Australian Health Services Research Institute   Faculty of Business and Law

1-1-2008

Updates to the catalogue of evidence-based strategies for children's health and wellbeing: Part 2

Kate Williams
University of Wollongong, kathrynw@uow.edu.au

Pamela E. Grootemaat
University of Wollongong, pamg@uow.edu.au

David L. Fildes
University of Wollongong, dfildes@uow.edu.au

Malcolm R. Masso
University of Wollongong, mmasso@uow.edu.au

Nick Marosszeky
University of Wollongong, marossz@uow.edu.au

Follow this and additional works at: https://ro.uow.edu.au/ahsri

Updates to the catalogue of evidence-based strategies for children's health and wellbeing: Part 2

Keywords
evidence, strategies, children, health, updates, part, 2, wellbeing, catalogue

Publication Details

CHSD

Centre for Health Service Development

Updates to the catalogue of evidence-based strategies for children's health and wellbeing: Part 2

UNIVERSITY OF WOLLONGONG

Centre for Health Service Development

December, 2008

Kathryn Williams

Pam Grootemaat

Dave Fildes

Malcolm Masso

Nick Marosszeky

Table of Contents

List of Tables

1   Introduction

This is the second of two reports updating the Catalogue of Evidence-Based Strategies for improving the health and wellbeing of Victoria's children. This work was commissioned by the Victorian Department of Education and Early Childhood Development (DEECD) and completed by the Centre for Health Service Development, University of Wollongong. In this report, revised narrative reviews and, where necessary, new catalogue entries are provided for five of the original 15 catalogue indicators.

The five indicators updated in this report are:

- Breastfeeding

- Smoking in the home

- Sun protection

- Kindergarten participation

- Parenting support

1.1 Background

In 2006, CHSD was commissioned by the Victorian Department of Human Services (DHS) to develop a catalogue of evidence-based strategies for the health and wellbeing of children aged 0-8 years. The original catalogue was created for the Best Start program, which has a particular focus on prevention and early intervention with vulnerable families, including socially disadvantaged families, Aboriginal and Torres Strait Islander (ATSI) families, people from culturally and linguistically diverse (CALD) backgrounds, and families living in rural areas.

Best Start projects involve collaborations between local government, community health, non-government organisations, social service agencies, education providers such as schools, child care and kindergartens (preschools), and other community organisations such as service clubs and churches. The goals of Best Start are to promote:

- Improvements in access to child and family support, health services and early education for families and children

- Improvements in parents' capacity, confidence and enjoyment of family life

- Communities that are more child- and family-friendly

The catalogue now has wider application beyond the Best Start program, and is a key element in the Victorian Child and Adolescent Monitoring System (VCAMS), providing practical guidance to policy makers and program developers. Nevertheless, the above goals, priorities and service delivery models remain relevant. It is available via the web at:

http://www.education.vic.gov.au/ocecd/catalogue_of_evidence.html

1.2 Purpose of the updates

The catalogue is promoted by the DEECD as a dynamic document which is regularly updated.

Our task in updating the catalogue was to check whether any relevant, new evidence had emerged in the academic or grey literature for each of the five indicators being reviewed. This may mean adding a new strategy and catalogue entry for an indicator, instead of or in addition to existing strategies. Narrative reviews would be updated, and we would revisit the evidence both for the recommended strategies and those that were mentioned in the catalogue but missed out on inclusion last time. Our searches may turn up an innovative and well-evaluated new strategy to include, although this would not necessarily be the case for each indicator.

2   Methods

The following sections set out methods for updating the searches for each indicator.

2.1 General approach and documentation

The scope of our literature searches was time-limited (2006-2008) and focused, as described below.

First, we looked at the recommended strategies in the existing catalogue. We checked whether any new evidence had appeared to support or discount the use of these programs. We used the contact information in the catalogue entries to check websites and/or email contact people to look for new reports or journal articles. We scanned our bibliographic database search results for articles about these programs.

Second, we looked at the strategies described in the narrative reviews but not included in the catalogue and checked for new evidence that might suggest we should reconsider inclusion.

Finally, we used bibliographic databases and targeted web-based searching to look for any promising new strategies not previously identified.

For each indicator, we devised a search checklist, which was a worksheet within an Excel file. This set out the databases and websites we believed would be useful for that indicator. Team members were encouraged to explore the web further and to record any sites that proved useful.

2.2 Search strategies

Each catalogue indicator has a documented search strategy for bibliographic databases, designed by a university librarian. These can be found in the appendix to the catalogue's Technical Report. Many of these searches used Scopus, which is no longer available at the University of Wollongong library. Consequently, we ran the searches in the databases which together made up the Scopus database, namely Medline, Psychinfo, CINAHL, Cochrane Library and, for some indicators, ERIC.

The following limiters were added to these title and keyword searches:

- Publication year 2006-2008
- English language
- Peer-reviewed journal (where available)

If necessary, additional limiters were added to define the age of the study participants (that is, to find only studies evaluating interventions for children aged 0-8 years).

Citations were culled initially on title and then on a reading of the abstracts. Selected citations were downloaded to EndNote, a program for managing references.

In addition to a list of suggested websites, team members searched the internet for policy and practice literature (government reports, university and research institute studies, clearinghouses and so on) relevant to the indicator and to the specific strategies included in the original catalogue.

3 Updated narrative reviews and catalogue entries

3.1 Increased rate of breastfeeding

A redesigned search was run in Medline and CINAHL with the following keywords: breastfeed* AND (interven* OR promot* OR encourag*) AND (program* OR project OR evaluat*). Searches were limited to 2006-2008 and English language. After scanning titles, 49 and 14 citations were downloaded from Medline and CINAHL respectively (the number for the latter database was reduced because of some overlap with the Medline results). The Cochrane Database of Systematic Reviews was searched for 'breastfeeding' in the review title. In addition, practice and policy literature was obtained by searching Google for 'breastfeeding' (limited to .gov.au). Specific websites were also searched, including the Australian Breastfeeding Association (ABA) and its Lactation Resource Centre (with a hand search of the journal *Breastfeeding Review),* Communities and Families Clearinghouse Australia (hosted by the Australian Institute for Family Studies) the Promising Practices Network (Rand Corporation, US) and the EPPI-Centre (UK). A telephone conversation with Pam Halnon of the ABA provided additional information.

3.1.1 Background

Breast milk is the "physiologically normal" food for human infants (Berry and Gribble, 2008, p. 78). Support for the importance of breastfeeding for the short- and long-term development of infants is very well established (WHO, 1998; RACP, 2006). There is strong evidence that non-breastfed babies are more likely to suffer ear, gastrointestinal and urinary tract infections, diabetes and childhood leukemia and are at greater risk of Sudden Infant Death Syndrome (Dyson, McCormick and Renfrew, 2005; Chung, Raman, Trikalinos, Lau and Ip, 2008). Children who are fed infant formula are also more likely to become overweight or obese later in life, while mothers who do not breastfeed have an increased risk of developing breast or ovarian cancer (Chung et al., 2008).

Current National Health and Medical Research Council (NHMRC) recommendations are for sole breastfeeding until six months of age, and continuation of breastfeeding until age two or beyond with appropriate complementary feeds (NHMRC, 2003). Nevertheless, a recent parliamentary inquiry noted that only a small proportion of Australian babies are exclusively breastfed to six months of age (House of Representatives, 2007). Various reasons were suggested, including consistency of advice; beliefs about infant formula; and the level of community support. The report also noted that "with the right advice and appropriate support it seems that many would breastfeed for longer" (HoR, 2007, p.4).

The most recent national data on breastfeeding in Australia comes from the 2001 National Health Survey (Australian Bureau of Statistics, 2003). Although the vast majority (87%) of children aged 0-3 at the time of the survey had had some breast milk and just over half (54%) of infants aged 0-3 months were fully breastfed, no infants at age six months were being exclusively breastfed.

The NHMRC (2003) has identified four strategy areas for the promotion and support of breastfeeding, one of which is to strengthen breastfeeding friendly communities and families. Two key processes are required to 'scale up' exclusive breastfeeding: (1) an evidence-based policy and science-driven technical guidelines; and (2) an implementation strategy and plan focusing on all strata of society, with sustainability built in (Bhandari, Kabir and Salam, 2008).

3.1.2 The evidence base

There have been numerous randomised controlled trials and several Cochrane Collaboration and other systematic reviews in this area, providing relatively strong evidence to indicate that interventions can be effective in the establishment and duration of breastfeeding. Such initiatives need to include multiple strategies (Quinn et al. 2005) and can in some cases demonstrate increasing effectiveness over time (Gau, 2004).

Dyson and colleagues (2005) reviewed the evidence for interventions designed to improve breastfeeding initation rates. Among low-income women in the United States – groups with

traditionally low rates of breastfeeding – antenatal or postnatal health education was effective. The reviewers concluded that larger effects are likely when the education is informal, tailored to the mother's needs, and delivered one-to-one by a trained peer counsellor or professional (Dyson et al., 2005). Antenatal education delivered in a group setting is not effective, unless it is interactive (Hannula, Kaunonen and Tarrka, 2008).

One study demonstrated that peer support for those planning to breastfeed increased the number who actually initiated breastfeeding, compared with a comparison group (Dyson et al., 2005).

Successful approaches in maternity hospitals include practical, hands-off teaching, but only if this is encouraging and empowering to women. Education focusing only on technical aspects without support is not effective (Hannula et al., 2008). The World Health Organisation (WHO) Breastfeeding Friendly Hospitals Initiative is well supported by evidence, both of increased initiation and greater duration of breastfeeding (Hannula et al., 2008).

Effective postnatal interventions include home visits, telephone support, breastfeeding centres and a combination of peer and professional support (Hannula et al., 2008). Continuation of breastfeeding can be promoted in areas with low baseline rates by either professional or peer support, or a combination of the two, although the most effective components of this support are still unclear (Britton McCormick Renfrew Wade and King, 2007).

Short- and long-term breastfeeding rates can be improved by combining antenatal and postnatal interventions and by including peer or lay support in a multi-component program (Chung et al., 2008).

3.1.3   Selection of interventions

The interventions reviewed here fall into two broad groups: hospital-focused strategies and community-focused strategies delivered by professionals and volunteers.

Most widely recognised and used is the World Health Organisation's Breastfeeding Friendly Hospital Initiative (BFHI) (WHO, 1998). This initiative identifies 10 steps to successful initiation of breast feeding, which have been implemented in various ways throughout the world. Evidence exists for improved effectiveness when the involved hospitals are externally audited for compliance and their involvement over a period of time (Gau, 2004). Evidence is also available to support the various strategies recommended by the WHO, such as the review by Perez-Escamilla et al. (1994) of the infant feeding policies in maternity wards and their effect on breastfeeding success.

Studies report that the effectiveness of the BFHI in initiating breastfeeding is not sustained once the mother and infant leave the hospital (Coutinho et al. 2005; Gau, 2004). Surveys of BFHI hospitals in Australia (Walsh, Pincombe and Stamp, 2006) and the United States (Rosenberg, Stull, Adler, Kasehagen and Crivelli-Kovach, 2008) have shown that despite accreditation, some hospitals are not implementing all of the 10 steps. Mothers who experience more of these breastfeeding-friendly hospital practices tend to continue breastfeeding for longer (Walker, 2007; Rosenberg et al., 2008).

Community support programs need to be implemented to support maintenance of breastfeeding for the recommended six months of sole breastfeeding, with continuation into the second year and beyond. Strong evidence exists for the impact of antenatal education by health professional staff (nurses and lactation specialists) (Guise et al. 2003; Lana, Lamounier and Cesar 2003). The education interventions reviewed by Guise and colleagues (2003) had structured content and were delivered by professionals (nurses or lactation specialists) in sessions ranging from 30 to 90 minutes. Such interventions were found to increase short- and long-term duration of breastfeeding. This same meta-analysis identified that written materials alone had no effect and when used in conjunction with education did not increase the effectiveness of the education alone. This has important implications for the education of pregnant women (and others), when busy health professionals hand out printed materials or, increasingly, identify websites for information, rather than provide the personal education themselves. Gau (2004) also found that women prefer

to receive information about breastfeeding from nurses (58.6%) and doctors (46%), and that breastfeeding initiation and duration was directly proportional to mothers' breastfeeding knowledge and attitude.

There is also some evidence that extension of health care services through either home visits (Barros et al. 1994; Coutinho et al. 2005) or community and health worker mobilisation to support breastfeeding (Bhandari et al. 2005) has a significant impact on breastfeeding duration. A randomised controlled trial of home visits to women at five, ten and twenty days after birth found delayed introduction of bottle feeding (90 days versus 60 days, p = 0.01) and greater duration of breastfeeding (120 days versus 105 days, p = 0.03) (Barros et al. (1994).

Bhandari and colleagues (2005) conducted a randomised trial of paired communities designed to test the impact of health and nutrition worker training to counsel women at multiple contact points in the community. The training package used was the WHO integrated management of childhood illness training manual, *Counselling the Mother*, which included specific guidance relating to breastfeeding. The most effective avenue for counselling varied with the age of the baby. At three months of age, immunisation clinics (56.7%) and home visits (28.4%) were the most common sources of counselling, while at nine months of age, home visits (48.6%), weigh sessions (31.3%) and immunisation sessions (27.1%) were more common. Clearly mapping new mothers' contact points with services and targeting those services with training may prove an effective strategy to help maintain breastfeeding.

Large scale, multi-strategy, community-based interventions have also demonstrated significant improvements in the initiation and maintenance of exclusive breastfeeding. A study by Quinn et al. (2005) reported on the effectiveness of the Linkages Project, a broad scale community-based intervention in Africa and Latin America. Significant improvements were achieved in the initiation of breastfeeding within one hour of birth and also in the exclusivity of breastfeeding of infants from birth to six months of age. Population reach was one million in Bolivia, 3.5 million in Ghana and six million in Madagascar. The projects aimed to maximise existing government and NGO resources and focussed on four main community components - building partnerships, capacity building, behaviour change communication and community activities to reach mothers, together with training, monitoring and evaluation. Improvements were detected as early as nine months after initiation of the programs.

The literature has some information on the impact of community-based peer support programs. Peer support is defined as "an approach in which women who have personal, practical experience of breastfeeding offer support to other mothers" (Phipps, 2006). The Australian Breastfeeding Association (formerly Nursing Mothers Association of Australia) has been providing peer support by volunteers since 1964. There has been no systematic evaluation of the effectiveness of its strategies. However, a recent review for the United States Preventive Services Task Force (Chung et al., 2008) concluded that interventions with a component of lay or peer counselling or support were more effective than usual care, at least in the short term. Their meta-analysis suggested that the rate of any breastfeeding increased by 22% (CI, 8% to 48%) and the rate of exclusive breastfeeding rose by 65% (CI, 3% to 263%) when peer support was provided.

A small (N = 130 women) randomised community-based intervention in Mexico City studied the effect of home-based peer counselling on duration of breast feeding rates (Morrow et al. 1999). Significant differences in the rate of exclusive breastfeeding at three months were found between the women who received peer counselling visits compared with the mothers who did not receive the visits. This same result was not found with a similar, quasi-experimental study in Glasgow (McInnes, Love and Stone, 2000). A randomised trial involving 225 women in Ayrshire, Scotland, found that peer support did not significantly increase breastfeeding in the first 120 days after birth (Muirhead, Butcher, Rankin and Munley, 2006).

One difficulty with evaluating peer support is the variety of ways in which it is delivered, and how peer counsellors are trained, in different studies. For example, peer counsellors in the Ayrshire study received two full days and four evenings of training, plus regular follow-up sessions to

discuss cases (Muirhead et al., 2006). This contrasts with the training undertaken by the ABA's volunteer breastfeeding counsellors, who complete a Certificate IV course over a period of at least 12 months. The ABA is currently developing a comprehensive national training program for peer support workers from CALD and Indigenous backgrounds. This will be a Certificate II course incorporating units from the mainstream counselling training (Pam Halnon, personal communication, 25 November 2008). It is notable that positive effects were found in the Mexican study in which peer counsellors were trained by the La Leche League and provided one-to-one visits (Morrow et al., 1999) and in a Scottish study involving home visitors and midwives as facilitators of peer support groups (Hoddinott, Lee and Pill, 2006).

Breastfeeding support groups run locally under the auspices of the ABA are another medium for providing peer support. In its submission to the recent parliamentary inquiry, the ABA noted that the groups 'normalise' the experience of breastfeeding and provide psychosocial support as well as tips on making breastfeeding easier and more relaxed (HoR, 2007).

A systematic review of proactive telephone support found that this strategy positively influenced duration of all and of exclusive breastfeeding (Dennis and Kingston, 2008). The 24-hour helpline service provided by ABA volunteers is reactive – that is, mothers telephone when they require advice or reassurance. Australian Government funding has been allocated to make this helpline into a toll-free national service.

The workplace, although recognised as an important, negative, influence on breastfeeding continuation, does not appear to have been a location for breastfeeding interventions or their evaluation. This area should continue to be monitored, as government workplaces at least could provide useful locations for pilot interventions and possible role models for private sector in the future.

3.1.4 Discussion

Breastfeeding has been identified as a fundamental base on which a person's future health is founded. It is so fundamental that perhaps it has not been given the due recognition by the community and health services that it deserves. Breastfeeding rates by Australian women are not optimal for good health of their infants and yet it is a single issue intervention that could become a clear focus for public health intervention. This will require a strong commitment by health leaders and health professionals, and decisive interventions at two key points – leading up to and during the immediate post birth period, when hospital policies and health professionals have a significant role to play, and on-going support for at least the first six months of age, utilising existing community-based services, non-government organisations and trained lactation support counsellors. A combination of full implementation of the WHO BFHI strategies, health professional training, personal education of mothers by health professionals and then broadly based community support is required.

3.1.5 References

Australian Bureau of Statistics (2003) Breastfeeding in Australia 2001. Canberra: Australian Bureau of Statistics. Downloaded 25/11/08 from http://www.abs.gov.au

Barros FC, Halpern R, Victora CG, Teixeira AM and Beria JU (1994) *Promotion of breastfeeding in urban localities of southern Brazil: a randomized intervention study.* Revista de Saude Publica. Vol.28, No.4, pp.277-283.

Berry NJ and Gribble KD (2008) Breast is no longer best: promoting normal infant feeding. Maternal and Child Nutrition, Vol. 4, pp. 74-79.

Bhandari N, Kabir AKMI and Salam MA (2008) Mainstreaming nutrition into maternal and child health programmes: scaling up of exclusive breastfeeding. Maternal and Child Nutrition, Vol. 4, pp. 5-23.

Bhandari N, Mazumder S, Bahl R, Martines J, Black RE, Bhan MK, and other members of the Infant Feeding Study Group (2005) *Use of multiple opportunities for improving feeding practices in under-twos within child health programs.* Health Policy and Planning. Vol.20, No.5, pp.328-336.

Britton C, McCormick FM, Renfrew MJ, Wade A and King SE (2007) Support for breastfeeding mothers. Cochrane Database of Systematic Reviews, Issue 1, Art. No.: CD001141. DOI: 10.1002/14651858.

Bryant CA (1982) *The impact of kin, friend and neighbour networks on infant feeding practices. Cuban, Puerto Rican and Anglo families in Florida.* Social Science Medicine. Vol.16, pp.1757-1765.

Cardenas RA and Major DA (2003) *Combining employment and breastfeeding: utilizing a work-family conflict framework to understand obstacles and solutions.* Journal of Business and Psychology. Vol.20, No.1, pp.31-51.

Chung M, Raman G, Trikalinos T, Lau J and Ip S (2008) Interventions in primary care to promote breastfeeding: an evidence review for the US Preventive Services Task Force. Annals of Internal Medicine, Vol. 149, pp. 565-582.

Coutinho SB, de Lira PIC, de Carvalho Lima M and Ashworth A (2005) *Comparison of the effect of two systems for the promotion of exclusive breastfeeding.* The Lancet. Vol.366, pp.1094-100.

Dennis CL and Kingston D (2008) A systematic review of telephone support for women during pregnancy and the early postpartum period. JOGNN, Vol. 37, pp. 301-314.

Dyson L, McCormick FM and Renfrew MJ (2005) Interventions for promoting the initiation of breastfeeding. Cochrane Database of Systematic Reviews, Issue 2, Art. No. CD001688. DOI: 10.1002/14651858.

Gau ML (2004) Evaluation of a lactation intervention program to encourage breastfeeding: a longitudinal study. International Journal of Nursing Studies. Vol.41, pp.425-435.

Guise JM, Palda V, Westhoff C, Chan BKS, Helfand M and Lieu TA (2003) The Effectiveness of Primary Care-Based Interventions to Promote Breastfeeding: Systematic Evidence Review and Meta-Analysis for the US Preventative Services Task Force. Annals of Family Medicine. Vol.1, No.2, pp.70-80.

Hannula L, Kaunonen M and Tarkka MT (2008) A systematic review of professional support interventions for breastfeeding. Journal of Clinical Nursing, Vol. 17, pp. 1132-1143.

Hector D, Webb K and S Lymer (2005) State of Food and Nutrition in NSW Series. Report on breastfeeding in NSW 2004. N. Health, NSW Centre for Public Health Nutrition.

Hoddinott P, Lee AJ and Pill R (2006a) Effectiveness of a breastfeeding peer coaching intervention in rural Scotland. Birth, Vol. 33, pp. 27-36.

Hoddinott P, Pill R and Chalmers M (2006b) Health professionals, implementation and outcomes: reflections on a complex intervention to improve breastfeeding rates in primary care. Family Practice, Vol. 24, pp. 84-91.

House of Representatives (2007) The Best Start. Report on the inquiry into the health benefits of breastfeeding. Canberra: House of Representatives Standing Committee on Health and Ageing.

Lana APB, Lamounier JA and Cesar CC (2004) The impact of a breastfeeding promotion program at a health center. Journal de Pediatria. Vol.80, No.3, pp.235-240.

Madden, J. M., Soumerai, S.B., Lieu, T.A., Mandl, K.D., Zhang, F., Ross-Degnan, D. (2003). "Effects on Breastfeeding of Changes in Maternity Lengh-of-Stay Policy in a Large Health Maintenance Organization." Pediatrics 111(3): 519-524.

McInnes RJ, Love JG and Stone DH (2000) *Evaluation of a community-based intervention to increase breastfeeding prevalence.* Journal of Public Health Medicine. Vol.22, No.2, pp.138-145.

Morrow A, Guerrero ML, Shults J, Calva J, Lutter C, Bravo J, Ruiz-Palacios G, Morrow R and Butterfoss F (1999) *Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised controlled trial.* The Lancet. Vol.353, No.9160, pp.1226-31.

Muirhead PE, Butcher G, Rankin J and Munley A (2006) The effect of a programme of organised and supervised peer support on the initiation and duration of breastfeeding: a randomised trial. British Journal of General Practice, Vol. 56, pp. 191-197.

National Health and Medical Research Council (2003) *Dietary guidelines for children and adolescents in Australia incorporating the Infant feeding guidelines of Health workers.* National Health and Medical Research Council, Commonwealth of Australia.

Perez-Escamilla R, Pollitt E, Lonnerdal B and Dewey K (1994) *Infant feeding policies in maternity wards and their effect on breastfeeding success: An analytic overview.* American Journal of Public Health. Vol.84, No.1, pp.89-97.

Phipps B (2006) Peer support for breastfeeding in the UK. British Journal of General Practice, Vol. 56, pp. 166-167.

Quinn VJ, Guyon AG, Schubert JW, Stone-Jimenez M, Hainsworth MD and Martin LH (2005) *Improving breastfeeding practices on a broad scale a the community level: Success stories from Africa and Latin America.* Journal of Human Lactation. Vol.21, No.3, pp.345-354.

Quinn VJ, Guyon AG, Schubert JW, Stone-Jimenez M, Hainsworth MD and Martin LH (2005) *Improving breastfeeding practices on a broad scale a the community level: Success stories from Africa and Latin America.* Journal of Human Lactation. Vol.21, No.3, pp.345-354.

Raine, P. (2003). "Promoting breastfeeding in a deprived area: the influence of a peer support initiative." Blackwell Synergy: Health & Social Care in the community 11(6): 463.

Rosenberg KD, Stull JD, Adler MR, Kasehagen LJ and Crivelli-Kovach A (2008) Impact of hospital policies on breastfeeding outcomes. Breastfeeding Medicine, Vol. 3, pp. 110-116.

The Royal Australian College of Physicians (2006). Paediatric Policy. Breastfeeding.

Stover, R. (2006). Best Start Breastfeeding Project July 2004 - December 2005. M. C. Council, Maribyrnong City Council.

Vittoz, J.-P., Labarere, J., Castell, M., Durand, M., and Pons, J-C. (2004). "Effect of a training program for maternity ward professionals on duration of breastfeeding." Birth 31(4): 302-307.

Walker M (2007) International breastfeeding initiatives and their relevance to the current state of breastfeeding in the United States. Journal of Midwifery and Women's Health, Vol. 52, pp. 549-555.

Walsh AD, Pincombe J and Stamp GE (2006) The ten steps to successful breastfeeding in Australian hospitals. Breastfeeding Review, Vol. 14, pp. 25-31.

Witters-Green, R. (2003). "Increasing breastfeeding rates in working mothers." Families, Systems and Health 21(4): 415-434.

World Health Organisation (1998) *Evidence for the Ten Steps to Successful Breastfeeding*. Division of Child Health and Development, WHO.

3.1.6 Updated evidence table (Breastfeeding)

Table 1   Increased rate of breastfeeding: recommended strategies

	Supporting evidence	Replication	Documentation	Theoretical basis	Cultural reach
(1.1) Breastfeeding Friendly Hospital Initiative	1	Y	Y	Y	LOW SES CALD
(1.2) Community Outreach	1	Y	Y	Y	LOW SES CALD
(1.3) Multi-strategy, community intervention	1	Y	N	Y	UNIVERSAL
(1.4) Health professional education initiatives	1	Y	Y	Y	UNIVERSAL
(1.5) Peer Support	2	Y	Y	Y	UNIVERSAL

Key

Supporting evidence:
1. Well supported practice – evaluated with a prospective randomised controlled trial.
2. Supported practice – evaluated with a comparison group and reported in a peer-reviewed publication.
3. Promising practice – evaluated with a comparison group.
4. Acceptable practice – evaluated with an independent assessment of outcomes, but no comparison group (e.g., pre- and post-testing, post-testing only, or qualitative methods) or historical comparison group (e.g., normative data).
5. Emerging practice – evaluated without an independent assessment of outcomes (e.g., formative evaluation, service evaluation conducted by host organisation).

Replication:
Has the intervention been implemented and independently evaluated at more than one site? (yes or no)

Documentation:
Are the content and methods of the intervention well documented (e.g. provider training courses and user manuals) and standardised to control quality of service delivery? (yes or no)

Theoretical basis:
Is the intervention based upon a well accepted theory or developed from a continuing body of work in its field? (yes or no)

Cultural reach:
Has the program been trialled with people in disadvantaged communities, Indigenous people and/or people from culturally and linguistically diverse backgrounds? (LOW SES/INDIGENOUS/CALD)

3.1.7 Updated catalogue entry (Breastfeeding)

Recommended Strategy 1.5: Increased rate of breastfeeding	
Name of intervention	Peer-support
Organisation	Australian Breastfeeding Association
Brief literature review	The Australian Breastfeeding Association (ABA) (formerly Nursing Mothers Association of Australia) has been providing peer support to Australian mothers since 1964. Its primary aim is to provide mother-to-mother support through a network of local groups and voluntary counsellors, who assist breastfeeding women through face-to-face and telephone counselling and the provision of written materials. ABA breastfeeding counsellors are experienced mothers who have completed an intensive training program and have successfully breastfed their own children. They are bound by a code of ethics.
How and why does this intervention work?	Peer support works by providing timely assistance when it is needed. Although the ABA has been operating for some decades, and is based on the work of the La Leche League in the USA, its work has not been formally evaluated. Nevertheless, its website states that: "the Association is supported by health authorities and specialists in infant and child health and nutrition, including a panel of distinguished honorary advisers. ABA is recognised internationally as a source of accurate information about breastfeeding management and research" (www.breastfeeding.asn.au). The literature has some information on the impact of community-based peer support programs, but findings are mixed. A small (n = 130 women) randomised community-based intervention in Mexico city studied the effect of home-based peer counselling (trained by the La Leche League) on duration of breastfeeding (Morrow et al 1999). Women who received peer counselling visits were significantly more likely to be still breastfeeding their child at three months of age compared with women who did not receive the visits. However, this same result was not found with a similar, quasi-experimental study in Glasgow (McInnes, Love, Stone 2000).
On what population does this intervention work best?	This is a universal approach targeting all pregnant women and new mothers.
Where will this intervention work best?	Where a peer support organisation is well established, it can complement the professional advice given in health care settings.
What is required to implement this intervention?	Effective communication between health services and the peer support organisation is desirable.
Resources and contact information	Australian Breastfeeding Association, www.breastfeeding.asn.au
References	Bryant 1982 McInnes, Love, Stone 2000 Morrow et al 1999 Hoddinott et al., 2006a, 2006b Chung et al., 2008

3.2 Decreased rate of children exposed to tobacco smoke in the home

The literature search strategy for this topic was redesigned to include more comprehensive and relevant use of databases and terms. Databases included in the current search included the Cochrane Library, CINAHL, Medline 1996+, PsychInfo and APA-FT. The Australasian Medical Index was not included in the search as it was not available. Terms used for this search included ((smoking cessation OR tobacco OR relapse prevention) AND evaluation AND (infan* OR child) AND (environmental tobacco smoke OR passive smoking)). The search was limited to literature published since the previous review and included the years 2006 to 2008. A total of 74 relevant articles were identified in the database search. Additional websites were searched to include policy and practice literature and included:

- The Promising Practices Network

- Department of Human Services, Victoria

- Australian Government Department of Family and Community Services

- Australian Government Department of Health and Ageing

No new material relevant to the topic was identified through these websites. A general Google search was also conducted using terms from the database searches above but no additional information relevant to the topic was identified.

3.2.1 Background

The US Surgeon General's report found that environmental tobacco smoke caused disease in non-smokers and that exposed children were more likely to suffer respiratory problems (US Department of Health and Human Services, 1986). The home is the most significant source of exposure to ETS (environmental tobacco smoke) for children (Gehrman and Hovell, 2003). In the US estimates suggest that almost 40% of children younger than five years live with a smoker (Emmons et al, 2001).

Childhood exposure to ETS is associated with an increased prevalence of asthma among adult never-smokers, children exposed to ETS are more likely to become smokers and ETS is a major contributor to lower airway irritants (Larsson et al, 2001). Research has shown that ETS is an important contributor to SIDS with smoking households over-represented among SIDS cases (Golding, 1997). Mansi et al (2007) found that infant behaviour and irritability was affected by prenatal and neonatal ETS exposure. A recent review by Wigle et al (2008) found that there was sufficient evidence to prove a causal relationship between prenatal exposure to ETS and preterm birth as well as childhood exposure to ETS and SIDS, new-onset asthma, increased asthma severity, lung and middle ear infections and adult breast and lung cancer.

An Australian survey found that in 1997 42% of smokers always or usually smoked outside, 33% sometimes smoked outside and sometimes inside and 25% usually or always smoked inside (Trotter and Mullins, 1998).

A Dutch study found that maintaining non-smoking behaviour in the presence of the child was more successful in households where only one parent smoked (Crone et al, 2003). They concluded that this was because the non-smoking parent can support and motivate the smoking parent and it is more difficult to change behaviour when both parents smoke (Crone et al, 2003).

An Australian survey found that in households with children where there is an adult in the house that does not smoke 43% of smokers reported that they smoke outside as opposed to 18% of smokers in households where there are no non-smoking adults (Trotter and Mullins, 1998). In addition the prevalence of exposure of children to ETS tends to be lower among mothers with a higher education level (Crone et al, 2003).

Attendance at kindergarten/preschool is an important protective factor for children in smoking households, with children being less exposed to ETS during the week than on the weekend (Kukla et al, 2008).

3.2.2   The evidence base

Although there has been an increase in the prevalence of smoke free environments in the home and private cars a significant proportion of children remain unprotected in these environments (VicHealth Centre for Tobacco Control, 2002).

A review of strategies to reduce exposure to ETS found that smoking bans and restrictions were effective (Task Force on Community Preventive Services, 2001).

The most effective interventions include non-confrontational media campaigns for promoting the social desirability of smoking control within the home and car where children are present with focussed, clinical interventions necessary only with people who have been unable to comply with bans and restrictions (VicHealth Centre for Tobacco Control, 2002).

An analysis of media themes in relation to smoking in cars in Australia (Freeman et al 2008) found that seventy-nine percent supported the banning of smoking in cars. An Australian study of opinions about tobacco regulation (Carter & Chapman 2008) found that the strongest support from both smokers and non-smokers was for banning smoking in cars carrying children. Protecting children who were more vulnerable to smoke was the major reason for support of this option.

Clinical ETS interventions can be effective in reducing home exposure for children (Gehrman and Hovell, 2003; Crone et al, 2003). A child's clinic visit appears to be the most effective time to reach parents who smoke (Winickoff et al, 2003a; Winickoff et al, 2003b). Winickoff et al (2008) reported on the development and evaluation of the Clinical Effort Against Secondhand Smoke Exposure (CEASE) intervention. The authors argued that CEASE provides a conceptually grounded and focus group–tested strategy for parental tobacco control that is available for implementation in the paediatric outpatient setting. A clinical trial of the program is currently in progress.

Physicians may not necessarily ask parents about their smoking status. Dake et al (2006) found that one in seven paediatricians did not ask the parents of their patients about their smoking status and one in four saw the practice as a waste of time in spite of 80% stating that ETS in the home was a serious health problem for children. Dake et al (2006) argued that paediatricians need more training to better prepare them to assist parents with quitting smoking.

Vokes et al (2006) found that emergency physicians were likely to gather information about smoking but not to counsel or advise patients to quit and questioned whether emergency medicine resident training should include additional emphasis on smoking cessation counselling and motivational interviewing techniques.

Interventions using a five-step procedure in counselling parents appear to be effective (Crone et al, 2003; Fossum, Arborelius and Bremberg, 2004). These strategies typically involve asking about smoking at home and in the presence of children, discussing the health consequences of ETS exposure to children, assessing readiness to change and what possible changes might be, supporting change and help to remove barriers and deal with problems, follow-up and support for behaviour changes (Crone et al, 2003; Fossum, Arborelius and Bremberg, 2004).

A number of tests have been developed to measure the level of exposure to tobacco smoke for those who smoke and those who are exposed to ETS. Some of these tests have been used to enhance interventions for ETS in the home. A US study that involved taking children's hair samples for nicotine testing than a home visit to provide feedback about nicotine and counselling as well as mailed out material and a supportive telephone call showed a statistically significant reduction in hair nicotine levels (Woodruff et al 2007). The authors stated that the approach warranted further study with a more rigorous design. Ekerbicer et al (2007) found that informing parents of their child's laboratory tested level of exposure to ETS was enough to induce a promising reduction in the child's exposure to ETS. Lichtenstein et al (2008) found that offering a free radon test for smoking households was a useful way of engaging these households in a

smoking reduction program and the establishment of inside smoking bans when there were children in the home.

Other interventions aimed at reducing ETS in the home have had mixed results. The evaluation of a pre- and post-natal program developed in China aimed at reducing second-hand smoke in the home (Lee 2008) found that the program significantly increased knowledge, changed attitudes towards disapproval of smoking in the home and increased the likelihood of taking assertive action to reduce smoke in the home. The program included a series of motivational and patient communication activities, a resource booklet, clinician counselling, telephone hotline and regular telephone counselling.

Stepans et al (2006) describe the implementation of a smoking hygiene intervention with breastfeeding mothers who smoked. The intervention included bans on the infant being in the same room as anyone who was smoking, the mother timing smoking episodes to be immediately after breastfeeding or at least 90 minutes before breastfeeding, placing a room air cleaner in the infant's room and not smoking in the car when the infant is in the car. Only 27% of mothers in the intervention group routinely implemented the smoking hygiene principles. The authors stated that attrition was a problem but that it was also important for mothers to realise how smoking affects their baby or otherwise efforts to reduce exposure to ETS may be fruitless (Stepans et al 2006).

3.2.3 Selection of interventions

The **Newborns Asthma and Parental Smoking Project (NAPS)** is a Western Australian project aimed at reducing wheeze and asthma in newborns by addressing parental smoking and passive smoking. The project included
- Provision of resources directly to pregnant women
- Training of Child health nurses
- Provision of resources to pharmacists
- Provision of resources to GP's and
- Local media strategies.

Evaluation of the project showed that the most effective strategies were those employed within the existing health service (VicHealth Centre for Tobacco Control, 2002).

The Stop Tobacco Outreach Program (STOP) used a prospective cohort design to provide an intervention to smoking parents of children admitted to hospital for a respiratory illness. The intervention included an initial motivational interview, written material, nicotine replacement therapy, telephone counselling and a fax referral to the parents primary clinician (Winickoff et al, 2003a)

The ETS and Children Project aims to reduce exposure of children and infants aged 0-6 years to environmental tobacco smoke in homes and cars in NSW (The Cancer Council NSW). The project is primarily aimed at parents and carers of children aged 0-6 years. Objectives of the project are:
- to increase awareness among parents and carers of the health effects of ETS on children and infants,
- increase knowledge of strategies to reduce exposure in cars and homes,
- increase the number of households with smoking bans or restrictions in the presence of children and infants and
- increase the number of professionals identifying infants and children at risk of ETS exposure and providing information and advice to parents and carers.

Surveys conducted as part of the project evaluation showed that the percent of smoke free homes rose from 46.9% in 2002 to 73% in 2005 and the percent of smoke free cars rose from 42.8% in 2002 to 60.7% in 2005 (http://www.smokefreezone.org/).

3.2.4 Discussion

The normalisation of smoking bans and restrictions has been successful in reducing the general exposure of individuals to ETS. Where children are concerned the home and private vehicles are the main contributors to childhood exposure to ETS. Clinical interventions that can be accessed

by parents during pre and post natal visits and child health visits to health services provide an avenue to assist adults to reduce their child's exposure to ETS when they have not been able to quit smoking or to comply with bans and restrictions. In addition tests for exposure to ETS can enhance in-home interventions, although it may be difficult to maintain the participation of some groups of smokers. Providing smokers with specific information on the health effects of ETS to infants and children remains one of the most important aspects of encouraging the reduction of ETS in the home and the car.

3.2.5 References

Carter SM & Chapman S, 2006. Smokers and non-smokers talk about regulatory options in tobacco control. *Tobacco Control*; 15: 398-404.

Crone M, Reijneveld S, Willemsen M, Hira Sing R, 2003. Parental education on passive smoking in infancy does work. *European Journal of Public Health*, 13: 269-274.

Dake JA, Price JH & Jordan TR, 2006. Pediatricians' practices regarding smoking cessation among parents of their patients. *American Journal of Health Behavior*; 30(5): 503-512.

Emmons K, Hammond K, Fava J, Velicer W, Evans J, Monroe A, 2001. A randomised trial to reduce passive smoke exposure in low-income households with young children. *Pediatrics*, 108 (1): 18-24.

Ekerbicer HC, Celik M, Guler E, Davutoglu M 7 Kilinc M, 2007. Evaluatin environmental tobacco smoke exposure in a group of Turkish primary school students and developing intervention methods for prevention. *BMC Public Health*; 7:202.

Fossum B, Arborelius E and Bremberg S, 2004. Evaluation of a counselling method for the prevention of child exposure to tobacco smoke: an example of client-centred communication. *Preventive Medicine*, 38: 295-301.

Freeman B Chapman S & Storey P, 2008. Banning smoking in cars carrying children: an analytical history of a public health advocacy campaign. Australian and New Zealand Journal of Public Health; 32(1): 60-65.

Gehrman C & Hovell F, 2003. Protecting children from environmental tobacco smoke (ETS) exposure: A critical review. *Nicotine and Tobacco Research*, 5: 289-301.

Golding J, 1997. Sudden infant death syndrome and parental smoking – a literature review. *Paediatric and Perinatal Epidemiology*, 11: 67-77.

Kukla L, Hruba D & Tyrlik M, 2008. Trends in respiratory mobidity of children in relation to their passive smoking exposure. *Casopis Lekaru Ceskych*; 147(4): 215-21.

Larsson M, Frisk M, Hallström J, Kiviloog J, Lundbäck B, 2001. Environmental tobacco smoke exposure during childhood is associated with increased prevalence of asthma in adults. *Chest*, 120: 711-717.

Lee AH, 2008. A pilot intervention for pregnant women in Sichuan, China on passive smoking. *Patient Education and Counseling*; 71(3): 396-401.

Mansi G, Raimondi F, Pachini S, Capasso L, Sarno M, Zuccaro P, Pacifici R, Garcia-Algar O, Romano A & Palkudetto R, 2007. Neonatal urinary cotinine correlates with behavioral alterations in newborns prenatally exposed to tobacco smoke. *Pediatric Research*; 61(2): 257-261.

Stepans MBF, Wilhelm SL & Dolence K, 2006. Smoking hygiene: reducing infant exposure to tobacco. *Biological Research for Nursing*; 8(2): 104-114.

Taskforce on Preventive Services, 2001. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. *American Journal of Preventive Medicine*, 20(2S): 10-15.

Trotter L & Mullins R. Environmental tobacco smoke: Public opinions and behaviour *In* Trotter L & Mullins R (eds), 1998. *Quit Evaluation Studies No. 9* 1996-1997. The Anti-Cancer Council, Victoria.

US Department of Health and Human Services, 1986. *The health consequences of involuntary smoking.* A report of the US Surgeon General. Rockville Maryland: US Department of Health and Human Services, Public Health Service, Centres for Disease Control, Centre for Health Promotion and Education, Office on Smoking and Health.

VicHealth Centre for Tobacco Control, 2002. *Environmental Tobacco Smoke in Australia: May 2001.* Report prepared for the Commonwealth of Australia. Commonwealth of Australia, Canberra.

Vokes NI, Bailey JM & Rhodes KV, 2006. "Should I give you my smoking lecture now or later?" Characterizing emergency physician smoking discussions and cessation counseling. *Annals of Emergency Medicine*; 48(4): 406-414 & 414.e1-414.e7.

Wigle DT, Arbuckle TE, Turner MC, Bérubé A, Yang Q, Liu S & Krewski D, 2008. Epidemiologic evidence of relationships between reproductive and child health outcomes and environmental chemical contaminants. *Journal of Toxicology and Environmental Health, Part B*; 11(5-6): 373-517.

Winickoff J, Hillis V, Palfrey J, Perrin J & Rigotti N, 2003a. A smoking cessation intervention for parents of children who are hospitalised for respiratory illness: The Stop Tobacco Outreach Program. *Pediatrics*, 111(1): 140-145.

Winickoff J, Hillis V, Palfrey J, Perrin J & Rigotti N, 2003b. Intervention with parental smokers in an outpatient pediatric clinic using counselling and nicotine replacement. *Pediatrics*, 112(5): 1127-1133.

Winickoff JP, Park ER, Hipple BJ, Berkowitz A, Vieira C, Friebely J, Healy EA & Rigotti NA, 2008. Clinical Effort Against Secondhand Smoke Exposure: development of framework and intervention. *Pediatrics*; 122: e363-e375.

Woodruff SI, Conway TL, Elder JP & Hovell MF, 2007. Pilot study using hair nicotine feedback to reduce latino children's environmental tobacco smoke exposure. *American Journal of Health Promotion*; 22(2): 93-7.

3.2.6 Updated evidence table (Parental smoking)

Table 2   Decreased rate of children exposed to tobacco smoke in the home:
*   recommended strategie*

	Supporting evidence	Replication	Documentation	Theoretical basis	Cultural reach
(3.1) Car and Home, Smoke Free Zone	4	Y	Y	Y	LOW SES
(3.2) STOP Program	4	Y	N	Y	LOW SES
(3.3) NAPS	4	Y	Y	Y	INDIGENOUS

Key

Supporting evidence:
1.   Well supported practice – evaluated with a prospective randomised controlled trial.
2.   Supported practice – evaluated with a comparison group and reported in a peer-reviewed publication.
3.   Promising practice – evaluated with a comparison group.
4.   Acceptable practice – evaluated with an independent assessment of outcomes, but no comparison group (e.g., pre-
      and post-testing, post-testing only, or qualitative methods) or historical comparison group (e.g., normative data).
5.   Emerging practice – evaluated without an independent assessment of outcomes (e.g., formative evaluation, service
      evaluation conducted by host organisation).

Replication:
Has the intervention been implemented and independently evaluated at more than one site? (yes or no)

Documentation:
Are the content and methods of the intervention well documented (e.g. provider training courses and user manuals) and
standardised to control quality of service delivery? (yes or no)

Theoretical basis:
Is the intervention based upon a well accepted theory or developed from a continuing body of work in its field? (yes or
no)

Cultural reach:
Has the program been trialled with people in disadvantaged communities, Indigenous people and/or people from
culturally and linguistically diverse backgrounds? (LOW SES/INDIGENOUS/CALD)

3.3 Increased rate of children who are protected from summer sun

In November 2008 the databases Medline, CINAHL and ERIC were searched from 2006 to 2008 using combinations of the search terms sun, prevent*, skin cancer, child* and protect*. Medline was also searched (2006 to 2008) for the term 'sunsmart' to identify any recent research on the Victorian SunSmart program and for recent publications by the main authors identified during the previous search in 2006 – Buller DB, Dobbinson S, Elwood JM, Geller AC, English DR, Glanz K, Hill D, Saraiya M, Whiteman DC and Milne E. This resulted in a total of 697 citations which were culled based on review of the title of the article to 58 citations. The abstracts of all 58 remaining articles were reviewed with ten providing information that was incorporated in the update. The search engine SCIRUS was used to search the web using the terms "sun protection", children OR children, and "skin cancer prevention" resulting in 17559 hits of which the first 100 were reviewed, resulting in no useful citations other than those already identified. Prior to searching the Australian Cancer Network Melanoma Guidelines Revision Working Party released (in November 2008) the document *Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand* which was also included in the review.

3.3.1 Background

Exposure to sunlight is the main cause of melanoma and an important cause of basal cell carcinoma and squamous cell carcinoma, all of which are forms of skin cancer. Australia has the world's highest incidence of melanoma which has a high mortality rate with survival closely linked to early detection and treatment. The other two forms of skin cancer are relatively common but the mortality is low. The impact of sunlight exposure on disease is complex, with both harmful and beneficial effects, and the relationship between the two is still the subject of debate. There is recognition of the need to shift skin cancer prevention messages to a more balanced position than has been the case in the past, with protection from the sun not necessary at all times (Sinclair, 2006). However, what is clear is that exposure to sunlight in childhood is a key determinant of skin cancer risk in adulthood (Whiteman, Whiteman, and Green, 2001; Armstrong, 2004). Intermittent unaccustomed exposure to sunlight is particularly harmful and increases the risk of skin cancer, particularly for melanoma (Elwood and Jopson, 1997). The risk of exposure to sunlight is far greater during the middle of the day, particularly in summer, although the magnitude of this risk will vary significantly depending on latitude.

3.3.2 The evidence base

Strategies to increase sun protection and prevent skin cancer have focused on avoiding sunlight, 'covering up' with clothing and use of sunscreen. Work by the National Health and Medical Research Council (NHMRC) and the Scottish Intercollegiate Guidelines Network (SIGN) resulted in essentially the same set of recommendations:

- Use clothing as the primary means of protecting against exposure to sunlight (because this strategy has the highest level of evidence to support it). People with a fair complexion should be especially careful.

- Avoid direct exposure to sunlight in the middle of the day

- Use a broad spectrum sunscreen with a minimum sun protective factor (SPF) of 15 as an adjunct to sun avoidance and other protective measure

- Use sun protective structures (e.g. shade structure) whenever possible during daylight hours (NHMRC, 1999; SIGN, 2004)

Clinical guidelines for the management of melanoma published in November 2008 include an additional recommendation for infants less than six months of age:

- Keep out of the sun if the ultraviolet index is 3 or greater and, if this is not possible, protect the infant with clothing and hats. Apply sunscreen to areas that cannot be protected with clothing or wraps (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008).

No evidence was identified in the literature to contradict these recommendations regarding sun avoidance and use of sun protective clothing but the effectiveness of sunscreens is more problematic. There is some evidence that sunscreens can prevent squamous cell carcinoma but not basal cell carcinoma (Gallagher, Lee, and Bajdik, 2004) and there is no clear evidence that sunscreens can prevent melanoma (Bastuji-Garin and Diepgen, 2002; Gefeller and Pfahlberg, 2002; Dennis, Beane Freeman, and VanBeek, 2003). This is worrying giving the reliance that can be placed on use of sunscreens rather than other sun protection strategies (Severi et al., 2002). This is tempered by the knowledge that sunscreen composition is continually evolving and it may be a long time before any protective effect of current formulations is detected (Dennis, Beane Freeman, and VanBeek, 2003).

In 2003 the USA Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light published the results of a systematic review of interventions to reduce exposure to sunlight. The Taskforce reviewed studies published in the English language literature between 1966 and 2000. A total of 6,373 potentially relevant titles were identified, 313 reports were retrieved and 159 were fully reviewed. Two studies on interventions in child care centres and 20 studies on interventions in primary schools met the inclusion criteria for the systematic review.

The Task Force found evidence to support interventions in primary schools to improve children's covering up behaviour (such as wearing sun protective clothing) using a variety of approaches – didactic teaching, interactive classes, home-based activities, interactive CD-ROM multimedia programs, peer education and changes in policy - but insufficient evidence to determine the effectiveness of interventions to improve other sun protective behaviour such as sun avoidance. They found insufficient evidence to determine the effectiveness of interventions to reduce exposure to sunlight in settings other than schools - child care centres, recreational settings or tourist settings – due to a combination of the limited number of studies and inconsistent results (Saraiya et al., 2003). It is important to note that this conclusion does mean that the interventions that were included in this review do not work, simply that there is insufficient evidence.

One of the interventions included in the Task Force review was the Cool Pool program developed, implemented and evaluated (with use of a randomised controlled trial) in Hawaii and Massachusetts in the USA. The findings indicated positive effects on children's use of sun protective behaviours, parents' hat use and sun-protection habits, and sun safety environments at swimming pools (Glanz et al, 2002). The program has been the subject of a larger trial with the results of a recent process evaluation indicating high levels of implementation of the main components (Escoffery et al 2008).

Not included in the Task Force review was a large study across 40 schools in the USA that found improvements in knowledge and some changes in intentions for sun protection achieved by a brief, standardized, sun protection program integrated in the school curriculum (Geller, Cantor et al 2002). More recently the evaluation of a Sun Protection is Fun program in pre-schools indicates some impact on the sun avoidance practices and sunscreen use of parents (Gritz et al, 2005) and the use of sunscreen, protective clothing and shade by staff (Gritzet al 2007).

The findings of the Task Force regarding interventions in primary schools are consistent with the Australian Kidskin project that found a positive effect on hat wearing by children in the playground but no change in use of shade at lunchtime (Giles-Corti et al., 2004). More recent findings regarding the Kidskin program indicate that the beneficial effects may require ongoing maintenance of the program (Milne et al, 2006). There is evidence that health promotion initiatives in schools (not just for skin cancer prevention) can have a positive impact on children's health and behaviour, although not consistently, with increases in knowledge easier to achieve than changes in attitudes and behaviour (Contributors to the Cochrane Collaboration and the Campbell Collaboration, 2000). Several presentations over a period of time achieve better results than other forms of instruction and there is a need to supplement school-based programs with programs targeting the general community (Buller and Borland, 1999).

Not surprisingly, the sun protection practices of children are linked to the attitudes and behaviour of their parents. Parents who get sunburnt are more likely to have sunburnt children and parents with a high level of sun protection behaviour are more likely to have children with similar behaviour (O'Riordan et al, 2003). The use of hats, shirts and shade can decline substantially as children move from the first to the second year of life, with increasing reliance on sunscreen use as the main sun-protection strategy (Benjes et al., 2004). Unfortunately, there is insufficient evidence regarding the effectiveness of interventions to improve children's sun protective behaviour by targeting parents or caregivers due, in part, to the small number of rigorous studies available (Saraiya et al., 2003). Counselling parents may increase sunscreen use for children but there is little evidence of the effect of counselling on other protective behaviours (U.S. Preventive Services Task Force, 2004).

Only one intervention targeting mothers of new-born babies was identified in the literature. This consisted of a nurse-led program with education and personal discussion. Follow-up after one year indicated that the mothers were receptive to the education and that the immediate post-natal period was considered appropriate for such education, but in the absence of a control group these results are of limited value (Geller, Sayers et al 1999)

Behaviour theory suggests that it is easier to learn sun-safe habits early in life than reverse harmful habits later in life (Hill and Dixon, 1999). Conflicting evidence (from Australia) about the sun-safe practices of adolescents reinforces the need for ongoing work to influence younger children. Research indicates that adolescent sun-safe practices are sub-optimal (Livingston et al 2003) and that although sun safe habits are quite straightforward adolescents appear to have difficulty incorporating appropriate behaviour into daily life, with messages to 'cover up' competing with youth culture notions about what is attractive, particularly for girls (Livingston et al 2007). This is counterbalanced by some evidence that adolescent 'covering up' behaviour (use of hats and clothing) has improved while engaged in leisure activities on summer weekends (Dixon et al 2008).

3.3.3 Selection of interventions

The key strategies are to develop the capacity of providers to deliver evidence-based sun protection messages and facilitate the development and implementation of sun protection policies and environments. Schools provide a convenient captive audience for this work and a coordinated approach is recommended, including appropriate policies, changes to the school environment, education of students, involvement of families, professional development of school staff and school nurses, school health services and evaluation (Glanz, Saraiya and Wechsler, 2002). The opportunity also exists to influence attitudes and behaviour in other settings, including child care centres. Although the evidence to support such work is lacking it is reasonable to model the approach on what works in schools until clearer guidance emerges from ongoing research.

It is sensible to promote a systematic and structural approach to sun protection, including how the typical school day is organised. Examples of what might be done include re-scheduling sport and physical education classes for the first period of the school day, holding sporting events in the evening or changing the length of the various 'break periods' in school timetables so that the longest break is not in the middle of the day (Giles-Corti et al., 2004). Evidence from Victorian schools is that scheduling of outdoor activities to avoid periods of peak solar ultraviolet radiation needs improvement (Dobbinson, Peipers et al 2000). Cost can be a major barrier to implementing sun protection practices e.g. the provision of adequate shade (Jones et al 2008).

Other strategies that might be employed depending on the local situation include increasing the amount of shade at a school or child care centre (albeit an option that is likely to be expensive), implementing 'no hat – no play' policies and allowing young children to eat their lunch inside school buildings rather than requiring them to eat outside. Policies regarding the wearing of hats need to factor in that baseball caps provide less protection than broad-brimmed hats (Gies et al 2006). There is a need to be alert to potential obstacles to sun-safe practices (e.g. rules that prohibit the wearing of sunglasses or hats to school and limit the use of sunscreen by categorizing it as a medicine).

Another aspect of skin cancer prevention is the extent to which messages to avoid the sun and 'cover up' may conflict with other health promotion initiatives targeting children such as the need to be physically active. Intuitively it would seem reasonable to develop a balanced approach that encouraged physical activity while at the same time promoting appropriate sun protection strategies. The Kidskin program has demonstrated that it is possible to avoid the sun in the middle of the day without reducing the amount of time spent outdoors (Milne et al 2007) but the literature is largely silent about the trade-off between sun avoidance and physical activity. The appropriate policy position is that at the very least sun protection initiatives should not result in less physical activity for young children. Some recent work in Sweden indicates that providing a pre-school environment for children that is spacious, with trees, shrubbery and broken ground, can trigger physical activity and provide protection from the sun (Boldemann et al, 2006).

Community-wide programs to disseminate sun protection messages to the whole population provide the most cost-effective method of achieving change, relying on multiple interventions that complement each other, with different strategies likely to be required depending on local geography and demography (Buller and Borland, 1999).

Four economic evaluations of skin cancer prevention were identified in the literature. For three of these there was a common author and all were based on the same premise – economic evaluation of a national skin cancer prevention program based on the Victorian SunSmart program. The major benefit identified by the analysis was reduced mortality due to melanoma. It was concluded that from a government perspective such a program would be highly cost-effective. However, when the costs incurred by individuals are included the cost per life year saved increases dramatically, because of the 'prevention paradox' whereby many people have to change their behaviour (at no benefit for themselves) in order to save one life. This suggests that careful attention needs to be given to the cost implications for individuals of skin cancer prevention programs (Carter 2004). The fourth economic evaluation is of the Sunwise School Program in the USA which concluded that investment in the program is worthwhile with $2 - $4 in medical care costs and productivity losses saved for every dollar spent (Kyle et al 2008).

The Victorian SunSmart Progam covers local governments, primary and secondary schools, early childhood services, workplaces and sporting groups. A SunSmart accreditation program for schools has been in place since 1994. The accreditation program has not been evaluated but there seems no good reason to change the program. Recently published work indicates a general improvement in sun-protective behaviours amongst Melbourne residents over the period from 1987 to 2002, although with some evidence that the impact of sun protection messages has been waning since the late 1990s (Dobbinson et al 2008). Victoria has the highest level of SunSmart schools in Australia (82% in 2005) (Jones et al 2008).

There is room to improve the role of local government, primarily through greater recognition of the importance of shade and sun protection (Dobbinson et al, 2006). The fundamentals of a sun protection program (SunSmart) for children are already in place. The recommended strategies are therefore limited to interventions that have some potential in those areas where less work may have been done in the past – newborn babies and their mothers, swimming pools and preschools.

3.3.4 Discussion

What emerges from the literature is the need for a consistent approach to sun protection with interventions targeting individuals linked to broader community-based approaches. The focus should be on the hierarchy of sun protection measures – avoid sunlight in the middle of the day, wear appropriate clothing and use sunscreen as an adjunct to the first two strategies. Those working with pre-school children need to be vigilant about emphasising sun avoidance and covering up, rather than reliance on sunscreens. Ongoing work is required to evaluate the effectiveness of primary prevention interventions (Hart and Demarco 2008).

Much of the research on skin cancer prevention in children has focused on determining the effectiveness of education programs delivered in schools. Schools provide an appropriate setting

for delivering messages about sun protection and measuring changes in knowledge and behaviour are a convenient way of assessing the impact of such work.

There is a general acceptance in the literature that there is more to be gained from reducing risk for the whole population, rather than targeting those with high exposure to risk factors or an increased likelihood of developing skin cancer. There are numerous references in the literature to the Victorian SunSmart program. It is acknowledged as the most comprehensive population-based primary prevention program for skin cancer anywhere in the world. The program does not focus on children but no evidence was found to support its replacement with a program in existence elsewhere. The messages used by the program are consistent with the evidence from the literature.

3.3.5 References

Armstrong B (2004) *How sun exposure causes skin cancer: an epidemiological perspective*, in Hill D, English DR and Elwood M. Prevention of skin cancer. Kluwer Academic Publishers, Dordrecht.

Australian Cancer Network Melanoma Guidelines Revision Working Party (2008*) Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand*. The Cancer Council Australia and Australian Cancer Network, Sydney and New Zealand Guidelines Group.

Bastuji-Garin, S. and Diepgen TL (2002) *Cutaneous malignant melanoma, sun exposure, and sunscreen use: epidemiological evidence*. British Journal of Dermatology Vol. 146, Suppl 61, pp. 24-30.

Benjes LS, Brooks DR, Zhang Z, et al (2004) *Changing patterns of sun protection between the first and second summers for very young children.* Archives of Dermatology. Vol 140, No. 8, pp. 925-30.

Boldemann C et al (2006) *Impact of preschool environment upon children's physical activity and sun exposure*. Preventive Medicine. Vol 42, pp. 301-308.

Buller DB and Borland R (1999) *Skin cancer prevention for children: a critical review*. Health Education & Behavior. Vol 26, No. 3, pp. 317-43.

Carter R (2004) *Skin cancer prevention: an economic perspective*, in Hill D, Elwood JM and English DR. Prevention of skin cancer. Kluwer Academic Publishers, Dordrecht.

Contributors to the Cochrane Collaboration and the Campbell Collaboration (2000) *Evidence from systematic reviews of research relevant to implementing the "wider public health" agenda*, available at http://www.york.ac.uk/inst/crd/wph.htm, accessed 16 Dec 2005.

Dennis LK, Beane Freeman LE et al. (2003) *Sunscreen use and the risk for melanoma: a quantitative review*. Annals of Internal Medicine. Vol. 139, No. 12, pp. 966-78.

Dixon HG, Lagerlund M, Spittal MJ, et al (2008) *Use of sun-protective clothing at outdoor leisure settings from 1992 to 2002: serial cross-sectional observation survey*. Cancer Epidemiology, Biomarkers & Prevention. Vol. 17, No.2, pp.428-34.

Dobbinson S, Peipers AM, Borland R, et al (2000) *Are Victorian Primary Schools SunSmart? The ongoing development of the SunSmart Schools Program*. Health Promotion Journal of Australia, Vol. 10, No. 1, pp 43-50.

Dobbinson S et al. (2006). *SunSmart policies and practices in Victorian local government: 2005*. Available from http://www.cancervic.org.au/cbrc-papers/rps21-2006.pdf, accessed 20/10/06.

Dobbinson SJ, Wakefield MA, Jamsen KM, et al (2008) *Weekend sun protection and sunburn in Australia trends (1987-2002) and association with SunSmart television advertising*. American Journal of Preventive Medicine. Vol. 34, No.2, pp.94-101.

Elwood J M and Jopson J (1997) *Melanoma and sun exposure: an overview of published studies*. International Journal of Cancer. Vol. 73, No. 2, pp. 198-203.

Escoffery C, Glanz K and Elliott T (2008*) Process evaluation of the Pool Cool Diffusion Trial for skin cancer prevention across 2 years*. Health Education Research. Vol. 23, No.4, pp.732-43.

Gallagher RP, Lee TK and Bajdik CD (2004) *Sunscreens: can they prevent skin cancer?* in Hill D, Elwood JM and English DR Prevention of skin cancer Kluwer Academic Publishers, Dordrecht.

Gefeller O and Pfahlberg A (2002) *Sunscreen use and melanoma: a case of evidence-based prevention?* Photodermatology, Photoimmunology & Photomedicine. Vol.18, No. 3, pp 53-6.

Geller A, Sayers L, Koh HK, et al (1999) *The New Moms Project: educating mothers about sun protection in newborn nurseries.* Pediatric Dermatology. Vol. 16, No. 3, pp 198-200.

Geller AC, Cantor M, Miller DR, et al (2002) *The Environmental Protection Agency's National SunWise School Program: sun protection education in US schools (1999-2000).* Journal of the American Academy of Dermatology. Vol 46, No 5, pp 683-9.

Gies P, Javorniczky J, Roy C, et al (2006) *Measurements of the UVR protection provided by hats used at school*. Photochemistry & Photobiology. Vol. 82, No.3, pp.750-4.

Giles-Corti B, English DR, Costa C, et al (2004) *Creating SunSmart schools.* Health Education Research. Vol. 19, No. 1, pp 98-109.

Glanz K et al. (2002). *A randomized trial of skin cancer prevention in aquatics settings: the Pool Cool program.* Health Psychology. Vol 21, No. 6, pp. 579-87.

Glanz K, Saraiya M et al. (2002) *Guidelines for School Programs To Prevent Skin Cancer.* available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5104a1.htm., accessed 16/10/06.

Gritz ER et al. (2005). *An intervention for parents to promote preschool children's sun protection: effects of Sun Protection is Fun*! Preventive Medicine Vol. 41, No. 2, pp. 357-66.

Gritz ER, Tripp MK, James AS, et al (2007) *Effects of a preschool staff intervention on children's sun protection: outcomes of sun protection is fun!* Health Education & Behavior. Vol. 34, No.4, pp.562-77.

Hart KM and Demarco RF (2008) *Primary prevention of skin cancer in children and adolescents: a review of the literature.* Journal of Pediatric Oncology Nursing. Vol. 25, No.2, pp.67-78.

Hill D and Dixon H (1999) *Promoting sun protection in children: rationale and challenges*. Health Education & Behavior. Vol. 6, No. 3, pp. 409-17.

Jones SB, Beckmann K and Rayner J (2008) *Australian primary schools' sun protection policy and practice: evaluating the impact of the National SunSmart Schools Program*. Health Promotion Journal of Australia. Vol. 19, No.2, pp.86-90.

Kyle JW, Hammitt JK, Lim HW, et al (2008) *Economic evaluation of the US Environmental Protection Agency's SunWise program: sun protection education for young children*. Pediatrics. Vol. 121, No.5, pp.e1074-84.

Livingston PM, White V, Hayman J, et al (2003) *Sun exposure and sun protection behaviours among Australian adolescents: trends over time.* Preventive Medicine. Vol 37, No 6 Pt 1, pp 577-84.

Livingston PM, White V, Hayman J, et al (2007) *Australian adolescents' sun protection behavior: who are we kidding?* Preventive Medicine. Vol. 44, No.6, pp.508-12.

Milne EP et al. (2006). *The impact of the kidskin sun protection intervention on summer suntan and reported sun exposure: was it sustained*? Preventive Medicine Vol 42, No. 1, pp. 14-20.

Milne E, Simpson JA, Johnston R, et al (2007) *Time spent outdoors at midday and children's body mass index*. American Journal of Public Health. Vol. 97, No.2, pp.306-10.

National Health and Medical Research Council (NHMRC) (1999) *The management of cutaneous melanoma*, available at http://www.nhmrc.gov.au/publications/_files/cp68.pdf, accessed 16/10/06.

O'Riordan DL et al. (2003) *Sunburn reduction through parental role modeling and sunscreen vigilance*. Journal of Pediatrics. Vol. 142, No. 1, pp. 67-72.

Saraiya M, Glanz K, Briss P, et al (2003) *Preventing skin cancer: findings of the Task Force on Community Preventive Services On reducing Exposure to Ultraviolet Light*. Morbidity and Mortality Weekly Report. Recommendations and Reports. Vol 52, No. RR-15, pp 1-12.

Scottish Intercollegiate Guidelines Network (SIGN) (2004) *Cutaneous Melanoma: a national clinical guideline*, available http://www.sign.ac.uk/guidelines/fulltext/72/index.html, accessed 16/10/06.

Severi G et al. (2002) Sun exposure and sun protection in young European children: an EORTC multicentric study. European Journal of Cancer. Vol. 38, No. 6, pp. 820-6.

Sinclair C (2006) Risks and benefits of sun exposure: implications for public health practice based on the Australian experience. Progress in Biophysics and Molecular Biology. Vol 92, pp. 173-178.

U.S. Preventive Services Task Force. (2004) Counseling to prevent skin cancer: recommendations and rationale. Available from www.aafp.org/afp/20040215/usx.pdf., accessed 16/10/06.

Whiteman DC, Whiteman CA and Green AC (2001) *Childhood sun exposure as a risk factor for melanoma: a systematic review of epidemiologic studies*. Cancer Causes and Control. Vol. 12, No. 1, pp. 69-82.

3.3.6 Updated evidence table (Sun protection)

Table 3   Increased rate of children who are protected from summer sun: recommended strategies

	Supporting evidence	Replication	Documentation	Theoretical basis	Cultural reach
(6.1) Cool Pool Program	1	Y	N	Y	Universal
(6.2) New Moms Program	4			Y	Universal
(6.3) Trees, shrubbery and broken ground	5		Y	Y	Universal
(6.4) SunSmart	2	Y	Y	Y	Universal

Key
Supporting evidence:
1.   Well supported practice – evaluated with a prospective randomised controlled trial.
2.   Supported practice – evaluated with a comparison group and reported in a peer-reviewed publication.
3.   Promising practice – evaluated with a comparison group.
4.   Acceptable practice – evaluated with an independent assessment of outcomes, but no comparison group (e.g., pre-and post-testing, post-testing only, or qualitative methods) or historical comparison group (e.g., normative data).
5.   Emerging practice – evaluated without an independent assessment of outcomes (e.g., formative evaluation, service evaluation conducted by host organisation).

Replication:
Has the intervention been implemented and independently evaluated at more than one site? (yes or no)

Documentation:
Are the content and methods of the intervention well documented (e.g. provider training courses and user manuals) and standardised to control quality of service delivery? (yes or no)

Theoretical basis:
Is the intervention based upon a well accepted theory or developed from a continuing body of work in its field? (yes or no)

Cultural reach:
Has the program been trialled with people in disadvantaged communities, Indigenous people and/or people from culturally and linguistically diverse backgrounds? (LOW SES/INDIGENOUS/CALD)

3.3.7 Updated catalogue entries (Sun protection)

Recommended Strategy 6.1: Increased Rate of Children who are Protected from Summer Sun	
Name of intervention	Cool Pool Program
Organisation	USA National Cancer Institute
Brief literature review	The intervention includes staff training; sun-safety lessons; interactive activities; providing sunscreen, shade, and signage; and promoting sun-safe environments. The four Pool Cool rules are: cover up, protect face and eyes, seek shade and limit exposure, use sunscreen. The intervention was trialled at 28 swimming pools in Hawaii and Massachusetts, in the USA. This was followed up with a larger trial in which more than 480 swimming pools were randomised to implement either a basic or enhanced program. The results of a recent process evaluation indicate high levels of implementation of the main components of the program.
How and why does this intervention work?	The intervention uses a combination of educational and environmental strategies and was tested in a large number of swimming pools in diverse populations and geographic locations.
On what population does this intervention work best?	The program is designed for children 5-10 years of age, their parents and aquatic staff. The program was Children attending swimming lessons at
Where will this intervention work best?	Outdoor swimming pools
What is required to implement this intervention?	Education of experienced aquatic/recreation professionals who complete a training program on skin cancer prevention and the Pool Cool program. Provision of shade, appropriate signage and sunscreen.
Resources and contact information	Karen Glantz, Emory Prevention Research Center, Emory University, Atlanta, USA email: kglanz@sph.emory.edu Pool Cool website: http://www.poolcool.org/index.html
References	Glanz K. et al. (2002). Escoffery C. et al. (2008).

Recommended Strategy 6.4: Increased Rate of Children who are Protected from Summer Sun	
Name of intervention	SunSmart
Organisation	The Cancer Council Victoria
Brief literature review	The SunSmart program began in 1988 and was supplemented by a SunSmart accreditation program in 1994. The program is identified in the literature as the most comprehensive population-based primary prevention program for skin cancer.
How and why does this intervention work?	The SunSmart message about sun protection is based on the best available evidence – 'cover up' using clothing and hats, avoid the sun using shade and use sunscreens. Interventions occur at the level of individuals e.g. education programs; providers e.g. development of appropriate policies, accreditation program for schools; and the whole population e.g. mass media campaigns. The SunSmart program works with local governments, schools, early childhood services, workplaces and sporting groups to develop and implement sun protection policies and practices.
On what population does this intervention work best?	SunSmart is a population-based approach to sun protection. This has included, for example, working with manufacturers to design sun protective clothing.
Where will this intervention work best?	The intervention can be applied in a range of settings, including schools and early childhood centres.
What is required to implement this intervention?	The main requirement is commitment to implement the SunSmart program. Examples of this are a commitment by parents and teachers to implement a SunSmart policy in schools to a commitment by local government to spend money on improving shade in public places.
Resources and contact information	There are a variety of resources available on the SunSmart web site: http://www.sunsmart.com.au/ The postal address of SunSmart is 1 Rathdowne Street, Carlton, 3053 Victoria, phone number (03) 9635 5148.
References	Dobbinson S, et al. (2000) Dobbinson S, et al. (2006) Dobbinson S, et al. (2008)

3.4 Increased participation in kindergarten

The literature search strategy for kindergarten participation was redesigned. Databases included in the current search were the Cochrane Library, CINAHL, Medline 1996+, PsychInfo, and ERIC. Terms used for this search included: (kindergarten or preschool) AND (attendance OR participation) AND (program OR intervention). The search was limited to literature published since the previous review and included the years 2006 to 2008. A total of 145 relevant articles were identified in the database search. Additional websites were searched to include policy and practice literature and included:

- Department of Human Services, Victoria

- Australian Government Department of Family and Community Services

- Australian Institute for Family Studies

- The Campbell Collaboration

- California Evidence-Based Clearinghouse for Child Welfare

- EPPI-Centre

- The Promising Practices Network

Five articles relevant to the topic were identified through these websites. A general Google search was also conducted using terms from the database searches above but no additional information relevant to the topic was identified.

3.4.1 Background

There is considerable ambiguity surrounding the terminology, 'kindergarten' and 'pre-school' in both the literature and within the Australian educational system. For the purpose of this paper kindergarten refers to centre-based preschool, preceding formal entrance into primary school. The benefit for children attending kindergarten has been a popular research topic for decades now and is therefore an area with a wide literature base. There is general consensus that there are positive social, emotional, cognitive and linguistic effects for children who attend kindergarten (Fleer et al. 2006). However, the prescription of what makes for an effective kindergarten program and the extent to which the positive outcomes are demonstrated has been the subject of much debate and literature.

Unfortunately, most of this literature is not based on the long-term effectiveness of programs but rather on highly controlled research studies with small sample size, high attrition and short term evaluation. However, there have been a small number of well designed randomised trials with ongoing evaluation. The Perry Preschool Project, the Carolina Abecedarian Project and the Effective Provision of Preschool Education are three such studies. The selection of recommended strategies in this review is determined by whether the program included elements that were proved beneficial in these seminal studies.

Risk factors for children not attending preschool are low socio-economic status (SES), belonging to a minority group, and developmental disability. Mead (2004) reports the paradox facing disadvantaged children "those who most need additional learning opportunities - are actually the least likely to attend preschool" [kindergarten]. This tragedy is accentuated by the fact that poor children have been shown to benefit the most from attending kindergarten (Fantuzzo et al. 2005). Aboriginal and Torres Strait Islander children in many cases fall into this low SES category. In addition to this the strategies and teaching styles in much of the Australian school system are inappropriate for their learning (Freeman, 2006).

Within the Victorian setting in 2007 the responsibility for kindergartens moved from the then Department of Human Services to the newly-created Department of Education and Early

Childhood Development. The Victorian Government funds kindergarten and many child care services to provide a kindergarten program to children in the year before they go to school (Harrington, 2008).

Historically, kindergarten participation rates have been high in Victoria with the latest figures suggesting 96.8% attendance compared with the national average of 87.2% (Harrington, 2008). This can in part be attributed to several state and commonwealth government initiatives and programs.

At the state level, the Victorian government has introduced subsidies for low income families to assist them with kindergarten fees. Also Inclusion Support Services are available to assist children with severe disabilities to participate in kindergarten. Indigenous children of kindergarten age are also assisted through the Koori Early Childhood Education Program aimed at increasing access to kindergarten for Aboriginal and Torres Strait Islander families (Department of Education and Early Childhood Development, Victoria, 2008).

From the Commonwealth perspective, the Indigenous Education Program (IEP) also provides assistance for Aboriginal and Torres Strait Islander children who attend a kindergarten program. This IEP provides financial assistance through Supplementary Recurrent Assistance (SRA) to support kindergarten programs that engage with indigenous children (Harrington, 2008).

However, overall, Indigenous children are less likely to participate in preschool than their non-indigenous peers. Most recent figures indicate that the Victorian participation rate of Aboriginal children in kindergarten in 2006 was 52.6%, slightly higher than the national participation rate of 50.8% (Kronemann, 2007). In view of these participation rates in Victoria, emphasis should be on improving parent and community inclusion especially among disadvantaged groups and improving the quality of programming across kindergartens. This review seeks to highlight the evidence and recommend specific interventions that will provide focus for addressing this.

3.4.2 The evidence base

There is limited research examining the effects of kindergarten participation on student academic achievement that isn't specific to disadvantaged children. Many of the studies that do attempt to be broader in their demographic are limited by small sample size. One study which has had success is the Effective Provision of Preschool Education (EPPE). The central question that the EPPE study sought to answer was "what is the contribution of preschool to the development of children (after taking into account familial and other background factors)." The program ran from January 1997 to April 1999 and involved 3000 children and 141 kindergarten centres. The sample covered urban, suburban and rural areas and a range of ethnic diversity and SES. Six types of childcare provision were covered including playgroups, local authority or voluntary day nurseries, private day nurseries, nursery schools and integrated centres. Information was collected on the quality of childcare provision and the progress of the children at three distinct time intervals (DfES, 2005).

Some of the major educational findings of the program were that pre-school enhances all round development, high quality preschool programs have intellectual and social/behavioural development benefits, and entry under three years is related to better intellectual development. Disadvantaged children were shown to benefit significantly from high quality preschool experiences especially where there is a mixture of SES however they generally attended for shorter periods of time. With regard to the child care provision itself full time kindergarten led to no better gains than part time, however years involved in kindergarten was important. Settings with higher qualified staff showed more advantage as did settings where social/behavioural and educational development were considered equally important. The quality of the home learning environment was shown to be more important than parental background, education, income and occupation (DfES, 2005).

Mead (2004) suggests that having some form of planned curriculum of activities and goals for young children's learning is of far greater benefit than simply providing day care. She goes on to suggest that the most successful preschool curricula intensely focus on developing children's

language use and skills. Mead (2004) also advocates smaller class size and lower student/teacher ratios. Kindergartens should also be safe, nurturing, well resourced environments that promote healthy child development. Currie (2000) suggests that rather than heavily regulate schools and their curricula, policy makers should ensure that programs meet an agreed standard as suggested by the EPPE study and Mead.

It has been shown that high Intelligence Quotient (IQ) scores are positively correlated with success in many areas of schooling and life (Currie, 2000). Several early education studies conducted in the United States have reported an increase in IQ scores; unfortunately, in all cases the gains made were short-lived (Currie, 2000). One such study was the Perry Preschool Project where on exit from the program IQ scores of the trial group immediately rose. By second grade this effect had become negligible. There were however significant sustained effects in other areas. There was a higher attendance rate through primary school, students were less likely to be placed in special education classes, retention rates were higher and there was a higher grade point average in high school (Gramlich, 1986). The academic benefits therefore may not be explained by increase in IQ but rather on the school readiness that kindergarten provides. Children learn to relate with adults and they begin to enjoy school and consequently go on to achieve (Gramlich, 1986).

As previously mentioned several high quality studies have been conducted and comprehensively evaluated. The Perry Preschool study took place from 1962 through to 1967 and involved 123 children who were assessed to be at high risk of school failure. The sample was randomly assigned to two groups; 58 to the intervention group and 65 to the control group (Schweinhart, 2005). The intervention involved a half-day preschool every weekday plus a weekly 90 minute home visit for 8 months of the year over a two year period. Teacher student ratios were 1 to 6 and all teachers had master's degrees and training in child development. Data were collected annually on both groups between ages 3-11 and again at ages 14, 15, 19, 27 and 40.

Some of the main educational findings of the study were: comparatively better scores in language tests up to age seven, school achievement tests at age nine, ten and 14 and literacy tests at ages 19 and 27. There was also a 20% higher graduation rate from high school. On top of this, the intervention group demonstrated much better attitudes toward school. The study found similar positive effects on social and economic outcomes. At ages 27 and 40, there were higher employment rates and earnings, more stable dwelling arrangements, more ownership and less reliance on social services. The study also showed a reduced rate of arrest among the intervention group (Schweinhart, 2003).

Another study that aimed to show the effect of kindergarten on children from low SES was The Carolina Abecedarian Project. Of the 111 infants participating in the trial 57 were randomly assigned to receive early intervention in a high quality child care setting whilst the other 54 children made up a non-treated control group. Over the four year duration of the program the treated children received daily full-day centre-based care with a teacher/child ratio of 1:3-6. Each child had an individualised prescription of educational activities that were incorporated to his or her day. These activities were designed to address social, emotional and cognitive development but focussed heavily on language. Individual curriculum packets were delivered every other week along with encouragement for parents to work with their child for 15 minutes per day. The program also included weekly home and class room visits in the first 3 years of primary school by a Home School Resource Teacher.

The intervention group demonstrated significantly higher reading achievement scores and remained that way through to 21. They were significantly more likely to be in school at age 21, 40% compared to 20% and 35% had either graduated or were in college or university compared to 14%. As young adults, children who were part of the intervention group were on average two years older than their control group counterparts at the birth of their first child (Campbell, 2002). The two groups were equally likely to be employed at age 21 but the intervention group were significantly more likely to be engaged in skilled jobs, potentially leading to higher earnings and ownership (Advocates for Youth, 2003).

3.4.3 Selection of recommended interventions

The strategies that have been selected all demonstrate one or more elements that have been proven beneficial in the above mentioned studies. Attempt has been made to ensure that these strategies are appropriate for the Australian setting. Special consideration has also been given to those strategies that have at their core an attempt to increase Aboriginal and Torres Strait Islander participation in kindergarten. This decision was made in light of the fact that Aboriginal and Torres Strait Islander participation in kindergarten is 45% below the Victorian average for non-indigenous children (Australian Education Union, 2007).

Ensuring a child is ready to commence school is the key to lasting educational achievement according to the Perry Preschool Project and other studies like it. **The Early Years** is a kindergarten program specifically aimed at promoting school readiness among Aboriginal and Torres Strait Islander children. The program works to ensure that the targeted children enrol, and remain in kindergarten as well as make a successful transition to primary school. As part of the program the participating children are picked up for kindergarten in the morning by the preschool teacher and the Aboriginal and Torres Strait Islander worker. The children then participate in a quality kindergarten program. In order to promote consistency between kindergarten and primary school one of the kindergarten staff would help out at the primary school in the child's first year (http://www.whatworks.edu.au/cases1.htm).

A similar but far more comprehensive Early Years transition program is operational in South Kempsey. The program runs from 9.00-10.30 once a week for six weeks. Kindergarten and school classes combine for sessions that have a similar routine to the first week of school with reading and play times. All children are tracked and if they are absent a home visit is made. Transport is either provided by parents or the kindergarten. In the last week they stay at the school for morning tea. Information sheets are sent home, photos of kindergarten children are made and all children go home with a "Sow a seed to read" bag to promote literacy (http://www.whatworks.edu.au/4_4_4.htm).

Whilst there does not appear to be a formal evaluation for the Early Years program, all participating children commenced school the following year. The attendance rate of Aboriginal and Torres Strait Islander children during that first year was 86% which was higher than the overall rate. The transportation of the children is considered a key to Early Year's success. Other elements contributing to the success of the program were reported to be the presence of Aboriginal and Torres Strait Islander staff and/or parents, well established cross cultural relationships and a climate that embraces culture and cultural difference (http://www.whatworks.edu.au/4_4_4.htm).

The Mobile Preschool Pilot Program (MPPP) is another program targeted at Aboriginal and Torres Strait Islander children and their communities. The pilot ran for two years between 2002 and 2004 but was based on nearly a decade of work by teachers and communities. The MPPP aims to develop and distribute kindergarten programs and materials to remote Indigenous communities that otherwise have no access to kindergarten infrastructure. Early childhood teachers prepare kits of materials and activities designed to stimulate and develop children's pre-literacy and pre-numeracy skills. The kits are stored in plastic boxes known as play-packs each one with a theme. Teachers deliver the play-packs to the communities and introduce them to local teaching support officers, who are generally Aboriginal and Torres Strait Islander people nominated by their community. The teaching support officers then run pre-school sessions 3-5 mornings per week, often with the help of parents (Goos et al. 2005).

Qualitative data were collected in the form of feedback from teachers, teaching support officers and parents. The data suggested that children improved their fine motor skills as well as making cognitive progress. At one site these changes were documented through the use of scrapbooks to keep records of pupils' progress. Parents also commented that on enrolment to primary school their children were more familiar with school-type routines than those who did not have any pre-school training and thus made a smoother transition. The strong partnerships built at the development phase of the program are thought to be essential in ensuring community support for

the program which in turn is imperative for its success (Goos et al. 2005). The MPPP involves a well planned curriculum as recommended by Mead (2004) and focuses on language and literacy as supported by the EPPE study and Abecedarian Project. As well as sharing these elements with the major studies conducted in the United States, MPPP has several elements that have been shown to be necessary for success in Aboriginal and Torres Strait Islander education. These elements are the "employment of Indigenous staff" and "positive partnerships between school and community" (Freeman, 2006).

Catch the Future is a Commonwealth funded initiative developed and facilitated by Monash University. The project was aimed at better understanding how literacy and numeracy are perceived, constructed and enacted by children and adults in both the home and kindergarten (Fleer et al. 2006). The project involved 57 families and four kindergartens located in a low SES region south-east of Melbourne. There were three stages of the project. During stage one, families were invited to take home disposable cameras and photograph children participating in everyday activities both at home and in their community. Families collated their children's photographs and put them in albums. Families and project staff came together to share photos and discuss literacy and numeracy contexts. Stage two of the project involved workshops where kindergarten staff and project staff met to view photographs and discuss what they perceived were the literacy and numeracy practices occurring in the home and were asked to workshop ideas on how they could incorporate what they had seen into the way that they plan and teach. The final stage of the project was the literacy and numeracy assessment of children. Pre and post-testing in literacy and numeracy took place to ascertain whether any gains had been made through the program (Fleer et al. 2006).

One of the main findings of the project was that most teachers underestimate the knowledge and expertise of parents and consider themselves to be the keeper of understanding when it comes to literacy and numeracy (Fleer et al. 2006). Teachers' attitudes did not change completely and therefore neither did their willingness to incorporate their new knowledge to their programming. The results of the literacy and numeracy assessments showed that males in particular improved the most in literacy, suggesting that males benefited more from the intervention than females. In addition, the intervention group demonstrated a much better grasp of some aspects of numeracy. Catch the Future is a program that seeks to work with parents to establish good literacy and numeracy practise in the home as advocated in the EPPE study (DfES, 2005). Catch the Future is again a program that has as one of its foci, literacy and language development which has been evidenced as beneficial.

3.4.4 Discussion

The positive results of large scale international studies should be treated with caution. The Carolina Abecedarian Project as well as the Perry Preschool Project don't provide a realistic framework for implementation into a large scale population and nor were they designed to. The resource intensive nature of these studies means that complete implementation will never occur. Another problem with these studies is that they haven't been replicated in Australia and therefore any generalisability is only assumed. This is particularly the case when making the leap from minority groups in the US to Aboriginal and Torres Strait Islander peoples in Australia.

One of the challenges facing Australia regarding the implementation of quality kindergarten programs is the lack of programs that have been independently or even internally evaluated. This makes the claims of the program, just that, merely claims thus making wide implementation by policy makers difficult. It is therefore recommended that all future programs be evaluated. In this review, attempt has been made to link elements of Australian programs to the findings of more sophisticated international studies. Where programs aimed specifically at Aboriginal and Torres Strait Islander children have been considered wider consultation with Indigenous Education has been sought.

With regard to the recommended strategies themselves consideration must be given to the following. The Early Years program in Kempsey South only runs for six weeks. Whilst the program has many benefits, this short period of time runs contrary to the international literature which

promotes regular, long term kindergarten attendance (DfES, 2005 and Campbell, 2002). However, consideration should be given to making this a component of an existing quality kindergarten. The MPPP, whilst having outstanding community and Aboriginal and Torres Strait Islander involvement, did not have highly qualified teachers educating the children as recommended by the EPPE study (DfES, 2005) and Mead (2004). Further research is required into whether this is to the detriment of Aboriginal and Torres Strait Islander children. Finally, the Catch the Future project highlighted that teachers' mindsets regarding the importance of the home literacy and numeracy teaching environment weren't completely changed. It is recommended in the study's report and again here that the program continue in order to support those teachers in changing their programming and teaching styles to incorporate the learning taking place at home.

3.4.5 References

Advocates for Youth (2003) *Science and Success: Sex education and other programs that work to prevent teen pregnancy, HIV, and sexually transmitted infections.* Advocates for Youth, Washington, available at www.advocatesforyouth.org, accessed 22 September 2006.

Australian Bureau of Statistics (2004) *Australian Social Trends: Participation in education: Attending preschool. Commonwealth of Australia*, available at www.abs.gov.au, accessed 19 October 2006.

Campbell F A and Ramey C T (2002) *Early learning, later success: The Abecedarian Study: Executive Summary.* The University of Carlolina, available at www.fgp.unc.edu, accessed 22 September 2006.

Currie J (2000) Early childhood intervention programs: What do we know? University of California, Los Angeles

Department of Education and Early Childhood Development, Victoria (2008) *Victorian kindergarten policy, procedures and funding criteria update 2008.* Victorian Government Department of Education and Early Childhood Development, Melobourne, available at http://www.education.vic.gov.au/ocecd/docs/vkp_2008_hyperlink.pdf accessed 20 November 2008.

Department of Human Services (2004) *Kindergarten for Everyone Factsheet.* Victorian Government Department of Human Services, available at www.dhs.vic.gov.au, accessed 12 September 2006.

Department of Human Services (2005) *Koorie Early Education Program: Supporting access to and participation in kindergarten.* Victorian Government Department of Human Services, available at www.dhs.vic.gov.au, accessed 12 September 2006.

Department of Human Services (2006a) *Annual Report.* Victorian Government Department of Human Services, available at www.dhs.vic.gov.au, accessed 19 October 2006.

Department of Human Services (2006b) *Aboriginal Services Plan Key Indicators Reports.* Victorian Government Department of Human Services, available at www.dhs.vic.gov.au, accessed 19 October 2006.

EPPE Project: Institute of Education (2005) *The Effective Provision of Pre-School Education (EPPE) Project.* Department for Education and Skills, available at www.ioe.ac.uk, accessed on 15 September 2006

Fantuzzo J W, Rouse H L, McDermott P A, Sekino Y, Childs S and Weiss A (2005) *Early childhood experiences and kindergarten success: a population-based study of a large urban setting.* School Psychology Review. Vol. 29, No. 4, pp. 571-589.

Fleer M, Ridgeway A, Clarke B, Kennedy A, Robbins J, May W and Surman L (2006) *Catch the Future: Literacy and Numeracy Pathways for Preschool Children.* Department of Education, Science and Training, Canberra.

Freeman L (2006) *Bridging the Gap: Improving the literacy outcomes for Aboriginal students.* Australian Centre for Educational Studies, Macquarie University, Sydney.

Goos, M. E., Jolly, L. and Kostogriz, A. (2005). *Home school and community partnerships for numeracy education in a remote indigenous community.* In: M. Goos, C. Kanes and R. Brown, Proceedings of the Fourth International Mathematics Education and Society Conference. Mathematics Education and Society, Gold Coast, Australia, (176-187). July 2005.

Gramlich E (1986) *Evaluation of education projects: the case of the Perry Preschool Program.* Economics of Education Review. Vol. 5. No. 1, pp. 17-24.

Harrington M (2008) *Preschool education in Australia*, Parliament of Australia , Parliamentary Library, available at http://www.aph.gov.au/library/Pubs/BN/2007-08/PreschoolEdAustralia.htm accessed 14 November 2008.

Kronemann M (2007) *AEU Briefing Paper: Universal Preschool Education for Aboriginal and Torres Strait Islander Children*, Austraian Education Union, available at http://www.aeufederal.org.au/Publications/IndigenousECE.pdf accessed 13 November 2008.

Mead S (2004) *Open the preschool door, close the preparation gap.* Progressive Policy Institute, available at www.ppionline.org, accessed 12 September 2006.

Schweinhart L J (2003) *Benefits, costs, and explanation of the High/Scope Perry Preschool Program.* <u>Meeting of the Society for Research in Child Development.</u> Florida, April 2003.

Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40.* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Press, available at

http://www.highscope.org/Content.asp?ContentId=219

What works (2005) *The Early Years.* Government Department of Education, Science and Training, available at www.whatworks.edu.au, 15 September 2006.

3.4.6 Updated evidence table (Kindergarten participation)

Table 4   Increased participation in kindergarten: recommended strategies

	Supporting evidence	Replication	Documentation	Theoretical basis	Cultural reach
(10.1) Catch the Future	4	N	Y	Y	LOW SES
(10.2) The Early Years	5	N	N	Y	INDIGENOUS
(10.3) The Mobile Preschool Program	5	N	Y	Y	INDIGENOUS

Key
Supporting evidence:
1. Well supported practice – evaluated with a prospective randomised controlled trial.
2. Supported practice – evaluated with a comparison group and reported in a peer-reviewed publication.
3. Promising practice – evaluated with a comparison group.
4. Acceptable practice – evaluated with an independent assessment of outcomes, but no comparison group (e.g., pre- and post-testing, post-testing only, or qualitative methods) or historical comparison group (e.g., normative data).
5. Emerging practice – evaluated without an independent assessment of outcomes (e.g., formative evaluation, service evaluation conducted by host organisation).

Replication:
Has the intervention been implemented and independently evaluated at more than one site? (yes or no)

Documentation:
Are the content and methods of the intervention well documented (e.g. provider training courses and user manuals) and standardised to control quality of service delivery? (yes or no)

Theoretical basis:
Is the intervention based upon a well accepted theory or developed from a continuing body of work in its field? (yes or no)

Cultural reach:
Has the program been trialed with people in disadvantaged communities, Indigenous people and/or people from culturally and linguistically diverse backgrounds? (LOW SES/INDIGENOUS/CALD)

3.4.7 Updated catalogue entries (Kindergarten participation)

Recommended Strategy 10.2: Increased Participation in Kindergarten	
Name of intervention	The Early Years
Organisation	Government Department of Education, Science and Training
Brief literature review	The Early Years is a kindergarten program specifically aimed at promoting school readiness among Aboriginal and Torres Strait Islander children. The program works to ensure that the targeted children enrol, and remain in kindergarten as well as make a successful transition to primary school. As part of the program the participating children are picked up for kindergarten in the morning by the preschool teacher and the Aboriginal and Torres Strait Islander worker. The children then participate in a quality kindergarten program. In order to promote consistency between kindergarten and primary school one of the kindergarten staff would help out at the primary school in the child's first year. A similar but more comprehensive Early Years transition program is operational in South Kempsey. The program runs from 9.00-10.30 once a week for six weeks. Kindergarten and school classes combine for sessions that have a similar routine to the first week of school with reading and play times. All children are tracked and if they are absent a home visit is made. Transport is either provided by parents or the kindergarten. In the last week they stay at the school for morning tea. Information sheets are sent home, photos of kindergarten children are made and all children go home with a "Sow a seed to read" bag to promote literacy. .
How and why does this intervention work?	Whilst there does not appear to be a formal evaluation for the Early Years program, all participating children commenced school the following year. The attendance rate of Aboriginal and Torres Strait Islander children during that first year was 86% which was actually higher than the overall rate. The methods employed to promote school readiness are well supported by the literature. Strategies to increase access, such as providing transport, are also evidence-based and considered a key to the program's success.
On what population does this intervention work best?	Aboriginal and Torres Strait Islander in the year before entry into formal schooling
Where will this intervention work best?	The program was developed in rural NSW in a community with a high Aboriginal and Torres Strait Islander population.
What is required to implement this intervention?	One of the keys to success is the relationships that the program establishes and maintains with the Aboriginal and Torres Strait Islander community. Resources are required to provide transport for the children. Employment of a Aboriginal and Torres Strait Islander educational officer and highly committed kindergarten staff are also essential.
Resources and contact information	http://www.whatworks.edu.au/4_4_4.htm
References	See above website.

Recommended Strategy 10.3: Increased Participation in Kindergarten	
Name of intervention	The Mobile Preschool Pilot Program
Organisation	Australian Government through the Department of Education, Science and Training
Brief literature review	The Mobile Preschool Pilot Program (MPPP) is targeted at Aboriginal and Torres Strait Islander children and their communities. The pilot ran for two years between 2002 and 2004 but was based on nearly a decade of work by teachers and communities. The MPPP aimed to develop and distribute kindergarten programs and materials to remote Indigenous communities that otherwise have no access to kindergarten infrastructure. Early childhood teachers prepared kits of materials and activities designed to stimulate and develop children's pre-literacy and pre-numeracy skills. The kits were stored in plastic boxes known as play-packs each one with a theme. Teachers delivered the play-packs to the communities and introduce them to local teaching support officers, who were generally Aboriginal and Torres Strait Islander people nominated by their community. The teaching support officers then ran pre-school sessions 3-5 mornings per week, often with the help of parents.
How and why does this intervention work?	Qualitative data were collected in the form of feedback from teachers, teaching support officers and parents. The data suggested that children improved their fine motor skills as well as making cognitive progress. At one site these changes were documented through the use of scrapbooks to keep records of pupils' progress. Parents also commented that on enrolment to primary school their children were more familiar with school-type routines than those who did not have any pre-school training and thus made a smoother transition. MPPP involves a well planned curriculum as recommended in educational literature and focuses on language and literacy, which is also evidence based. The strong partnerships built at the development phase of the program are thought to be essential in ensuring community support for the program that in turn is imperative for its success.
On what population does this intervention work best?	Indigenous children aged three to five
Where will this intervention work best?	Remote areas communities with high Aboriginal and Torres Straight Islander population
What is required to implement this intervention?	Provision of Aboriginal Education Worker Strong community consultation.
Resources and contact information	Merrilyn Goos The University of Queensland m.goos@uq.edu.au
References	Goos, M. E., Jolly, L. and Kostogriz, A. (2005). *Home school and community partnerships for numeracy education in a remote indigenous community*. In: M. Goos, C. Kanes and R. Brown, <u>Proceedings of the Fourth International Mathematics Education and Society Conference</u>. Mathematics Education and Society, Gold Coast, Australia, (176-187). July 2005. Goos M, Lowrie T and Jolly L (2007) *Home, school and community partnerships in numeracy education: an Australian perspective*. TMME Monograph (1), pp.7-24, available at http://www.math.umt.edu/TMME/Monograph1/Goos_FINAL_pp7_24.pdf

3.5 Proportion of children whose parents report high levels of social support

For this update, the literature search followed the methods outlined in the first version of this narrative review. Due to their wide coverage, the PsycINFO and MEDLINE were the academic literature electronic databases chosen. The key search terms were: "social support", "social isolation", loneliness", "self-help groups", "social networks", "friendship", "support groups", "community", "neighbourhood", "community development", "community capacity", "peer therapy", "social capital" combined with the keyword or subject heading "parents" or "parent*". This literature search was designed to find specific review articles and intervention articles in the publication years 2006, 2007, 2008 to present. The Cochrane Library and the Campbell Collaboration Library were also consulted to identify any relevant review articles. Additional literature searches were conducted on known practice literature web-sites. These sites included: the California Evidence-Based Clearinghouse for Child Welfare; the Promising Practices Network; and Blueprints for Violence Prevention; as well as the Victorian Department of Human Services and the Victorian Department of Department of Education and Early Childhood Development. Finally, individual recommended programs were searched on MEDLINE and PsycINFO to see if any new intervention articles about these programs were published.

3.5.1 Background

The concept of social support is a broad and emerging area covering themes of social isolation and loneliness to themes of social networking, social capital, and community building and development. However, little research has been conducted in the area of parental social support. This is for a variety of reasons. These include: (1) there are few interventions that directly target improvements in social support as a primary focus or outcome; (2) there are few interventions designed to help parents directly and independently of their children; and (3) that the issue of social support is usually subsumed within a mental illness agenda. Only now is it emerging as a separate entity as a part of the positive health and well-being movement.

Increasingly population research is describing social support (usually defined as its opposite – social isolation) as a key family stressor alongside parental mental illness, parental substance abuse, home violence, low income and perceptions of a difficult child (see Bayer, et al., 2007).

In this context, the importance of building social support networks around families is increasingly recognised. Social isolation can raise the likelihood of child abuse (Bowes, 2000) and exacerbate maternal depression (Sheppard, 2004).

Data from the first wave of the Longitudinal Study of Australian Children (LSAC) indicates that parents who lack social support are more likely to experience psychological distress (Zubrick, et al., 2008). Primary carers (generally mothers) who reported that they did not receive adequate support from family and friends were 2.5 times more likely to report clinically significant symptoms of distress. Participants were also asked about 'community connectedness': four questions that assessed whether they could find information about local services, felt well informed about local affairs, identified with their neighbourhood and felt they could trust most people in it. Twice as many primary carers with low levels of 'community connectedness' were psychologically distressed, compared with those who had higher scores on these items. Young parents, single parents and those born outside Australia were more likely than other participants to report low levels of 'community connectedness', while higher levels were associated with increasing income, education and Socio-Economic Indexes for Areas (SEIFA) ratings, married intact families and employed primary carers.

Assisting or strengthening social networks involving parents is "a legitimate activity for programs to achieve their aims" (Bowes, 2000, p. 13). In his evaluation of social work support for depressed mothers in the care setting, Sheppard (2004) found that social workers needed to develop a keener awareness of support deficits so that they could target programs more effectively.

A recent paper summarising surveys of practitioners working with children in the United Kingdom found that family support, parenting and child protection were the most requested research topics, and that almost half of all research suggestions were in relation to intervention effectiveness (Stevens, et al., 2007).

3.5.2 The evidence base

This issue has received relatively little attention in the practice and evaluation literature until recently. In 2000, Jennifer Bowes in her paper on parent education and support programs remarked:

> *In the design of the programs and their evaluation, there is a surprising lack of attention to the social support links of parents and ways to build social networks. Too often, it seems, families are seen as isolated units without ties to extended family or to friends. All too often these social ties are missing for families with young children. (Bowes, 2000, p. 13)*

Our literature search found poor coverage in the area, finding few high-quality studies and no major reviews of the evidence. This is exemplified by the withdrawal of the Cochrane Review by Hodnett and Roberts into home-based social support for socially disadvantaged mothers (Hodnett and Roberts, 2005, Coren, et al., 2004). Recently, the review designed to replace Hodnett and Roberts (2005), by Bennett, et al., (2008), has now also been withdrawn due to possible errors in review methodology. The lack of major reviews in this area necessitates an examination of single or individual studies into programs or interventions designed to improve social support for parents.

A recent overview by Kelher and Armstrong (2006, summarised by Public Health Group, 2006) identified nine categories of interventions that have been shown to increase social connectedness. They build social capital, promote community well-being, overcome social isolation, increase social connectedness and address social exclusion. These are:

1. Community building and regeneration programs - local neighbourhood renewal programs; community building programs. Community-wide programs should be considered at individual, community and organization levels if they are to be effective.
2. School based programs for mental health and well-being - whole-of school programs that create a supportive environment, rather than topic-specific approaches to issues such as self-esteem or coping skills.
3. Structured opportunities for participation - civic structures that encourage engagement via local governance, community participation and other forms of social contribution;
4. Workplace mental health promotion - employee participation programs and modification to stressful occupational environments are key mechanisms for mental health promotion in the workplace;
5. Social support - individual support which might modify behaviour and create supportive environments, such as home-visiting programs by nurses and midwives or parent training programs;
6. Volunteering - such as structured opportunities for people to do voluntary work for their community as part of civic engagement;
7. Community arts programs - may involve community participation, social inclusion, capacity building and regeneration;
8. Physical activity/exercise - has a positive effect on mental health outcomes for adults and children, but emotional benefits and feelings of wellbeing are likely from increased social interaction as solitary exercise may not improve depression;
9. Media campaigns for mental health promotion - social marketing campaigns that challenge stigma and raise awareness of attitudes towards mental health.

In terms of providing an overview of the area of improving social support only a few review papers were found. These include: a Cochrane Review into parent training programs by Barlow, et al. (2005); papers by Bowes (2000), Gardner and Deatrick (2006), McLennan and Lavis (2006); and

reports by Cattermole, et al. (2005) and Kelher and Armstrong (2006). The conclusions of these reviews can be summarised as follows: more research and evaluation is needed in the area of interventions to improve the level of social support for parents. At present, single studies may represent promising practices for future development work.

3.5.3   Selection of interventions

As indicated above, recent reviews of parent education or training programs have found that few of these kinds of interventions have proven effects on social support. A meta-analysis of 23 published studies of parent training programs (including behavioural; multimodal; behavioural-humanistic; cognitive-behavioural; rational emotive therapy) which used standardised outcome measures, found no effect on levels of social support (Barlow, et al., 2005). Nevertheless, these programs did have some benefits in terms of reduced depression and anxiety/stress, increased self-esteem, and improved relationship with spouse/marital adjustment post program.

Only two of the 24 education programs reviewed by Bowes (2000) examined changes in the parents' peer support networks following participation in the program. None of the studies looked at whether participating parents were engaged in community volunteer work once the program ended even though this was an explicit aim of some of the programs. Fathers "received little mention in program descriptions and evaluations" (Bowes, 2000, p. 19).

Cattermole and colleagues (2005) reviewed 23 studies evaluating educational interventions for parents of infants (from birth to 12 months). The types of interventions included in their review aimed to improve mothers' psychological health, knowledge, parenting and coping skills and encompassed home visiting, individual care by community midwives, sleep management plans, counselling and interpersonal therapy. They concluded that:

> *In general, there is insufficient evidence addressing the range of different needs and groups of clients being served in the period from birth up to the end of the first year. Therefore, at present it is not possible to draw any conclusions about effective practice (Cattermole et al., 2005, p. 34).*

Nevertheless, there is some good evidence from individual studies for the effectiveness of certain parenting and prevention programs. The interventions chosen for the catalogue include: Survival Skills for New Moms (Zlotnick, et al., 2001), Hamilton Health Community Program (Lipman and Boyle, 2005), Early Head Start plus Interpersonal Therapy for Depression (Beeber, et al., 2004) and Triple P – Positive Parenting Program (Sanders, et al., 2004). These programs are described in more detail in the catalogue. This list includes selected and universal interventions and contains a range of approaches like individual sessions at a clinic (Triple P), home visits and telephone calls (Early Head Start plus Interpersonal Therapy for Depression), as well as group interventions by mental health professionals (Survival Skills for New Moms and Hamilton Health Community Program). The list includes general parenting training programs (Triple P, Hamilton Health Community Program) and programs targeting depressed parents through identification and prevention (Early Head Start plus Interpersonal Therapy for Depression, Survival Skills for New Moms). Three programs include a specific a specific component on developing social supports in the community (Hamilton Health Community Program, Early Head Start plus Interpersonal Therapy for Depression, Survival Skills for New Moms).

Gardner and Deatrick (2006) in their survey of the literature on mothering interventions delivered by nurses found that the strongest evidence existed for nurse home-visiting interventions in the high social-risk population. The Olds Model, now known as the Nurse Family Partnership model, is the best-known example of a home visiting program and is well supported by evidence accumulated over many years (Olds, 2002). This intervention has been included in the catalogue for other indicators but may also be useful for this indicator. Another potentially useful home visiting program is Early Start Program NZ (Fergusson, et al., 2005, Fergusson, et al., 2006) which is a home visiting program for disadvantaged families with new infants. The program has four levels based on one-hour sessions delivered weekly, fortnightly, monthly, or three-monthly. (It

now also includes the Triple P Parenting program for all parents involved.) It is based on a collaborative approach with the family, developing individualised family plans, and Maori workers are involved to address issues particular to Indigenous families.

A promising individual study for depressed mothers known as the Protecting Families Program (Penn Optimism Program) is currently being studied in the United States (Boyd, et al., 2006). It is a 10-week, family-based multi-component prevention program for depressed mothers and school aged children (ages 9 – 14). Designed to increase "knowledge about depression, enhancing social support, and improving parenting skills" (Abstract). It uses 90 minute group sessions that "(a) provides psychoeducation about depression, its impact on children, and child development, and (b) teaches parenting skills that can improve children's affect regulation and behavioural control" (page 189). Each session begins with a community meal that brings families together to help build relationships and social networks. The children undertake the Penn Optimism Program for cognitive restructuring and coping skills. This experimental program is underway in Pennsylvania and is currently being evaluated by Diamond and Boyd (see Clinical Trials.gov NCT00183365, accessed December 2008).

Supported playgroups is another approach, used in Australia, for high-need families such as CALD, young mothers, socially disadvantaged, and those with mental health and addiction issues (see Playgroup Council of Australia, 2002). This model provides an experienced support worker and a positive environment in which to meet other families. Further work in this area has been conducted by the Caravan Parks Pilot (National Dissemination Program, Family Action Centre, The University of Newcastle, 2003) for homeless and disadvantaged families, working on a model known as "Playgroup Plus".

In Victoria, the Supported Parent Groups and Playgroups Initiative (SPPI) supports opportunities for child play and development, as well as opportunities for parents "to establish friendships and long-term social support structures that will strengthen social networks and provide community connectedness" (Office for Children, 2005). The program seeks to target families from disadvantaged and socially isolated backgrounds. (For further details see http://www.education.vic.gov.au/ecsmanagement/beststart/outcomes/support.htm#H2N1000B). Information about the parental interventions identified in this review can help inform practice with this program.

There are a number of other potentially useful strategies. One such strategy is a community strollers pram walking program. A survey of mothers said this a program would benefit those involved, including benefits from exercise, socialising and mental well-being (Currie and Develin, 2002). ParentCorps promotes school and social competence and aims to prevent conduct problems from children in low income urban communities. Goals of the program are to strengthen parenting practices, enhance support for parents and empower parents to access resources in their own communities. The intervention includes: groups for parents, groups for preschoolers, parent-child interactions, and home visits. It uses videos, didactics, modelling, role plays, discussions and group activities. It also has parent REPs (Resources, Educatiors and Partners), community agencies and a community advisory board (Caldwell, et al., 2005). The intervention also promotes links between teachers and parents (see http://www.aboutourkids.org/content/parentcorps).

3.5.4 Discussion

In summary, more research and evaluation is needed in the area of interventions to improve the level of social support for parents. At present, single studies may represent promising practices for future development work. This work attempts to catalogue the many promising practices in this large but under-researched topic area. Further interventions can be found at the Parenting Classes and Child Welfare in North Carolina (see http://www.trainingmatters-nc.org/tm_vol6_no1/tm_vol6no1.htm), McLennan and Lavis (2006), Gardner and Deatrick (2006), Jane-Llopis, et al. (2005), Elgar and McGarth (2003), Thomas, et al. (2003) and Bowes (2000).

(Plus the reviews outlined in the re-notification section including: Barlow, et al., 2006, Lundahl, et al., 2006, Geeraert, et al., 2004, Skowron and Reinemann, 2005 and Bilukha, et al., 2005).

In terms of local perspectives, additional educational resources are outlined in the final report on the Victorian PEAS Program (Wake, et al., 2003) and Australian nursing perspectives and techniques for running a new mothers group are outlined by Scott, Brady and Glynn (2001).

Other noteworthy papers and interventions include: couples therapy during the transition to parenthood (Schulz, et al., 2006), new fathers programs (Doherty, et al., 2006), self-administered interventions for parents (see Morawska and Sanders, 2006; and Elgar and McGarth, 2003) and providing resources to parents (see The Ready, Set, Grow ! Passport Initiative (Flint MI) see http://www.healthaccessprogram.org/Internet/Web/HealthAc.nsf/59a4ed422e2b640685256e9e00623f26/ed01a010eaa0420d85256e9b0066bf38?OpenDocument)

Another source of promising practices are parental interventions which target children at risk of problem behaviour at school by working with their parents. One such intervention is Families and Schools Together (FAST). This has an element of providing social support including shared meals, "sing-alongs", structured communication activities and play time (see Soydan, et al., 2005, Fischer, 2003, Tolan, et al., 2004, McLennan and Lavis, 2006 for further details). A similar program is currently being trialled by the Centers for Disease Control and Prevention. Known as Legacy for Children, it uses parental education and group meetings, home visits and community events to "enhance sensitive and responsive parenting, parent/child interaction, and promote a sense of community" (see Clinical Trials.gov NCT00164697) (Accessed December 2008).

A number of overlapping therapeutic areas may provide useful sources of supporting evidence. These include: good parenting programs (like Parents as Teachers) (Wagner and Clayton,1999); treatments for postpartum depression (Dennis and Creedy, 2004; Dennis 2004; Dennis and Hodnett, 2007; Morrell 2006); programs for parents of children with disabilities and/or chronic conditions (see Venters Horton and Wallander, 2001, Singer, et al., 2007); Mental Health Promotion (see Kelher and Armstong, 2006); peer support for individuals with chronic diseases (see Doull, et al., 2005); and programs for children whose parents who are depressed (see the experimental program underway in Pennsylvania by Diamond and Boyd, 2006 - Clinical Trials.gov NCT00183365 - Accessed December 2008). The use of this kind of supporting evidence from related fields has been advocated by Gardner and Deatrick (2006), who recommended applying the peer support model for parents of children with chronic illnesses to early mothering.

Finally, in terms of alternative approaches, there are two new agendas emerging. First, there is the Wells, et al. (2004) proposal of a "marriage" of public health interventions, especially mental health, with community development initiatives/participatory action research. And second, there is the development of online support groups. While better research and evaluation is need into this whole activity (see Eysenbach, et al., 2004 for a review), Drentea and Moren-Cross (2005) did find that a women's online bulletin board did use emotional support, information giving and community protection, thereby enhancing social capital. However, the debate continues about whether online communities, and the nature of the internet, increases or decreases social capital.

3.5.5 References

Barlow J, Coren E and Stewart-Brown SSB (2005) *Parent-training programs for improving maternal psychosocial health (Review).* The Cochrane Library, John Wiley & Sons, Ltd.

Barlow J, Johnston I, Kendrick D, et al (2006) *Individual and group-based parenting programs for the treatment of physical child abuse and neglect*. The Cochrane Library, John Wiley & Sons, Ltd.

Bayer JK, Hiscock H, Morton-Allen E, Ukoumunne OC and Wake M (2007) Prevention of mental health problems: rationale for a universal approach. Archives of Disease in Childhood. Vol. 92, pp. 34-38.

Beeber LS, Holditch-Davis D, Belyea MJ, et al (2004) *In-Home Intervention for Depressive Symptoms with Low-Income Mothers of Infants and Toddlers in the United States.* Health Care for Women International. Vol. 25, pp.561-580.

Beeber LS and Canuso (2005) *Strengthening social support for low-income mothers: Five critical questions and a guide for intervention.* Journal of Obstetric, Gynecologic, & Neonatal Nursing. Vol. 34, pp.769-776.

Beeber LS, Perreira KM and Schwartz T (2008) *Supporting the mental health of mothers raising children in poverty: How do we target them for intervention studies?* Annals of the New York Academy of Sciences. Vol. 1136, pp.86-100.

Bennett C, Macdonald GM, Dennis J, Coren E, Patterson J, Astin M and Abbott J (2008) *Home-based support for disadvantages adult mothers (Review).* The Cochrane Library, John Wiley & Sons, Ltd.

Bilukha O, Hahn RA, Crosby A, et al (2005) *The effectiveness of early childhood home visitation in preventing violence.* Am J Prev Med. Vol. 28, No.2, S1, pp.11-39.

Bowes J (2000) *Response of parents to parent education and support programs: A review of evaluation research on some key USA programs (Conference Paper).* Family Futures: Issues in Research and Policy: 7th Australian Institute of Family Studies Conference.

Boyd RC, Diamond GS and Bourjolly JN (2006) *Developing a family based depression prevention program in urban community mental health clinics: A qualitative investigation.* Family Process. Vol. 45, pp.187-203.

Caldwell MB, Brotman LM, Coard SI, et al (2005) *Community involvement in adapting and testing a prevention program for preschoolers living in urban communities: ParentCorps.* Journal of Child and Family Studies. Vol. 14, pp.373-386.

Cattermole D, Hinks S, Kinn S, et al (2005) *A review of the policy and research evidence of parent education delivered in the antenatal period and throughout infancy (Section 2) 1992 - 2003.* NHS Health Scotland.

Coren E, Patterson J, Astin M, et al (2004) *Home-based support for socially disadvantaged mothers (Protocol).* The Cochrane Library, John Wiley & Sons, Ltd.

Currie JL and Develin E (2002) *Stroll your way to well-being: A survey of the perceived benefits, barriers, community support, and stigma associated with pram walking groups designed for new mothers, Sydney, Australia.* Health Care for Women International. Vol. 23, pp.882-893.

Dennis CL (2004) *Preventing postpartum depression Part II: A critical review of nonbiological interventions.* Can J Psychiatry. Vol. 49 No.8, pp.526-538.

Dennis CL and Creedy D (2004) *Psychosocial and psychological interventions for preventing postpartum depression (Review).* The Cochrane Library, John Wiley & Sons, Ltd.

Dennis CL and Hodnett E (2007) Psychosocial and psychological interventions for treating postpartum depression (Review). The Cochrane Library, John Wiley & Sons, Ltd.

Bidwell S and Jensen MF (2003) *Chapter 3: Using a Search Protocol to Identify Sources of Information: the COSI Model.* National Information Center on Health Services Research and Health Care Technology (NICHSR), US National Library of Medicine.

Doherty WJ, Erickson MF and LaRossa R (2006) *An intervention to increase father involvement and skills with infants during the transition to parenthood.* Journal of Family Psychology. Vol. 20, pp.438-447.

Doull M, O'Connor AM, Robinson V, et al (2005) *Peer support strategies for improving the health and well-being of individuals with chronic diseases (Protocol).* The Cochrane Library, John Wiley & Sons, Ltd.

Drentea P and Moren-Cross JL (2005) *Social capital and social support on the web: The case of an internet mother site.* Sociology of Health & Illness. Vol. 27, pp.920 -943.

Eagar K, Brewer C, Collins J, Fildes D, Findlay C, Green J, Harrison L, Harwood N, Marosszeky N, Masso M, Matete S, Morris D, Peat J, Rix M, Shorten B, Siminski P, Williams K and Yeatman H (2005) *Strategies*

for Gain - The evidence on strategies to improve the health and wellbeing of Victorian children. Centre for Health Service Development, University of Wollongong.

Elgar FJ and McGarth PJ (2003) *Self-administered psychosocial treatments for children and families.* J Clin Psychol. Vol. 59, pp.321-339.

Eysenbach G, Powell J, Englesakis M, et al (2004) *Health related virtual communities and electronic support groups: Systematic review of the effects of online peer to peer interactions.* BMJ. Vol. 328, pp.1166-1172.

Fergusson DM, Grant H, Horwood LJ, et al (2006) *Randomized Trial of the Early Start program of home visitation: Parent and family outcomes.* Pediatrics. Vol. 117, pp.781-786.

Fergusson DM, Horwood LJ, Ridder EM, et al (2005) *Early Start: Evaluation Report.* Early Start Project Ltd, New Zealand.

Fischer RL (2003) *School-based family support: Evidence from an exploratory field study.* Families in Society. Vol. 84, pp.339-347.

Gallagher Tuleya L (Editor) (2007) *Thesaurus of Psychological Index Terms (Eleventh Edition).* Washington DC: American Psychological Association.

Gardner MR and Deatrick JA (2006) *Understanding interventions and outcomes in mothers of infants.* Issues in Comprehensive Pediatric Nursing. Vol. 29, pp.25-44.

Garg A, Butz AM, Dworkin PH, Lewis RA, Thompson RE and Serwint JR (2007) *Improving the management of family psychosocial problems at low-income children's well-child care visits: The WE CARE Project.* Pediatrics. Vol. 120, pp.547-558.

Geeraert L, Van den Noortgate W, Grietens H, et al (2004) *The Effects of Early Prevention Programs for Families with Young Children at Risk for Physical Child Abuse and Neglect: A Meta-Analysis.* Child Maltreatment. Vol. 9, pp.277-291.

Guttentag CL, Pedrosa-Josic C, Landry SH, Smith KE and Swank PR (2006) *Individual vaiability in parenting profiles and predictors of change: Effects of an intervention with disadvantaged mothers.* Journal of Applied Developmental Psychology, Vol. 27, pp.349-369.

Hodnett R and Roberts I (2005) *Home-based social support for socially disadvantaged mothers (Review).* The Cochrane Library, John Wiley & Sons, Ltd.

Jane-Llopis E, Barry M, Hosman C, et al (2005) *Mental health promotion works: A review.* Promotion & Education (IUHPE). Supplement 2, pp.9 -25.

Kelher H and Armstrong R (2006) *Evidence-based mental health promotion resource.* Report for the Department of Human Services and VicHealth.

Lee SS, August GJ, Bloomquist ML, Mathy R and Realmuto GM (2006) *Implementing an evidence-based preventive intervention in neighborhood family centers: examination of perceived barriers to program participation.* Journal of Primary Prevention. Vol. 27, pp.573-597.

Lipman EL and Boyle MH (2005) *Social support and education groups for single mothers: A randomized controlled trial of a community-based program.* CMAJ Canadian Medical Association Journal. Vol. 173, pp.1451-1460.

Lipman EL, Waymouth M, Gammon T, Carter P, Secord M, Leung O, Mills B and Hicks F (2007) *Influence of group cohesion on maternal well-being among participants in a support/education group program for single mothers.* American Journal of Orthopsychiatry. Vol. 77, pp.543-549.

Lundahl BW, Nimer J and Parsons B (2006) *Preventing child abuse: A meta-analysis of parent training programs.* Research on Social Work Practice. Vol. 6, pp.251-262.

McLennan JD and Lavis JN (2006) *What is the evidence for parenting interventions offered in a Canadian Community?* Canadian Journal of Public Health. Vol. 97, pp.454-458.

Morawska A and Sanders MR (2006) *Self-administered behavioral family intervention for parents of toddlers: Part 1 - Efficacy*. Journal of Consulting and Clinical Psychology. Vol. 74, pp.10-19.

Morrell CJ (2006) *Review of interventions to prevent or treat postnatal depression*. Clinical Effectiveness in Nursing. Vol. 9S2, e135-e161.

National Dissemination Program (2003) *Caravan Parks Pilot: Family Crisis Child Care Program 2001-2003 (Final Report to the Commonwealth Department of Family and Community Services)*. Family Action Centre, University of Newcastle.

Office for Children (2005*) Supported parent groups and playgroups - Program guidelines and funding submission details 2005*. Victorian Department of Human Services.

Olds DL (2002) *Prenatal and infancy home visiting by nurses: From randomized trials to community replication*. Prevention Science. Vol. 3, pp.153-172.

Pardini DA, Lochman JE and Powell N (2007) *The development of callous-unemotional traits and antisocial behavior in children: are there shared and/or unique predictors?* Journal of Clinical Child & Adolescent Psychology. Vol. 36, pp.319-33.

Playgroup Council of Australia (2002) *Supported Playgroups (Final Report)*. Playgroup Council of Australia, Canberra.

Public Health Group (2006) *Evidence in a Nutshell - Mental Health Promotion* (Handout for Keleher & Armstrong, 2006). Victorian Department of Human Services.

Sanders MR (2008) *Triple P-Positive Parenting program as a public health approach to strengthening parenting*. Journal of Family Psychology. Vol. 22, pp.506-517.

Schulz MS, Pape Cowan C and Cowan PA (2006) *Promoting healthy beginnings: A randomized controlled trial of a preventive intervention to preserve marital quality during the transition to parenthood*. Journal of Consulting and Clinical Psychology. Vol. 74, pp.20-31.

Scott D, Brady S and Glynn P (2001) *New mother groups as a social network intervention: Consumer and maternal and child health nurse perspectives*. Australian Journal of Nursing. Vol. 18, pp.23-29.

Sheppard M (2004) *An evaluation of social support intervention with depressed mothers in child and family care*. British Journal of Social Work. Vol. 34, pp.939-960.

Singer GHS, Ethridge BL and Aldana SI (2007) *Primary and secondary effects of parenting and stress management interventions for parents of children with developmental disabilities: a meta-analysis*. Mental Retardation & Developmental Disabilities Research Reviews. Vol. 13, pp.357-369.

Skowron E and Reinemann DHS (2005) *Effectiveness of psychological interventions for child maltreatment: A meta-analysis*. Psychotherapy. Vol. 42, pp.52-71.

Soydan H, Nye C, Chacon-Moscoso S, et al (2005) *Families and Schools Together (FAST) for improving outcomes of school-aged children and their families (Protocol)*. The Cochrane Library, John Wiley & Sons, Ltd.

Stevens M, Liabo K and Roberts H (2007) *A review of the research priorities of practitioners working with children in social care*. Child and Family Social Work. Vol. 12, pp.295-305.

Tolan P, Gorman-Smith D and Henry D (2004) *Supporting families in a high-risk setting: Proximal effects of the SAFEChildren Prevention Intervention*. Journal of Consulting and Clinical Psychology. Vol. 72, pp.855-869.

Thomas D, Leicht C, Hughes C, et al (2003) *Emerging practices in the prevention of child abuse and neglect*. Office of Child Abuse and Neglect, Administration for Children & Families, US Department of Health and Human Services.

Turner KMT and Sanders MR (2006) *Help when it's needed first: A controlled evaluation of a brief, preventive behavioral family intervention in a primary care setting.* Behavior Therapy. Vol. 37, pp.131-142.

Venters Horton T and Wallander JL (2001) *Hope and social support as resilience factors against psychological distress of mothers who care for children with chronic physical conditions.* Rehabilitation Psychology. Vol. 46, pp.382-399.

Wagner MM and Clayton SL (1999) *The Parents as Teachers Program: Results from two demonstrations.* The Future of Children. Vol. 9, pp.91-115.

Wake M, Gallagher S, Poulakis Z, et al (2003) *The Parent Education and Support (PEAS) Program: Final Report.* Victorian Department of Human Services.

Wells K, Miranda J, Bruce ML, et al (2004) *Bridging community intervention and mental health services research.* Am J Psychiatry. Vol. 161, pp.955-963.

Zlotnick C, Johnson SL, Miller IW, et al (2001) *Postpartum depression in women receiving public assistance: Pilot study of an Interpersonal-Therapy-Oriented Group Intervention.* Am J Psychiatry. Vol. 158, pp.638-640.

Zlotnick C, Miller IW, Pearlstein T, Howard M and Sweeney P (2006) *A Preventive Intervention for Pregnant Women on Public Assistance at Risk for Postpartum Depression.* American Journal of Psychiatry. Vol. 163, pp.1443-1445.

Zubrick SR, Smith GJ, Nicholson JM, Sanson AV, Jackiewicz TA and the LSAC Research Consortium (2008) Social Policy Research Paper No 34. Parenting and families in Australia. Canberra: Australian Government Department of Families, Housing, Community Services and Indigenous Affairs.

3.5.6 Updated evidence table (Parenting support)

Table 5   Proportion of children whose parents report high levels of social support: recommended strategies

	Supporting evidence	Replication	Documentation	Theoretical basis	Cultural reach
(15.1) Survival Skills for New Moms	1	N	Y	Y	LOW SES
(15.2) Hamilton Health Community Program	1	N	Y	Y	UNIVERSAL
(15.3) Triple P (Brief Behavioural Family Intervention)	1	N	Y	Y	UNIVERSAL
(15.4) Early Head Start plus Interpersonal Therapy for Depression	1	N	Y	Y	LOW SES CALD

Key

Supporting evidence:
1.   Well supported practice – evaluated with a prospective randomised controlled trial.
2.   Supported practice – evaluated with a comparison group and reported in a peer-reviewed publication.
3.   Promising practice – evaluated with a comparison group.
4.   Acceptable practice – evaluated with an independent assessment of outcomes, but no comparison group (e.g., pre- and post-testing, post-testing only, or qualitative methods) or historical comparison group (e.g., normative data).
5.   Emerging practice – evaluated without an independent assessment of outcomes (e.g., formative evaluation, service evaluation conducted by host organisation).

Replication:
Has the intervention been implemented and independently evaluated at more than one site? (yes or no)

Documentation:
Are the content and methods of the intervention well documented (e.g. provider training courses and user manuals) and standardised to control quality of service delivery? (yes or no)

Theoretical basis:
Is the intervention based upon a well accepted theory or developed from a continuing body of work in its field? (yes or no)

Cultural reach:
Has the program been trialed with people in disadvantaged communities, Indigenous people and/or people from culturally and linguistically diverse backgrounds? (LOW SES/INDIGENOUS/CALD)

3.5.7 Updated catalogue entries (Parenting support)

Recommended Strategy 15.1: Proportion of children whose parents report high levels of social support	
Name of intervention	Survival Skills for New Moms
Organisation	NA
Brief literature review	This intervention consisted of four group sessions, each of one hour duration, over four weeks. Sessions included: education on 'baby blues' and post-partum depression; role transitions; transition to motherhood; setting goals; developing supports; identifying potential interpersonal conflicts; resolving interpersonal conflicts. Based on interpersonal therapy delivered by mental health professionals.
How and why does this intervention work?	Survival Skills for New Moms was evaluated with a small randomised controlled trial involving 37 pregnant women on public assistance, with at least one predictor for post-partum depression. In terms of experimental design, the control group was a care as usual control group. The outcome measure was major depression as measured by the Beck Depression Inventory three months postpartum. The results suggest that the program was successful in preventing depression. This intervention study was repeated by the authors in a larger sample (n=99) adding to the intervention a 50 minute individual booster session. The study found similar positive results for preventing depression (Zlotnick, et al. 2006).
On what population does this intervention work best?	New mothers at risk for postpartum depression, in receipt of government benefits (low SES).
Where will this intervention work best?	This intervention is delivered in community settings. Mothers were surveyed and recruited while attending a prenatal clinic at hospital.
What is required to implement this intervention?	Mental health professionals with specific training for the intervention, namely interpersonal therapy and using content developed for this study.
Resources and contact information	Contact the article's author: Dr. Caron Zlotnick http://research.brown.edu/myresearch/Caron_Zlotnick
References	Zlotnick et al. (2001) Zlotnick et al. (2006)

Recommended Strategy 15.2: Proportion of children whose parents report high levels of social support	
Name of intervention	Hamilton Health Community Program
Organisation	NA
Brief literature review	The intervention consists of a 10-week program of group sessions (1.5 hours per session). While mothers attend the training program, their children are provided with a concurrent activities program. Two themes are addressed. The child-related content covers topics such as child development and behaviour, behaviour management, school involvement, child welfare agencies). The mother-related content covers issues such as social isolation, stress and coping, personal care and development, relationships, grief, economic disadvantage. To increase access and attendance, reminder calls are provided before each session and assistance with transport and food is provided at sessions. Those who continue to participate are rewarded with books and gift certificates.
How and why does this intervention work?	This program was evaluated via a randomised controlled trial involving 117 single mothers, who were recruited from community advertisements. In terms of experimental design, the control group was a treatment as usual control group. The outcome measures were mood, self-esteem, social support, and parenting. Short term effects on mood and self-esteem, but not with social support and parenting.
On what population does this intervention work best?	Single mothers of children aged 3 to 9 years.
Where will this intervention work best?	The program was delivered in a church hall / community centre. Mothers were recruited via flyers distributed in the community.
What is required to implement this intervention?	Mental health professionals with specific training for the intervention. Experience with cognitive behavioural therapy and group counselling would be required as would the use of content developed for this study.
Resources and contact information	Contact the article's author: Dr. Ellen L. Lipman http://www.fhs.mcmaster.ca/ceb/faculty_member_lipman.htm
References	Lipman & Boyle (2005) Lipman et al. (2007)

Recommended Strategy 15.3: Proportion of children whose parents report high levels of social support	
Name of intervention	Triple P – Positive Parenting Program (Brief Behavioural Family Intervention)
Organisation	Parenting and Family Support Centre, University of Queensland and Triple P International Pty. Ltd.
Brief literature review	Parent training was delivered to mothers by nurses trained in the 'primary care' version of Triple P. The intervention consisted of three or four individual sessions, each lasting 30-40 minutes, once a week. Session 1: Problem Identification; Session 2: Review Problem / Parenting Plan; Session 3: Review Parenting Plan; Session 4: Review Progress if required / Troubleshooting. Supporting materials included visual aids, tip sheets and videos. Compliance/integrity checklists were also completed.
How and why does this intervention work?	This intervention was evaluated using a randomised controlled design involving 30 families presenting to a clinic. In terms of experimental design, the control group was a wait list control. The outcome measures were child behaviour; parenting behaviour; parent-child interaction; parent confidence and adjustment; and treatment acceptability. There was some support for treatment effectiveness on all of these measures except parent-child interaction. Parents were followed up for 6 months. There was no follow-up of the control group.
On what population does this intervention work best?	Families presenting with a problem to a community child health centre. Parents "had one or more concerns about the child's behaviour or their own parenting skills" (page 132).
Where will this intervention work best?	Parent education and training provided by a trained practitioner using homework resource materials (including videotapes and booklets). Tested here in an urban / community health centre setting.
What is required to implement this intervention?	Practitioners running Triple P are required to have completed an approved training course and be an accredited provider.
Resources and contact information	http://www1.triplep.net/
References	Turner & Sanders (2006) Sanders (2008) provides a summary of other Triple P interventions

Recommended Strategy 15.4: Proportion of children whose parents report high levels of social support	
Name of intervention	Early Head Start plus Interpersonal Therapy for Depression
Organisation	NA – Single study
Brief literature review	Based on interpersonal therapy for depression, the intervention consists of eight home visits by a nurse over a period of eight to ten weeks. This is followed by a 'booster phase' of five telephone calls from the nurse over the next eight weeks, and then a final face-to-face meeting. During the visits, strategies are taught for managing depressive symptoms, improving problematic life issues, increasing access to social support, and parenting effectively while asymptomatic. Beeber and Canuso, 2005 provide a guide to intervening and strengthening social support for low income mothers.
How and why does this intervention work?	Early Head Start plus interpersonal therapy was evaluated using a randomised controlled trial design involving 16 mothers from CALD backgrounds. Participants were screened for depressive symptoms. The program is part of a larger intervention system. In terms of experimental design, the control group was a usual care or wait list control. The outcome measures were Depressive Symptom Severity and Maternal Interactions (Intervention content, adherence and satisfaction were also measured). Improvements on these measures were maintained for a 4 month period. Two further trials for low income and Latina mothers are currently in progress (see Beeber et al. 2008).
On what population does this intervention work best?	Low income mothers of infants and toddlers aged from birth to three years.
Where will this intervention work best?	The intervention is delivered in home and community settings.
What is required to implement this intervention?	Team of mental health nurses. Training / background in the interpersonal theory of nursing and interpersonal therapy. Using Early Head Start program education materials and content developed for this study.
Resources and contact information	Contact the article's author: Linda S. Beeber, PhD, RN http://nursing.unc.edu/son-bin/son/directories/search.php?x=200
References	Beeber et al. (2004) Beeber et al. (2008)