditions such as permanent part-time employment, flexible working hours, job sharing or job splitting, lactation breaks and workplace facilities.
- That any changes to industrial relations legislation be evaluated in terms of their effect on maternal and child health, and in particular their effect in increasing the initiation and duration of breastfeeding in Australia.
- That workplace support for breastfeeding includes educational programs and strategies aimed at promoting positive cultural attitudes for breastfeeding support.
- That the important role of partners and their needs be considered in addition to the maternity scheme, with paternity leave and workplace flexibility available to assist them in providing care for their children.
- That a review be undertaken that examines the benefit to infant welfare of the current 'baby bonus' payment.

Appendix A

Supporting Evidence for the Importance of Breastfeeding

Breastfeeding is important for the immediate, short and long-term health of infants, children and mothers. A summary of evidence is provided on:

- Impact of Breastfeeding on Infant and Child Health
- Impact of Breastfeeding on Health of Mothers.

Impact of Breastfeeding on Infant and Child Health

Obesity

Research has consistently found that children who are not breastfed are more likely to be overweight in childhood and adolescence. The relationship appears to be dose dependent. A recent meta-analysis of research found that there was a 4% increased risk of being overweight for each month an infant was not breastfed. Thus, babies that are weaned before 9 months have a 56% increased risk of being overweight.³⁶

Type 1 Diabetes

A meta-analysis of high quality studies that looked at infant feeding and the development of Type 1 diabetes found that children exposed to cows' milk in the first 3 months of life or not breastfed for at least 3 months have a 63% increased risk of developing Type 1 diabetes.³⁷ It appears that the relationship between infant feeding and development of Type 1 diabetes is strongest where children develop the condition young. This means that children not breastfed for at least 3 months have a 280% increased risk of developing Type 1 diabetes before the age of 4 years compared with breastfed children.³⁸

Asthma

Research has generally found that premature weaning from breastfeeding results in an increased risk of development of asthma in children. A meta-analysis of well-designed studies from around the world found that children weaned before 3 months of age had a 25% increased risk of developing asthma compared with children breastfed beyond 3 months. In a specifically Australian context, research has found that the introduction of milks other than human milk before 4 months of age resulted in a 25% increased risk of asthma, an earlier diagnosis of asthma, a 31% increase in wheeze and earlier onset of wheeze.³⁹

The increased incidence of asthma in children who are not breastfed may be due to increased vulnerability in these children to respiratory infections and allergy. Children who are not breastfed are at an increased risk of suffering from multiple episodes of upper respiratory tract illness and this may make children more vulnerable to developing asthma. An Australian study found that lower respiratory illness with associated wheeze in the first year of life, particularly where there are multiple episodes, increases the risk of asthma in children from between 300% (with no family

36 Harder T, Bergmann R, Kallischnigg G, Plagemann A. Duration of Breastfeeding and Risk of Overweight: A Meta-Analysis. *Am. J. Epidemiol.* 2005; 162(5): 397–403.

37 Gerstein HC 1994. Cow's milk exposure and type 1 diabetes mellitus. *Diabetes Care* 17: 13–19.

38 Dahlquist, G., L. Blom, et al. 1991. 'The Swedish Childhood Diabetes Study — a multivariate analysis of risk determinants for diabetes in different age groups.' *Diabetologia*, 34(10): 757–762.

39 Oddy WH, Holt PG, Sly PD, Read AW, Landau LI, Stanley FJ, et al. Association between breast feeding and asthma in 6 year old children: findings of a prospective birth cohort study. *BMJ* 1999; 319(7213): 815–819.

history of allergy) and 800% (where a family has a history of allergy).⁴⁰ A dose dependent association between antibiotic exposure in infancy and the development of asthma has been identified and children who are not breastfed have been found to spend twice as much time on antibiotics as breastfed children.^{41 42} Children who are prematurely weaned from breastfeeding are also more likely to develop allergic symptoms and this is also associated with increased asthma risk.

Allergy

Infants fed infant formula (cow's milk based or soy) have a higher incidence of allergy than breastfed babies.^{43 44} Eczema is a type of allergic manifestation that has been studied in relation to early nutrition. Kull et al⁴⁵ examined the development of eczema in children whose families had a history of allergy and those who did not. It was found that where there was no family history of eczema, the risk of developing eczema was increased by 20% in children exclusively breastfed for less than 4 months and by 35% in children with a family history of eczema.⁴⁶ Children not exclusively breastfed for at least 4 months were also found to be 43% more likely to develop allergic rhinitis than children exclusively breastfed for 4 months or more. Finally, children who were not exclusively breastfed for 4 months or more were 43% more likely to suffer from multiple allergic diseases. Oddy et al⁴⁷ found that children who were not exclusively breastfed were 30% more likely to show a positive skin prick test to at least one common aeroallergen. Exclusive early breastfeeding (for around 6 months) is particularly important in preventing allergy.

Otitis media

Research has consistently found that babies who are not breastfed are at increased risk of suffering from otitis media, otherwise known as middle ear infection.⁴⁸ Children not breastfed have between 60 and 100% increased risk of developing otitis media^{49 50} and at about double the risk of suffering from recurrent otitis media.^{51 52} Shorter breastfeeding duration increases the likelihood of otitis media.⁵³

Recurrent otitis media is associated with mild, fluctuating hearing loss.⁵⁴ Since the first few years of life are critical for language development, recurrent otitis media in infancy and toddlerhood can negatively affect children's language acquisition. Hearing loss and language delay early in life have a flow on effect on academic learning in the early years of school. Children with a history of

40Oddy WH, de Klerk NH, Sly PD, Holt PG. The effects of respiratory infections, atopy, and breastfeeding on childhood asthma. *Eur Respir J* 2002; 19(5): 899–905.

41Marra F, Lynd L, Coombes M, Richardson K, Legal M, Fitzgerald J, et al. Does antibiotic exposure during infancy lead to development of asthma? A systematic review and meta-analysis. *Chest* 2006; 129:610–618.

42 Flors MS, Fairchok MP. The relationship of breastfeeding to antimicrobial exposure in the first year of life. *Clinical Pediatrics* 2004; 43:631–363.

43 Friedman NJ, Zeiger RS. The role of breast-feeding in the development of allergies and asthma. [Review] [84 refs]. *Journal of Allergy & Clinical Immunology*. 2005; 115(6): 1238–1248.

44 Oddy WH, Peat J. Breastfeeding, asthma, and atopic disease: an epidemiological review of the literature. *Journal of Human Lactation* 2003; 19:250–261.

45 Kull I, Bohme M, Wahlgren CF, Nordvall L, Pershagen G, Wickman M. Breast-feeding reduces the risk for childhood eczema. *Journal of Allergy & Clinical Immunology*. 2005; 116(3): 657–661.

46 Kull I, Wickman M, Lilja G, Nordvall SL, Pershagen G. Breast feeding and allergic diseases in infants — a prospective birth cohort study. *Archives of Disease in Childhood*. 2002; 87(6): 478–481.

47 Oddy WH, Holt PG, Sly PD, Read AW, Landau LI, Stanley FJ, et al. Association between breast feeding and asthma in 6 year old children: findings of a prospective birth cohort study. *BMJ*. 1999; 319(7213): 815–819.

48 Golding J, Emmett PM, Rogers IS. Gastroenteritis, diarrhoea and breastfeeding. *Early Human Development* 1997; 49 Suppl: S83–103.

49 Duffy LC, Faden H, Wasielewski R, Wolf J, Krystofik D. Exclusive breastfeeding protects against bacterial colonization and day care exposure to otitis media. *Pediatrics* 1997; 100:e7.

50 Duncan B, Ey J, Holberg CJ, Wright AL, Martinez FD, Taussig LM. Exclusive breast-feeding for at least 4 months protects against otitis media. *Pediatrics*. 1993; 91(5): 867–872.

51 Teele DW, Klein JO, Rosner B. Epidemiology of otitis media during the first seven years of life of children in greater Boston: a prospective cohort study. *Journal of Infectious Diseases* 1989; 160:8–94.

52 Fosarelli PD, Deangelis C, Winkelstein J, Mellits ED. Infectious illnesses in the first two years of life. *Pediatric Infectious Diseases* 1985; 4:153–159.

53 Alho OP, Koivu M, Sorri M. Risk factors for recurrent acute otitis media and respiratory infection in infancy. *International Journal of Pediatric Otorhinolaryngology* 1990; 19:151–161.

54 Schlieper A, Kisilevsky H, Mattingly S, Yorke L. Mild conductive hearing loss and language development: a one year follow-up study. *Journal of Developmental and Behavioural Pediatrics* 1985; 6:65–68.

recurrent otitis media are also at an increased risk of having difficulties with learning to read in middle childhood, necessitating an increase in the need for remedial education programs.⁵⁵

Gastroenteritis

Gastroenteritis is a common disease in young children. In 1993–1996, there were approximately 20,000 hospital admissions in children under 5 years in Australia.⁵⁶ One study showed that infants exclusively breastfeeding at 3 months have 40% less risk of developing gastrointestinal infections.⁵⁷ Other research has found that babies who are not breastfed have a 200–500% risk of developing gastroenteritis caused by non-viral pathogens.⁵⁸

Respiratory infections

Early feeding affects the incidence and severity of respiratory illness. Australian research has identified that in the first year of life, babies not exclusively breastfed for 2 months or at least partially breastfed for 6 months are 1.4 times more likely to have 4 or more hospital or doctors visits because of upper respiratory tract infections. Babies not exclusively breastfed for 6 months are 2 times more likely to have two or more hospital or doctors visits and 2.6 times more likely to be hospitalised for wheezing lower respiratory illness (bronchiolitis or asthma). Cessation of breastfeeding before 12 months is associated with a 60% increased risk of 2 or more hospital visits for wheezing lower respiratory illness.⁵⁹

Urinary tract infection

Babies who are not breastfed are 5 times more likely to suffer from urinary tract infections in infancy than children who are breastfed.⁶⁰ They are also more likely to suffer from urinary tract infections up until at least 6 years of age.

Sudden Infant Death Syndrome (SIDS)

While it is not possible to identify which babies will fall victim to SIDS, this tragic event is not completely unpredictable. SIDS is much more prevalent in socio-economically deprived populations and these populations are those least likely to breastfeed their babies.^{61 62} Background epidemiological characteristics of SIDS victims and their families include low birth weight, short gestation, young maternal age, high parity, sole parent caregiver, parental smoking, parental alcohol consumption and bottle-feeding.

Every study investigating causes of SIDS has found that babies that are not breastfed are on average twice as likely to die and this relationship often remains after statistical adjustment.^{63 64 65}

55 Golz A, Netzer A, Westerman ST GD, Joachims HZ, Goldenberg D. Reading performance in children with otitis media. *Otolaryngology: Head and Neck Surgery*. 2005; 132:495–499.

56 Carlin JB, Chondros P, Masendycz P, Bugg H, Bishop RF, Barnes GL. Rotavirus infection and rates of hospitalisation for acute gastroenteritis in young children in Australia, 1993–1996. *Medical Journal of Australia*. 1998; 169(5): 252–256.

57 Kramer MS, et al. 2001 A Randomized Trial in the Republic of Belarus. Promotion of Breastfeeding Intervention Trial (PROBIT) *JAMA*, 285 413–420.

58 Golding J, Emmett PM, Rogers IS. Does breastfeeding protect against non-gastric infections? *Early Human Development* 1997; 49:S105–S120.

59 Oddy WH, Sly PD, de Klerk NH, Landau LI, Kendall GE, Holt PG, et al. Breast feeding and respiratory morbidity in infancy: a birth cohort study. *Archives of Diseases in Childhood* 2003; 88:224–228.

60 Pisacane A, Graziano L, Mazzarella G, Scarpellino B, Zona G. Breast-feeding and urinary tract infection. *Journal of Pediatrics* 1992; 120:87–89.

61 Blair PS, Sidebotham P, Berry PJ, Evans M, Flemming PJ. Major epidemiological changes in sudden infant death syndrome: a 20-year population based study in the UK. *Lancet* 2006; 367(9507): 314–319.

62 Fleming PJ, Blair PS, Ward Platt M, Tripp J, Smith IJ, Group CSR. Sudden infant death syndrome and social deprivation: assessing epidemiological factors after post-matching for deprivation. *Paediatric and Perinatal Epidemiology*. 2003; 17(3): 272–280.

63 McVea KL, Turner PD, Peppler DK. The role of breastfeeding in sudden infant death syndrome. *Journal of Human Lactation* 2000; 16:13–20.

64 Fredrickson DD, Sorenson JR, Biddle AK, Kotelchuck. Relationship of sudden infant death syndrome to breastfeeding duration and intensity. *American Journal of Diseases and Children* 1993; 147:460.

65 Alm B, Wennergren G, Norvenius SG, Skaerven R, Lagercrantz H, Helweg-Larsen K, et al. Breastfeeding and Sudden Infant Death Syndrome in Scandinavia 1992–1995. *Arch Dis Child* 2002; 86:400–402.

However, since not breastfeeding is also associated with socio-economic deprivation, the impact of breastfeeding on SIDS sometimes disappears in statistical adjustment for socio-economic background.

Childhood cancers

The reasons why some children develop cancer are not well understood. Nevertheless a number of factors have been implicated in increasing the risk of development of cancers in childhood, including early nutrition. Research indicates that children who are not breastfed are at a 75% to 600% increased risk of developing any cancer.^{66 67} Research has found that artificial feeding increases the risk of developing Hodgkin's disease, non-Hodgkin's lymphoma, acute lymphoblastic leukaemia and acute myeloblastic leukaemia.^{68 69} However, there is a lot of variation in research results. Nonetheless, studies have generally found that breastfeeding duration is important. Cancer risk is greatest in babies not breastfed at all compared with those breastfed for the longest duration. Childhood cancer has been associated with immunodeficiency and infection.⁷⁰ Since human milk is protective against infection and stimulates the early, normal development of the immune system, this may explain why babies who are not breastfed are at greater risk of developing cancer.⁷¹

Oral and Dental Health

Breastfeeding is important for the normal development of the oral cavity. In infants the palate is soft and malleable. Breasts are also soft and malleable and during breastfeeding the breast applies an even and dispersed pressure to the palate via the normal peristaltic movement of the tongue as it massages rather than sucks milks out of the breast.⁷² This results in breastfed individuals being more likely to have a healthy, broad palate, without malocclusions or improper alignment of teeth.⁷³

In contrast, bottle teats are hard and a piston-like suckling with negative pressure is used to obtain milk from a bottle. The relatively strong and concentrated pressure associated with bottle-feeding can deform the infant's palate, leading to a greater risk for poor alignment of the teeth and malocclusions.⁷⁴ In addition, when the palate is narrowed and heightened by bottle-feeding, it may infringe on the upper airway.⁷⁵ It has been found that a high and narrow palate is a good predictor of snoring and obstructive sleep apnoea, both of which contribute to significant health problems in adulthood.⁷⁶

Preventable accidents, injury and child abuse

Epidemiological research in the US has looked at the impact of infant feeding on post-neonatal mortality. It has been identified that babies who are never breastfed are 27% more likely to die in

66 Davis MK, Savitz DA, Graubard BI. Infant feeding and childhood cancer. *The Lancet* 1988;v2 (n8607): p365 (4).

67 Smulevich VB, Solionova LG, Belyakova SV. Parental occupation and other factors and cancer risk in children: I. Study methodology and non-occupational factors. *International Journal of Cancer*. 1999; 83(6): 712–717.

68 Kwan ML, Buffler PA, Abrams B, Kiley VA. Breastfeeding and the risk of childhood leukaemia: a meta-analysis. *Public Health Reports*. 2004; 119(6): 521–535.

69 Shu XO, Linet MS, Steinbuch M, Wen WQ, Buckley JD, Neglia JP, et al. Breast-feeding and risk of childhood acute leukaemia. *Journal of the National Cancer Institute*. 1999; 91(20): 1765–1772.

70 Davis MK. Breastfeeding and chronic disease in childhood and adolescence. *Pediatric Clinics of North America*. 2001; 48(1): 125–141.

71 Davis MK. Review of the evidence for an association between infant feeding and childhood cancer. *International Journal of Cancer* — Supplement 1998; 11:29–33.

72 Palmer B. The influence of breastfeeding on the development of the oral cavity: a commentary. *Journal of Human Lactation*. 1998; 14(2): 93–98.

73 Larsson EF, Dahlin KG. The prevalence and the aetiology of the initial dummy- and finger-sucking habit. *American Journal of Orthodontics*. 1985; 87(5): 432–435.

74 Lobbok MH, Hendershot G. Does breastfeeding protect against malocclusion? An analysis of the 1981 Child Health Supplement to the National Health Interview Survey. *American Journal of Preventative Medicine* 1987; 3:227–232.

75 Palmer B. The influence of breastfeeding on the development of the oral cavity: a commentary. *Journal of Human Lactation*. 1998; 14(2): 93–98.

76 Kushida CA, Efron B, Guilleminault C. A predictive morphometric model for the obstructive sleep apnoea syndrome. *Annals of Internal Medicine* 1997; 127:581–587.

their first year than babies who are ever breastfed.⁷⁷ Some of the reasons for the increased death rate in never-breastfed infants are related to increased rates of illnesses in non-breastfed babies. However, an examination of cause of death found that babies who had never been breastfed were at a 69% increased risk of death from accidents. The relationship between not breastfeeding and increased mortality from accidents has been found previously,⁷⁸ and may be related to the absence of physiological and physical factors associated with breastfeeding that help prevent accidents. Breastfeeding women are physiologically different from women who are not breastfeeding, and hormones that are released in response to breastfeeding act on the central nervous system of mothers to promote maternal behaviour^{79 80 81} and reduce their response to physical and emotional stress.⁸² This enables breastfeeding women to be more responsive to their babies and to want to be closer to them.^{83 84 85} Thus, breastfeeding encourages maternal care-giving and closer maternal-child proximity and this may directly decrease the risk of accident through increased adult supervision and increased maternal-child attachment.^{86 87}

Other conditions

Some research has found an increased risk of developing ulcerative colitis, Crohn's disease and coeliac disease in individuals who were formula-fed as infants.⁸⁸

Long term impacts of breastfeeding

The impact of breastfeeding continues beyond weaning. Children weaned earlier continue, for 2 or more years after weaning, to suffer more ill health than children who were breastfed for longer.^{89 90} This finding supports the idea that breastfeeding enhances the normal development of the immune system and conversely that premature weaning from breastfeeding retards its development.

It has been found that children who were not breastfed are more likely to require antibiotic treatment at 18 and 30 months at least 3 times in the preceding 6 months compared with babies breastfed (not exclusively) for at least 4 months.⁹¹ Antibiotic medication is commonly used to treat respiratory illness and otitis media.

The duration of exclusive breastfeeding is significant in determining the likelihood of a childhood health. One recent study found that children who were fully breastfed (meaning breastfed without supplementation with other milks) for between 4–6 months were 4 times more likely to suffer

77 Chen A, Rogan WJ. Breastfeeding and the Risk of Post neonatal Death in the United States. *Pediatrics* 2004; 113(5): e435–439.

78 Carpenter RG, Gardner A, McWeeny PM, Emery JL. Multistage scoring system for identifying infants at risk of unexpected death. *Archives of Disease in Childhood*. 1977; 52(8): 606–612.

79 Bartels A, Zeki S. The neural correlates of maternal and romantic love. *Neuroimage*. 2004; 21(3): 1155–1166.

80 Mann PE, Felicio LF, Bridges RS. Investigation into the role of cholecystokinin (CCK) in the induction and maintenance of maternal behaviour in rats. *Hormones & Behaviour*. 1995; 29(3): 392–406.

81 Neumann ID. Brain mechanisms underlying emotional alterations in the peri partum period in rats. *Depression & Anxiety*. 2003; 17(3): 111–21.

82 Groer MW, Davis MW, Hemphill J. Postpartum stress: current concepts and the possible protective role of breastfeeding. *Journal of Obstetrics, Gynaecology and Neonatal Nursing* 2002; 31:411–417.

83 Newton N, Peeler D, Rawlins C. Effect of lactation on maternal behaviour in mice with comparative data on humans. *Journal of Reproductive Medicine* 1968; 1:257–262.

84 Widstrom AM, Wahlberg V, Matthiesen AS, Eneroth P, Uvnas-Moberg K, Werner S, et al. Short-term effects of early suckling and touch of the nipple on maternal behaviour. *Early Human Development*. 1990; 21(3): 153–163.

85 Feldman R, Weller A, Leckman JF, Kuint J, Eidelman AI. The nature of the mother's tie to her infant: Maternal bonding under conditions of proximity, separation, and potential loss. *Journal of Child Psychology and Psychiatry* 1999; 40(6): 929–939.

86 Chen A, Rogan WJ. Breastfeeding and the risk of post-neonatal death in the United States. *Pediatrics*. 2004; 113(5): e435–439.

87 Anisfeld E, Casper V, Nozyce M, Cunningham N. Does infant carrying promote attachment? An experimental study of the effects of increased physical contact on the development of attachment. *Child Development*. 1990; 61(5): 1617–1627.

88 Villalpando S, Hamosh M. Early and late effects of breast-feeding: does breast-feeding really matter. *Biology of the Neonate* 1998; 74:177–190.

89 Couper JJ. Environmental triggers of type 1 diabetes. *Journal of Paediatrics & Child Health*. 2001; 37(3): 218–20.

90 Dubois L, Girard M. Breastfeeding, day-care attendance and the frequency of antibiotic treatments from 1.5 to 5 years: a population-based longitudinal study in Canada. *Social Science and Medicine* 2005; 60:2035–2044.

91 Dubois L, Girard M 2005. Breast-feeding, day-care attendance and the frequency of antibiotic treatments from 1.5 to 5 years: a population-based longitudinal study in Canada. *Social Science and Medicine* 60: 2035–2044.

from pneumonia and 2 times more likely to suffer from recurrent otitis media up until the age of 2 years than those breastfed for 6 months or more.⁹²

There is compelling evidence to suggest that premature weaning is associated with increased risk factors for later cardiovascular disease.⁹³ There is evidence to show an association between adolescents who were prematurely weaned and a higher systolic blood pressure. It appears that this effect is dose related; blood pressure increased as the proportion of human milk received in the neonatal period decreased. It has been estimated that as a non-pharmacological intervention, breastfeeding has the potential to reduce hypertension by 17%, the risk of cardiovascular disease by 6% and the risk of strokes and transient ischaemic attacks by 15% in the adult population. Data collected from the same sample group also showed evidence for the beneficial effect of breastmilk on later blood lipid profiles, and again there is dose-dependent relationship.

The most substantial study to date on cognitive function has provided strong evidence that prolonged and exclusive breastfeeding improves children's cognitive development. The evidence from a large randomised trial of nearly 14,000 children found that those who breastfed exclusively for the first 3 months — with many also continuing to 12 months — scored an average of 5.9 points higher on IQ.⁹⁴ It is not known whether this improved cognitive development is due to the constituents of breastmilk or related to the physical and social interactions associated with breastfeeding.

Impact of Breastfeeding on the Health of Mothers

Breastfeeding also has an impact on the health of mothers and has been found to reduce the incidence of hip fracture, breast cancer, rheumatoid arthritis, ovarian cancer and diabetes.

Hip fracture

Hip fractures are common in elderly women and have a high mortality and morbidity. However, women who breastfeed their children have a reduced risk of hip fracture. The reduction of risk is dependent on duration of breastfeeding. One study of Australian women who had breastfed each of their children for 9 months or more reduced their risk of hip fracture by 72% compared with women who had not breastfed their children.⁹⁵ There is evidence that the risk of hip fracture continues to decrease with breastfeeding beyond 9 months per child.⁹⁶

Breast Cancer

Breastfeeding reduces the risk of a woman developing breast cancer in a very strong dose dependent relationship. It has been estimated that each 12 months of breastfeeding reduces the risk of breast cancer development by 4.3%⁹⁷ and that the impact of breastfeeding on breast cancer reduction increases with long-term breastfeeding. Women who breastfeed each of their children for 2 years or more halve their risk of developing breast cancer.⁹⁸ A recent meta-analysis concluded *'the lack of or short lifetime duration of breastfeeding typical of women in developed countries makes a major*

92 Chantry CJ, Howard CR, Auinger P. Full breastfeeding duration and associated decrease in respiratory tract infection in US children. *Pediatrics* 2006; 117:425–432.

93 Fewtrell MS. The long-term benefits of having been breast-fed. *Current Paediatrics* 2004; 14:97–103.

94 Kramer, MS; Aboud, F; Mironova, E; Vanilovich, I; Platt, RW; Matush, L; Igumnov, S; Fombonne, E; Bogdanovich, N; Ducruet, T; Collet, JP; Chalmers, B; Hodnett, E; Davidovsky, S; Skugarevsky, O; Trofimovich, O; Kozlova, L; Shapiro, S. 2008 Breastfeeding and Child Cognitive Development. *Arch Gen Psychiatry*. ;65(5):578–584

95 Cumming RG, Klineberg RJ. Breastfeeding and other reproductive factors and the risk of hip fractures in elderly women. *International Journal of Epidemiology* 1993; 22:684–691.

96 Huo D, Lauderdale DS, Liming L. Influence of reproductive factors on hip fracture risk in Chinese women. *Osteoporosis International* 2003; 14:694–700.

97 Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50 302 women with breast cancer and 96 973 women without the disease. *The Lancet* 2002; 360:187–195.

98 Zheng T, Duan L, Liu Y, Zhang B, Wang Y, Chen Y, et al. Lactation reduces breast cancer risk in Shandong Province, China. *American Journal of Epidemiology* 2000; 152:1129–1135.

contribution to the high incidence of breast cancer in these countries' (Collaborative Group on Hormonal Factors in Breast Cancer, 2002).

Rheumatoid arthritis

Hormonal factors are involved in the development of rheumatoid arthritis, and since breastfeeding can impact the hormonal milieu of women in the long term, it is not surprising that lactation history can affect the likelihood of women developing rheumatoid arthritis.⁹⁹ A very large prospective study found that women who had a lifetime breastfeeding duration of 12 months had a 20% decreased risk of developing the condition and women who had a lifetime breastfeeding duration of 2 years or more had a 50% decreased risk of developing rheumatoid arthritis compared with women who had breastfed for 3 months or less.¹⁰⁰

Ovarian Cancer

Breastfeeding also impacts on the likelihood of women developing ovarian cancer. Research has found that breastfeeding for 2–7 months results in an average 20% reduction in incidence of ovarian cancer (studies have found up to a 50% reduction with the relationship being dose dependent).¹⁰¹

Diabetes

A recent study found that each year of breastfeeding reduces the risk of developing Type 2 diabetes by 15% in young and middle aged women even when BMI and other risk factors are controlled for.¹⁰² It is thought that this may be because breastfeeding improves the stability of glucose levels in women.

99 Zheng T, Duan L, Liu Y, Zhang B, Wang Y, Chen Y, et al. Lactation reduces breast cancer risk in Shandong Province, China. *American Journal of Epidemiology* 2000; 152:1129–1135.

100 Karlson EW, Mandl LA, Hankinson SE, Grodstein F. Do breast-feeding and other reproductive factors influence future risk of rheumatoid arthritis? *Arthritis and Rheumatism* 2004; 50:3458–3467.

101 Lobbok MH. The evidence for breastfeeding: effects of breastfeeding on the mother. *Pediatric Clinics of North America* 2001; 48:143–158.

102 Stuebe AM, Rich-Edwards JW, Willett W, C. , Manson JE, Michels KB. Duration of lactation and incidence of type 2 diabetes. *Journal of the American Medical Association* 2005; 294:2601–2610.

Appendix B

Breastfeeding Friendly Workplace Accreditation

The Breastfeeding Friendly Workplace Accreditation (BFWA) program is an initiative of ABA and forms part of the Association's strategy to create breastfeeding-friendly workplaces and childcare. BFWA provides a consultancy service to employers to ensure the workplace meets the needs of breastfeeding mothers in their workplace. The program aims to remove the workplace as a barrier to initiation and duration of breastfeeding, thereby improving the health and well being of our community.

Accreditation keeps the needs of breastfeeding mothers on the workplace agenda, and is a tool for employers to attract and retain staff returning to work from parental leave. Through consultation and evaluation, the program aims to continually improve workplace conditions by making them more family-friendly.

BFWA builds the reputation of a workplace, set up model employers and delivers innovation for creating a family-friendly workplace. Accreditation helps to build the capacity of workplaces to adapt to the changing labour market by meeting the needs of women who are breastfeeding.

Accreditation is aligned with strategic objectives of corporate social responsibility, attraction and retention, workplace diversity and equal employment opportunity. It gives employees returning to work from parental leave a greater level of confidence in the quality of facilities and support provided. This improves productivity and loyalty, and may result in an earlier return to work, delivering cost savings to the organisation. As breastfed babies become less sick less often, employers also benefit from reduced absenteeism of parents and carers.

For women considering returning to work, accredited workplaces offer employment conditions that mean they don't have to choose between breastfeeding and paid work. Implementation of BFWA creates healthier communities by providing supportive workplace environment to make it easier for women to breastfeed their babies in line with public health recommendations.

How do workplaces gain accreditation?

In order that it is sustainable after grant funding, BFWA is a fee for service consultancy program. Accreditation is based on meeting program criteria and is valid for 12 months. To ensure workplaces continue to comply with criteria, evaluation is conducted annually.

Annual Renewal

Compliance review may be completed by conducting a workplace site audit, telephone interview, written questionnaire or a combination of these. Evaluation of the workplace is carried out for a fee and re-accreditation is awarded on an annual basis. Outcomes of the annual compliance review will determine if improvements or changes are required in order to continue to meet essential components of our criteria. Recommendations may also be made to ensure continuous improvement.

Outcomes to date

Early findings from an evaluation of the program indicate that accredited workplaces report an increased general awareness of breastfeeding amongst employees. They also cite accreditation as an important initiative in reporting to the Equal Opportunity for Women in the Workforce Agency and in employee retention programs.

Evidence shows that the more knowledge women have about breastfeeding, the more likely they are to breastfeed their children. Partner support and attitudes about breastfeeding also impact on a mother's decision to breastfeed. In accredited workplaces, this increased awareness of breastfeeding is reaching women who are pregnant and potentially pregnant, as well as partners of these women.

Due to the heightened awareness of breastfeeding in accredited workplaces, many employers are seeking advice from ABA when planning new office spaces or moving to new premises. ABA provides information on the type of facilities breastfeeding mothers need in the workplace. For example, the space should be clean, private and have space for storage of equipment and a power point for use of electric breast pumps.

Interest in the program is growing. There are almost 60 workplaces accredited across Australia, including government departments, private sector companies and community organisations. ABA has developed a number of resources to promote uptake of the program to employers, and has information for women who wish to continue breastfeeding upon their return to work.

Resources developed to date include:

- An accreditation logo for workplaces to use on recruitment advertising
- An employer brochure which outlines the business case for gaining accreditation
- A 'starter pack' application kit for employers that includes information about breastfeeding
- An information card for women going on maternity leave advising them that their workplace is accredited as breastfeeding-friendly. It also provides phone numbers for ABA's Breastfeeding Helpline
- A caregivers guide to the breastfed baby
- A 'Come Back Pack' — purchased by employers for women going on maternity leave
- A dedicated website with information for mothers, employers and profiles of accredited workplaces — www.breastfeedingfriendly.com.au
- Display banner and posters to promote BFWA at conferences and events.

A formal evaluation of the program is currently being developed with a view to commencement in late 2008.