Aboriginal women’s perinatal needs, experiences and maternity services: A literature review to enable considerations to be made about quality indicators

The question should not be, “why do women not accept the service that we offer?” but, “why do we not offer a service that women will accept?” (WHO 2005).

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Summary

There is insufficient knowledge and understanding of Aboriginal women’s reproductive health; what is known focuses more on pathology and disease rather than wellness and health. There is inadequate comprehension of Aboriginal women’s birthing and postpartum experiences. That is not to refute the significance of traditional knowledge and beliefs Aboriginal women hold, but to emphasise that Aboriginal women’s preferences, feelings and encounters with the health system as it impacts on them and their family and community lives during pregnancy and after, are poorly understood and appreciated. Aboriginal women’s voices are only infrequently heard, their choices are limited if any, and they are required to adhere to expectations about what is ‘good’ care for them during pregnancy, birth and after the baby is born. That they do not always ‘comply’, are often seen as ‘difficult’ and choose to ‘abscond’ from medical and hospital care must be recognised as inadequacy of the health system not Aboriginal women’s negligence. There is an urgent need for rethinking of the axis of maternity care as it relates to Aboriginal women.

Some health services are working to bring maternity care to Aboriginal women with consideration for cultural security, access and transport, flexibility, child and family involvement, amenable environments, sensitive staff inclusive of sufficient appropriate Aboriginal Health Workers and philosophies for practice that emphasise partnership, respect and trust with ongoing supportive care as much as is possible. Such changes can be beneficial for clients and health service alike. Frequently, this is done under considerable economic and resource strain. Sustainability is crucial for long term and generational improvement and the need to effect distinctive change across labour and birth as well as antenatal care to impact on perinatal morbidity and mortality is critical. Government control and medicalisation as the only solution for Aboriginal women’s pregnancy and birth experiences only serves to further undermine the sacred knowledge and skills that Aboriginal women have held about women’s business. The focus must be on Aboriginal women’s control of THEIR reproductive health and maternity care.

There is sound evidence for changing the provision of preconception and maternity care for Aboriginal women, especially antenatal care, and to ensure they are actively and informatively involved. Research to enable greater exploration of alternatives for Aboriginal women for their preconception, pregnancy, birth and postpartum care and in particular to increase a very limited understanding of their experiences and perceptions of these critical times in their reproductive lives, is imperative. That means research WITH Aboriginal women not ON Aboriginal women.

The development of quality indicators for maternity care is still quite limited and only recently the World Heath Organisation has undertaken to guide this for consistency and integrity. In terms of Aboriginal women’s maternity care there are great challenges in the use of indicators as much is still be improved at a national level in their perinatal morbidity and mortality rates, let alone gains and change that might be measurable at local health service levels. The effort is certainly worth it and it is to be hoped that health services will increasingly include appropriate and well considered indicators in their quality plans. However the analysis and use of findings must be rigorous and ethical, and carefully interpreted in the context of Aboriginal women’s lives, families and communities. That means indicators must incorporate both quantitative and qualitative perspectives and ensure that Aboriginal women’s personal insights and views are included and responded to.
1 Introduction

The diversity and uniqueness of Aboriginal and Torres Strait Islander (ATSI) people’s culture, knowledge and capabilities are acknowledged from the outset of this literature review. The reviewer is not Indigenous and has taken every effort to consider and analyse the literature and evidence in terms of the health and wellbeing needs, issues and contexts of Aboriginal and Torres Strait Islander women and their families. If there is any indication otherwise it has not been intended or desired. For consistency and ease of reading the term Aboriginal has been used to refer to Aboriginal and Torres Strait Islander, but not to indicate any undermining of their respective identities.

The overall direction of this review has been on antenatal care, along with preconception, labour, birth and postpartum care in terms of Australian Aboriginal women and the Australian health system. Literature from beyond these perspectives has also been included where it has been of relevance and/or consequence. Obviously primary health care and cultural context are of relevance and have been included to a limited but hopefully appropriate extent. The literature has been explored specifically through antenatal care along with labour/birth care and to a lesser extent postnatal care because of the nature of the 2 projects driving this review; one considering antenatal care indicators and one a range of preconception through postpartum indicators, but both concerned most importantly with the needs and experiences of Aboriginal women through childbearing. While there has been quite extensive literature to review overall, the amount of published material, in particular evidence, that specifically addresses Aboriginal women’s maternity care experiences is limited unfortunately, more-so in labour/birth studies, and especially so in terms of postnatal care. There is also a persisting lack of information about the knowledge and use of evidence in rural and remote midwifery practice and most importantly the possible harmony of evidence based practice and traditional birthing beliefs and practices of Aboriginal women (Hancock 2006). This review is not by any means exhaustive but conducted with the intention of gaining as much contemporary (or dated if appropriate and not redundant), Australian and relevant other information as possible within applicability to Aboriginal women, and ideally written by and/or with them.

The common goal for all maternity care-givers should be to ensure the provision of effective care but as Enkin, Keirse, Neilson, Crowther, Duley, Hodnett and Hofmeyr (2000, p. 3) emphasise, although there is much agreement about the need for effective care, there is much less agreement about what constitutes effective care in pregnancy and birth. It is proposed that for Aboriginal women there is even less agreement and insufficient knowledge about what constitutes effective care for them in pregnancy and birth. Effective care concerns vary around cost effectiveness and the need to address rising costs, increasing technology and increasing intervention; perinatal mortality and morbidity is seen by others to be the singular focus regardless of women’s control, preference and possible discomfort; while others consider that women’s experiences are fundamental with choice and satisfaction as essential (Enkin et al 2000). Clearly as Enkin et al (2000) acknowledge, these differing beliefs will influence practice and outcomes in maternity care, as will the location of health facilities, the education and expertise of health professionals, the demographics of women, the presence of students, tradition, routine, culture, trends, political issues, insurance and litigation issues, funding, resources and equipment, staff remuneration and staffing, management and organisational structures and clinical governance among others.
Enkin et al (2000) provide what is considered to be the central guide to the provision of evidence based practice in maternity care through their text version of the Cochrane Database of systematic reviews relating to pregnancy and birth. Their definition of evidence based care is “the conscientious, judicious and explicit use of current best evidence in making decisions about the care of individual patients” (Enkin et al 2000, p. 4). They emphasise the consequences of midwifery care versus obstetric care, advising most significantly that it is, “inherently unwise, and perhaps unsafe, for women with normal pregnancies to be cared for by obstetric specialists, even if the required personnel were available” and go on to add that midwives are “primarily oriented to the care of women with normal pregnancies” (2000, p1.). This is a challenging prospect for the continuing medicalisation of Aboriginal women’s pregnancies.

The over-riding principles for the provision of effective evidence based maternity care should be (Enkin et al 2000, p. 486):

... that the only justification for practices that restrict a woman’s autonomy, her freedom of choice, and her access to her baby, would be clear evidence that these restrictive practices do more good than harm; and ... that an interference with the natural process of pregnancy and childbirth should also be shown to do more good than harm ... the onus of proof rests on those who advocate any intervention that interferes with either of these principles.

These principles should be kept in mind by the readers of this review as they consider and interpret the details and findings, and remember that indicators for effective care should therefore be based on sound evidence that promotes maternal/infant benefit. The other critical aspect of this review is the need for Aboriginal women themselves to be able to read it, consider it and respond to it, more-so to be able to use the information for informed choices and decision-making in their own pregnancy and birth experiences so that it too is not another process and product that remains aloof and removed from their reality and their control. To that end the review has been compiled in as straightforward as possible manner arranged under the three basic aims as identified below, for as easy as possible reading within the realities of the literature itself.

1.1 Literature review aims and method
The aim of this literature review has been to present an analysis of evidence and information from literature and resources relating to antenatal, intrapartum and postpartum experiences, maternity care and outcomes, and the quality of that care, to enable considerations and decisions to be made for the determination of relevant indicators for Aboriginal women. The 3 central objectives of the review process have been to derive;

- Information and evidence around antenatal, intrapartum and postpartum care in general;
- Information and evidence relating to antenatal, intrapartum and postnatal care as experienced by Aboriginal (and other) women;
- Information and evidence about evaluation, quality assessment and indicators in terms of antenatal, intrapartum and postpartum care.

These objectives form the main sections for the review based on a realist synthesis type approach. Included in this review where necessary has been other related literature to provide further depth and/or clarification of information where this has been limited or absent regarding Aboriginal women or other aspects. Literature has been searched via electronic databases (such as MEDLINE, Pub Med, CINAHL, Cochrane Database of Systematic Reviews, Australian Bureau of Statistics), textbooks, research/authority sites
such as Commonwealth and State/Territory Government web sites, Office of Aboriginal and Torres Strait Islander Health, National Health and Medical Research Council and National Institute of Clinical Studies) and their numerous associated links. Search terms included use of Aboriginal, ATSI and Indigenous, with prenatal/antenatal/antepartum care/experience/evaluation, pregnancy care/experience/evaluation, intrapartum care/experience/evaluation, labour/birth care/experience/evaluation, postnatal/postpartum care/experience/evaluation, perinatal care/experience/evaluation, peripartum care/experience/evaluation, and varying derivatives. The time period for the review has been from 1994 to current literature with the inclusion of two classic works from 1984 and 1987. This timeline was determined by the relevance of the literature to contemporary knowledge. Literature was excluded if contents were, outdated by evidence and/or not able to inform the review in any way. The literature has been analysed by individual source rather than by comparative analysis of sources (other than in one small area) for ease of reading and understanding.

1.2 Overview
Hunt, Baraga, & Lumley (2001, p. 160) in their evaluation report of Danila Dilba Aboriginal Health Service in Darwin, Northern Territory (NT), identified a number of criticisms raised about Aboriginal health research:

- The lack of linking of Aboriginal health research to Aboriginal health programs for change;
- The lack of respect of confidentiality for Aboriginal individuals and communities;
- The insensitivity to the values, needs and customs of Aboriginal communities, in particular regarding Aboriginal women’s issues;
- The lack of appropriate consultation and negotiation with Aboriginal communities;
- The lack of adequate feedback given to Aboriginal individuals and communities who are involved in research.

Despite the 5 years since their evaluation these criticisms are still very relevant and clearly more action is needed to remove the tendency that persists for taking advantage of Aboriginal people through health research and related activities, for not advocating with them in terms of the value and consequences of their involvement, for not giving them control of their knowledge and research findings and for not acknowledging their rights to decision making. These criticisms should be held in mind by readers as they work through this review and consider the application relevance of what they read and how the information might be used.

Where studies have been conducted relating to Aboriginal women’s pregnancy experiences (there is a dearth of information about their labour/birth/postpartum experiences) they have mostly been evaluative and responsive to program/health service delivery change. It is unfortunate that there has been very limited emphasis on sustainability in these program/health service delivery changes. That makes assessing their effectiveness in the longer term (particularly given many reviews and evaluations have not been followed up), and determining possible applicability across other Aboriginal women and their communities difficult. Where there have been findings of note, ascertaining specific distinct interventions, strategies and/or causal factors responsible for them has also been difficult; multiple issues and dynamics within and between Aboriginal women and their communities mean what may work well in one area may not in another. It continues to be of concern that while models of practice and
maternity service changes based on sound evidence have occurred increasingly across Australia for non-Aboriginal women to achieve improvements for them in choice, continuity and control, the same has not occurred for Aboriginal women. Medicalised tradition and routine still hold particular influence over Aboriginal women’s pregnancy (and labour, birth and postpartum) experiences and the move to remediate and/or innovate this seems slow.

2 Information and evidence around antenatal, intrapartum and postpartum care

2.1 A history of tradition
Antenatal care dates back to early European models in the last century which have essentially persisted unchanged over time despite the inclusion of new technology and knowledge (Villar, Carroli, Khan-Neelofur, Piaggio and Gülmezoglu 2001). K.Barker (1998, p.1067) claimed that the 1913 publication *Prenatal Care*, distributed to millions of American women as part of a public health campaign, presented a biomedical interpretation of pregnancy which “reconceptualised it as medically problematic rather than as experientially and organically demanding”. This universal claim of biomedicine (that women had to be medically supervised through their pregnancy) also served to advance a particular class and racial/ethnic composite of women according to K. Barker (1998). K. Barker (1998) insists that this biomedical interpretation of pregnancy has become endemic in the twentieth century in spite of a lack of proof of the efficacy of antenatal care and any understanding of cultural authority and medicalisation of pregnancy needs to be considered through the impact of this biomedical imposition.

Other significant writers have expressed similar strong concerns about the medical domination of pregnancy, for example, Ann Oakley (1984) in her seminal work, *The Captured Womb*. Oakley’s (1984, p. 1) comments form a very useful frame for this literature review; it must be remembered that these remarks were put in 1984 – over twenty years ago – and yet they are still confronting and relevant;

[...]

It is not hard to see how spiritual and cultural meanings and practices in and of pregnancy and birth have become undermined, devalued, and cast aside as suspicious or worse dangerous, leaving women void or at best uncertain of the richness and importance of traditional values and beliefs around their experiences as women and of being pregnant.
The provision of antenatal care in the United Kingdom followed over thirty years after the introduction of formalised care for labour and birth in 1900 (AbouZahr and Wardlaw 2003). It had been recognised by then that although maternal deaths by obstructed labour, infection and haemorrhage had been significantly reduced, deaths due to eclampsia had not. It was considered that perhaps intervening before labour by checking women’s blood pressures might help (AbouZahr and Wardlaw 2003). In the second half of the 20th century there was a significant move for women to have access to maternity care during their pregnancies, taking attention away from labor and birth; however focusing an antenatal care on its own will not address the causes of maternal morbidity and mortality arising from labour and birth and early postpartum (AbouZahr and Wardlaw 2003). The effects of continuity of care become so obvious when considered in the light of this vacillation in priorities.

Banta (2003 - below) notes that the concept of risk is problematic despite the fact that much of the historic routine of antenatal care has been based on risk status assessment, and despite this, risk scoring is a poor predictor of birth outcome. Risk assessment itself lacks sound evidence, indeed the process of risk assessment continues to focus on the possible benefits but with rare consideration of the possible harmful effects such as the stress, anxiety, intrusion and unsubstantiated intervention women face, and the often inappropriate allocation of resources based on risk determination (Enkin et al 2000).

Approximately 98% of women in developed countries receive antenatal care and about 94% of them give birth with appropriate health professionals, yet many women in Africa, Asia (and many Aboriginal women in Australia) do not receive adequate, if any antenatal care and many Asian/African women have no skilled support for birth, and in both cases what care there is can be of limited quality (Zanconato, Msolomba, Guarenti, and Franchi 2006). Unfortunately antenatal care remains poorly evaluated overall, and new models of care implemented in developed countries are too often not evaluated until late in their establishment or not at all so that effectiveness is not proven when these models may be introduced in other developing countries (Zanconato et al 2006). According to Zanconato et al (2006, p.15):

This blind attitude has transformed antenatal care into an empty and useless ritual, and explains why antenatal care programmes continue to be unsuccessful, being inappropriate to the specific situation. A mix of educational and cultural factors together with persistent lack of resources in a global critical situation all contribute to the poor results of antenatal care programmes.

2.2 Aims of Antenatal Care

World Health Organisation

In a report for the World Health Organisation (WHO) on the efficacy and effectiveness of antenatal care, Banta (2003) advised that antenatal care should be appropriate, cost effective and based on pregnant women’s specific needs. Much is still not known about antenatal care, particularly what constitutes appropriate and beneficial care. Many aspects of antenatal care are routine but not based on evidence and without benefit to mother and baby, of unsubstantiated proof or simply unnecessary (Banta 2003). In addition antenatal care can be expensive, estimated by the WHO in 1996 to be an average of $3000 US (United States of America) per pregnant woman and clearly that figure is higher now, albeit based on a medical model. The main costs were associated with the interventions that responded to supposed problems arising during antenatal
care (Banta 2003). Obviously antenatal care needs to be carefully considered and well planned to prevent it from becoming a complex costly exercise without justification.

According to Banta (2003) the purpose of antenatal care is to prevent maternal and neonatal health problems and enable a good start to life for the newborn. The aims (Banta 2003, p. 5) of antenatal care should therefore be to:

- Identify perinatal risk factors early;
- Intervene to improve outcomes;
- Educate health care providers and consumers; and,
- Enable pregnancy and birth to be a positive life experience.

The assumption has always been that antenatal care achieves its purpose yet at the same time there has been very little evaluation to confirm this. Where there already are low perinatal mortality rates there is not a lot that can change low risk status women in terms of antenatal care (Banta 2003) – that is make them even more low risk! Antenatal care should therefore be based on care that is known to be effective not routines and medical traditions. According to Banta (2003, p.6) that means 3 basic activities should comprise antenatal care;

- Screening for health and socioeconomic conditions likely to increase the possibility of specific adverse outcomes;
- Providing therapeutic interventions known to be beneficial;
- Educating pregnant women about planning for safe birth, emergencies during pregnancy and how to deal with them.

Elaboration of those activities with the relevant confirmed evidence follows (Banta 2003):

- Screening for health and socioeconomic conditions likely to increase the possibility of specific adverse outcomes:
  - Blood pressure measurement for pre-eclampsia at first visit and periodically throughout the pregnancy;
  - D blood typing and antibody screening at first visit and repeated at 24/28 weeks for unsensitised D-negative women (if the treatment costs and implementation of it can be funded);
  - Screening for iron deficiency anaemia (which can increase blood count at birth but not necessarily provide health benefits to mother or baby);
  - Amniocentesis or chorionic villus sampling for chromosome studies in women at high risk for Down Syndrome;
  - Counselling on the potentially harmful effects of smoking;
  - Counselling on the possible effects of drinking alcohol during pregnancy;
  - Providing specific nutritional guidelines to enhance maternal and fetal health.

- Providing therapeutic interventions known to be beneficial and relevant to selected and defined circumstances:
  - Antiretroviral treatment for reducing the risk of mother-to-child transmission of Human Immunodeficiency Virus (HIV);
  - Antibiotics for the treatment of asymptomatic bacteriuria;
  - Antibiotics for syphilis diagnosed during pregnancy;
  - Treatment for chlamydia and gonorrhoea;
  - Treatment of diabetes in pregnancy;
  - Balanced protein/energy supplementation in pregnancy.

Banta (2003) advises that the treatment of gestational diabetes has uncertain benefits and certain harmful side effects and there is a critical need for clarification around the
risks and validation of therapies in this area. This is an issue of importance for pregnant Aboriginal women in whom there continues to be a problem with glucose intolerance or diabetes (Eades 2004). Other practices that should be discarded according to Banta (2003) include:

- Not involving women in decisions about their care;
- Advising restriction of weight gain;
- Measuring weight gain routinely;
- Restricting salt intake;
- Measuring height routinely.

Banta (2003) also discussed the issue of appropriate care provider for antenatal care and whether every woman needs to be seen by a medical practitioner; he refers to the evidence that shows that midwifery and medical care achieve equivalent medical outcomes, with higher maternal satisfaction and less intervention with midwifery care. Overall women benefit from continuity of care provider (shown in trials with midwives) with less hospital admissions, more likely involvement in antenatal education, less use of drugs in labour, less resuscitation of their newborns, greater satisfaction over pregnancy and birth, and cost effectiveness (Banta 2003). There is also important evidence confirming the value of social and psychological support in pregnancy with possible links to reduced physical morbidity in women (Banta 2003). Banta’s advice for antenatal care is that it must be balanced – “provide enough appropriate antenatal care for the specific individual” (2003, p. 11).

In contrast, Keirse (1989) asserted that antenatal care should be what women want it to be; that is, effective care in pregnancy should be what is of importance to mother and child providing a woman centred perspective. This requires a specific focus on the woman beyond routines and health professionals’ preferences which could be very challenging for many of them.

World Health Report 2005 Make every mother and child count
The World Health Report 2005 (World Health Organisation (WHO) 2005) indicates that in terms of standards for care, antenatal care is still more a question of tradition and ritual than of effective practice, with many of the tests and procedures carried out of little evidence based merit. Ineffective practices such as routine weighing of the woman at each visit to assess maternal and fetal well-being should be ceased. They consume valuable time which would be more worthwhile given to counselling women on healthy lifestyles and potential or actual health problems. The report emphasises that the interaction between antenatal care and women’s ability to cope with their circumstances and pre-existing diseases is the most underestimated aspect of care in pregnancy (WHO 2005).

Pregnancy is identified as a time when a dialogue about health and relevant social issues can be established between women and health professionals, but moreover, meaningful communication between women and their social worlds, and the medical world is necessary to make care more human and ultimately more responsive (WHO 2005). A current critical issue is that of supply-driven over-medicalisation of normal pregnancies, often for reasons of financial advantage. Over-medicalised care can pointlessly damage the health of mothers and babies and expose households to unnecessary costs (WHO 2005). Excessive use of technology/investigations such as ultrasound are performed without justification at every antenatal visit in many cases,
while useful assessments such as blood pressure measurement are neglected and the establishment of birth plans and counselling on existing health problems are negated (WHO 2005). Accordingly, many standards developed are based on routine not evidence and effectiveness. Some maternity services are often unresponsive, with unhelpful and insensitive staff, unexpected and unfair costs, unfriendly opening hours and a lack of involvement of partners (WHO 2005).

Surprisingly health professionals don’t understand why some women don’t attend antenatal care. The question should not be “why do women not accept the service that we offer?”, but “why do we not offer a service that women will accept?” (WHO 2005). The WHO Report warns that health systems must focus on providing continuity of care from preconception through to pregnancy, labour and birth and postpartum community care. This is to be supported by strong links between all services with a vital need to ensure that women and their families do not ‘disappear’ between maternity services care and maternal child health care (WHO 2005) as they move from one to the other. This means placing women and their children at the forefront of all relevant services which need to function within and in continuity through that approach.

**Antenatal care as a health focused activity**

As the routine of antenatal care continues with its lack of sound evidence to support it, tasks continue to be carried out that have not been shown to have any direct benefits or impact on reducing maternal complications and mortality. The ongoing focus on risk assessment likewise continues to have little if any consequence; women who proceed to develop life threatening complications have no apparent risk factors, while those women with supposed risk factors have normal births without morbidity (AbouZahr and Wardlaw 2003). Recognition needs to be given to the reality that detection and treatment of anaemia and sexually transmitted infections will certainly improve health, but not provide a correlation decrease in maternal deaths. Hence it is important to emphasise that antenatal care in and of itself will not have a significant effect on maternal mortality (AbouZahr and Wardlaw 2003). It is widely recognised now that antenatal care needs to focus on maternal health and its improvement if necessary, as an end in itself, which can advantage the baby’s health and well-being.

The WHO considers pregnant women to comprise two groups in terms of antenatal care provision; the majority for whom 4 visits is recommended (about 75% of all pregnant women) and the remaining women for whom more focused care is needed due to the existence of health conditions or risk factors (AbouZahr and Wardlaw 2003). Only those assessments and/or interventions that have been proven to be beneficial should be part of antenatal care and the majority of these can be provided by midwives (AbouZahr and Wardlaw 2003). What antenatal care should also do is:

- provide important opportunities for teaching women about potential problems in pregnancy;
- enable them to find a safe care provider for labour and birth care;
- present information about birth spacing (which does have an effect on infant survival);
- educate women about the link between their health and the health and development of the fetus;
- provide a critical opening for counselling about HIV, Sexually Transmitted Infections (STIs) and similar as relevant to women’s locations.
**Tobacco smoking during pregnancy**

The use of drugs and alcohol during pregnancy is known to be harmful (Ministerial Council on Drug Strategy 2006). In particular, the harmful effects of tobacco smoking are well established, including reduced fertility for men and women, increased rate of threatened and spontaneous miscarriage, preterm birth, low birth weight for gestational age, perinatal death, and Sudden Infant Death Syndrome among others (Ministerial Council on Drug Strategy 2006). The new National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn (Ministerial Council on Drug Strategy 2006, p. ix) emphasise the significance of care providers in establishing effective therapeutic relationships with pregnant women; "based on respect and non-judgmental attitudes; of engaging the woman into adequate antenatal care through this relationship; and of maintaining continuity of care, and of carers, throughout the pregnancy and postnatal period". Evidence shows that cessation of smoking during pregnancy can achieve improvements in outcomes such as low birth weight for gestational age, premature birth and average birth weight (Ministerial Council on Drug Strategy 2006), all of which are vital for the health of Aboriginal babies. The Guidelines recommend that pregnant women who smoke should “be offered support for smoking cessation and relapse prevention early in pregnancy, and as a routine part of each antenatal, child health or clinic visit. The use of more intensive interventions for smoking cessation reduces the odds of continued smoking”. In terms of Aboriginal women who are pregnant and smoke, the Guidelines acknowledge the complexities of their situations; "tobacco use has become the norm in some Aboriginal and Torres Strait Islander communities. That is to say, more than half of a community may smoke. This constitutes an additional social barrier to smoking cessation. In assisting Aboriginal and Torres Strait Islander women to stop smoking, health care providers should support the development of achievable goals" (Ministerial Council on Drug Strategy 2006, p.30).

**Alcohol use during pregnancy**

The teratogenic effects of alcohol continue to be identified with pregnant women who consume alcohol facing the risks of fetal development abnormalities; however, the level of drinking which causes this is not known (Ministerial Council on Drug Strategy 2006). Fetal alcohol syndrome encompasses the extreme effects of exposure to alcohol by the fetus resulting in brain damage, facial deformities and growth deficiencies (Ministerial Council on Drug Strategy 2006). Obviously all pregnant women need to be given information about the risks of alcohol consumption and be advised that there is no safe level they can drink. In Aboriginal communities, the drinking of alcohol is highly variable, with higher numbers of both non-alcohol drinkers and hazardous/harmful drinkers compared to non-Aboriginal communities (Ministerial Council on Drug Strategy 2006). Because excessive alcohol consumption and group drinking may be normal and involve over half the community assessment of alcohol use in pregnancy can be difficult. External influences within the community such as hours of availability of alcohol, 'pay days', social behaviours and so on, confound this (Ministerial Council on Drug Strategy 2006). The National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn (Ministerial Council on Drug Strategy 2006, p. 27) recommend that “pregnant women identified as consuming risky levels of alcohol (as defined in the Australian Alcohol Guidelines) should have priority access to alcohol treatment services, including comprehensive assessment and detoxification, but also including therapeutic options such as brief intervention, cognitive behavioural therapy and group sessions”. 

H Hancock Dec 2006   Ngaanyatjarra Health Service Literature Review
Birth spacing
A WHO consultation process reviewed all available evidence relating to birth spacing and maternal-child health to provide contemporary recommendations (Marston 2005, p.8);

- After a live birth, the recommended interval before attempting the next pregnancy is at least 24 months in order to reduce the risk of adverse maternal, perinatal and infant outcomes.
- After a miscarriage or induced abortion, the recommended minimum interval to next pregnancy is at least six months in order to reduce risks of adverse maternal and perinatal outcomes.

Six months or less time interval between birth and pregnancy presents an increased risk of maternal mortality. Where the birth to pregnancy interval is eighteen months or less, there is an increased risk of infant, maternal and perinatal mortality, as well as increased risk for the baby of low birth weight, being small for gestational age and premature (Marston 2005). Waiting twenty four months before becoming pregnant again is seen therefore to be advantageous in preventing high risk outcomes for mother and baby, and provides consistency with the WHO recommendation for breastfeeding for at least 2 years (Marston 2005).

Evidence relating to preconception through postpartum and neonatal care
The primary source of information about evidence relating to preconception through postpartum and neonatal care is the Cochrane Pregnancy and Childbirth Database. The systematic reviews contained provide valuable detail for heath professionals, health services and consumers to access relevant, contemporary detail about diverse aspects of preconception and maternity care and benchmarks for the development of indicators.

While there is a reasonable amount of literature about provision of antenatal care for example, there is not a lot of research that has actually been conducted about it and consequently it has remained unchallenged until only fairly recently. Finding evidence supportive of outcomes specific to antenatal care therefore is difficult. Antenatal care could promote healthy lifestyles, provide relevant education and support, and address the aims as indicated in this review in terms of the mother, but making claims to clear outcomes in mother and baby can be very spurious. This is despite the literature that has arisen around this and in particular aspects such as birth weight where often startling claims have been made about antenatal care and its supposed effects on the birth weight of the baby. The third section of this review includes a discussion about birth weight as an outcome.

Hunt and Lumley (2002) reviewed routine antenatal care in Australia to assess how evidence based and consistent guidelines and policies were. They found considerable variation in the 107 protocols they examined (from public hospitals, smaller state and territory hospitals and all Divisions of General Practice). There was consistency in terms of syphilis testing across evidence and protocols, however screening for gestational diabetes for example was widely recommended despite an absence in improved outcomes to support this (Hunt and Lumley 2002). There was negligible information to support smoking cessation even though there is evidence to support this (as discussed above). They point out, as does this literature review, that guidelines and policies do not guarantee effective, woman centred care will be provided by any individual and/or health service. While national guidelines are not consistent and not all evidence based, there are international guidelines for antenatal care that can be utilised, however they do not
necessarily translate as directly relevant to all Australian women, most particularly Aboriginal women (See NICE below).

**National Institute for Clinical Excellence (NICE) Routine care for the healthy pregnant woman**
The National Collaborating Centre for Women's and Children's Health (2003) in the United Kingdom has developed clinical guidelines for antenatal care that have been recognised internationally as sound benchmark indicators for quality care. Overall they are inclusive, informative and based on evidence confirming effectiveness up to 2003. Appendix Two provides a synopsis of the guidelines; the determination of new evidence since their development will be obvious to the informed reader, for example regarding Hepatitis C screening among others, as well as the need for varying application in diverse populations as indicated above.

**Issues around antenatal care**
In their investigation of midwives’ and obstetricians’ views about the constituents of antenatal care, Haertsch, Campbell and Sanson-Fisher (1996) found that the two professions held marked differences about what was important. Haertsch et al (1996) identified the problems with inconsistency in the provision of antenatal care without appropriate and well defined standards, added to which is the fact that midwives and obstetricians do practice differently, regardless. Aspects of the first antenatal visit were regarded as of high importance by the majority of participants, along with assessment of blood pressure and completion of an antenatal attendance card at every visit (Haertsch et al 1996). Differences existed in terms of the ‘less clinical areas’, in particular, providing women with an opportunity to express fears and concerns and the time for them to ask questions and have them responded to. Overall midwives placed more importance on aspects such as health promotion and psychosocial concerns than the obstetricians did (Haertsch et al 1996).

**Evaluation of Child and Maternal Health Pilot Projects in Rural and Remote Australia**
A review of the literature related to maternal child health by the Australian Institute for Primary Care (AIPC) in 2004 was conducted as part of their evaluation of rural and remote maternal child health pilot projects. In terms of policy contexts in Australia, the history of persisting separation of aspects of maternal child health across disciplines and institutions, and state, territory and federal governments was noted, most particularly the responsibility of antenatal care being given over to the medical profession without good evidence to support the routinised practices and abundance of screening. At the other end of the process concern is raised at the recognition that child health services do not address the wellbeing of the mother as their ongoing focus has been on the ‘surveillance’ of the infant/child (AIPC 2004). Access to continuity of care continues to be an issue of concern particularly for Aboriginal women in their maternity care experiences. At a systems level the need for sound evidence based practice in antenatal care with informed national guidelines for Aboriginal women’s maternity care is much needed (AIPC 2004).

The instigation of perinatal data analysis systems (for example The Midwives Data Base) across Australia has enabled the identification of trends, and morbidity and mortality statistics which have shown marked improvements in non-Aboriginal maternal and infant health over the time they have been collated (AIPC 2004). The same necessary reductions in preventable Aboriginal maternal/infant mortality, low birth weight and prematurity must also be achieved. The important consequences of a primary health
AIPC (2004, p. 35) acknowledge the features of successful Aboriginal maternal/child health programs;

- being at community controlled Aboriginal Health Services or otherwise being community based;
- services having a welcoming and friendly atmosphere;
- involving Indigenous staff, and particularly for women’s health business, female health care providers;
- staff being non-judgmental and supportive;
- a focus on building relationships and trust;
- providing transport and child care;
- flexible service delivery including outreach and home visiting;
- individual and organisational respect for Indigenous values and culture, including the involvement of extended family and community members.

Community based antenatal care
Zanconato et al (2006) emphasise that antenatal care provision should be free, planned and provided cost effectively within communities, using quality evidence based care, able to present information to women and their families, manage existing conditions and refer if necessary for complications. They insist that the purpose of antenatal care should be to enable effective and relevant screening, and prevention and treatment interventions in enough visits to achieve this in a timely manner in line with the new model of antenatal care proposed by the WHO (discussed below). This will mean not only no increase in risk of adverse outcomes for mother or baby, but vital public health gains instead where resources are limited, time, monetary and travelling cost reductions for women and less disruption to their work and family roles and responsibilities; and for health staff savings in time and energy (Zanconato et al 2006). Quality of antenatal care is vital according to Zanconato et al (2006) and can be assessed through:

- Gestation of the woman at first visit;
- Duration of an antenatal visit;
- Effective physical assessment – abdominal palpation (including fundal height, lie, presentation and position of the baby), fetal heart auscultation, fetal movement check, oedema check, BP check, and appropriate investigations;
- The woman’s knowledge of early warning signs about possible pregnancy complications and how and where to seek help if necessary;
- Education and counselling of the woman and her family about health related to pregnancy and birth;
- Education of the community overall about health and its impact on perinatal outcomes;
- Ongoing education and professional development of health staff providing antenatal care;
- The reputation of the health service providing antenatal care as seen through the community;
- Accessibility to, cost, transport availability and location of antenatal care services;
- Social and cultural sensitivity and knowledge of traditional health beliefs and practices to enhance care provision;
- Attitudes and receptiveness of health staff towards women and their families.
Zanconato et al (2006, p. 20) stress that antenatal and in fact perinatal care should not be seen in isolation from social health:

... the attention and care given to women before, during and after pregnancy, inside and outside the health system, reflects the relative value a society accords to women. Consequently, antenatal care needs to be part of a larger and integrated strategy that should aim at protecting and improving the condition of the most vulnerable members of the society: mothers and babies. Like any other preventive programme it may have intrinsic efficacy problems and difficulties in implementation, but deserves consideration for the potential benefits it carries when executed with quality.

**Inequity in provision of care**

According to Bacci and Chiaffoni (2006) despite the fact that more countries have been improving maternal and child health over the last 5 years, maternal, neonatal and child deaths remain high, and huge inequities still exist between and within countries. They assert strongly that a lack of skilled perinatal care provision along a continuum of care through pregnancy, birth and childhood is a key obstacle to progress. Further they indicate the need for sound multidisciplinary collaboration between maternal/neonatal health professionals if quality improvements are to take place, and that this must be within a supportive health system that ensures the participation of families and their communities. Bacci and Chiaffoni (2006) also identify the importance of implementation of antenatal care that is specific to women’s needs (not generic therefore) and high quality midwifery care in improving maternal/child health, as well as greater protection, promotion and support for breast feeding.

**Antenatal care routines**

The most consequential research to date has been conducted by Villar, Carroli, Khan-Neelofur, Piaggio, and Gülmezoglu (2001) and Villar, Ba’aqel, Piaggio, Lumbiganon, Belzian, Farnot, Al-Mazrou, Carroli, Pinol, Donner, Ngenda, Mugford, Fox-Rushby, Hutton, Bergsjø, Bakketeig, and Berendes (2001). Their important work has centered on trying to find sound evidence for antenatal care and associated practices. They have dared to ask much needed questions about and challenge long standing routines persisting in antenatal care provision.

Villar, Carroli et al (2001) emphasise that there is an absence of empirical proof for the significance, if any, of frequency of antenatal visits, time interval between antenatal visits and the content of antenatal visits, which may well be more ritualistic than sound. Clearly there are many assumptions about antenatal care that are unfounded and links made between antenatal care and perinatal outcomes could be tenuous at best as few of the antenatal procedures undertaken have a marked impact on morbidity and/or mortality and some have none (Villar, Carroli et al 2001). Despite its frequent and almost universally accepted occurrence, antenatal care remains one of the more poorly scientifically investigated of health activities with most pregnant women expected to adhere to a routine of waiting for long periods of time, being seen for relatively short periods of time and receiving limited information and communication in-between time for health care that does not necessarily stand on sound evidence. The objective of antenatal care they say should be to deliver effective appropriate screening or preventive or treatment interventions. So the actual number of visits each woman has should be the result of how these effective interventions can be timely delivered during her pregnancy (Villar, Carroli et al 2001).
Effectiveness of antenatal care
In their systematic review of the effectiveness of antenatal care for low risk pregnancy, Villar, Carroli et al (2001) found that a reduction in antenatal visits with or without any increased emphasis on the content of those visits, would not lead to an increase in adverse biological outcomes for mother and baby, with lower costs achieved. Some women were less satisfied with the reduced number of visits, with higher satisfaction of care from midwives and general practitioners rather than obstetricians (Villar, Carroli et al 2001). Given the evidence they recommended that four antenatal visits seems to be the minimum that should be offered to low risk pregnant women.

A new model of antenatal care
Villar, Ba’aqel et al (2001) went on to conduct a large international multicentre randomised controlled trial to test the hypothesis that a new model of antenatal care based on those aspects of care known to improve maternal, neonatal and perinatal outcomes would be as effective as traditional antenatal care (routinised and lacking an evidence base) in terms of specific outcomes, cost and satisfaction with women and care providers. The aim of the new model was for four antenatal visits based on a set of effective goal oriented activities. Women were involved if they had a singleton pregnancy but were not excluded on the basis of risk; analysis was by intention to treat, with the primary neonatal outcome low birth weight (less than 2500 grams) and the primary maternal outcome based on a maternal morbidity index comprising pre-eclampsia/eclampsia during pregnancy or within twenty fours of birth, severe postnatal anaemia and treated urinary tract infection with other secondary outcomes (Villar, Ba’aqel et al 2001).

The new model of antenatal care did not affect maternal and perinatal outcomes, did not increase cost (decreased it in some centres), and did not receive resistance from women or care providers (Villar, Ba’aqel et al 2001). There was an average of five visits (range of three to six) compared to eight visits in the traditional model (range of five to eleven). Birth outcomes (vaginal birth, forceps/ventouse, and caesarean section) across the two groups were almost identical, as would be expected, because antenatal care does not exert any significant effect on them (Villar, Ba’aqel et al 2001). The rate of low birth weight was highly similar in the two groups with a mean birth weight of 3120 grams in both groups, and statistically significant heterogeneity was found among the two groups in terms of the maternal morbidity index (Villar, Ba’aqel et al 2001). Women did indicate concerns about the way they perceived that they were treated with a need to improve this confirmed by the researchers as well as the need to improve communication and health information/teaching. Both groups of women indicated high levels of satisfaction with their care; despite women in the new model being less satisfied with the reduced number of antenatal visits and spacing between them, they felt that the time they had for each visit was about right and they would have this model of care next time and would recommend it to others (Villar, Ba’aqel et al 2001).

This important study confirmed that for women who did not have complications (either existing or previous) a reduced number of antenatal visits is not associated with any increase in risk for them or their babies (Villar, Ba’aqel et al 2001). Indicators identified for use in the trial comprised, demographics, previous pregnancy outcomes, reproductive history, existing pregnancy conditions, referral to a higher level of care, hospital admissions and maternal and feto-neonatal outcomes including morbidity and mortality.
Villar and Bergsøe (2002 – through the auspices of the WHO went on to produce a manual of the new antenatal care model which again emphasised the lack of rigorous/scientific evaluation to determine the effectiveness of antenatal care programs. At their first antenatal visit women should be assessed for any existing medical conditions to see if they need particular care for them or not (Villar and Bergsøe 2002). Only tests and procedures that are immediately purposeful and shown to be beneficial should be carried out. A minimum of 4 antenatal visits was specified and details for the contents of each provided (Villar and Bergsøe 2002).

2.3 Northern Territory contexts

The place of policy

A Birthing Services Policy produced by the former NT government’s Territory Health (no date) affirms the need for a philosophy of ‘birthing’ (defined as antenatal care through birthing and postnatal services) as a normal life event and identifies the following principles and objectives for maternity services and care:

- birthing is women’s business and women are the most appropriate care givers for many women;
- birthing has social and cultural significance and care needs to reflect this;
- women have the right to make choices about the place of birth, the care giver and the manner of birthing;
- women are to be supported to enable them to participate in decision making and take responsibility for their birthing experience;
- continuity of care from early in pregnancy through birth to postnatal care is a priority for all women, especially for women in remote areas who travel to regional areas for birth;
- support persons and families are incorporated into the team of care givers during birth;
- childbirth education programs need to be geared to the diverse needs of women and information kits need to be developed about birthing and options.

It is unfortunate however that this idealism is not translated into actual policy as there currently is no maternity services and/or birthing policy in the NT and NT women do not all have the right to exercise choice about their place of birth nor their choice of care giver nor their choice of how they wish to give birth. While government policies are often seen as problematic by some and static by others, in terms of maternity services and the protection of women’s rights and promotion of their and their babies’ health and wellbeing, clear, informed, affirmative and evidence based policy can provide the means for ensuring this and for changing outcomes and experiences for the better.

Northern Territory antenatal care

In 2002, Hunt released a discussion paper aimed at improving antenatal care protocols and practice in the NT. Among a number of recommendations made were the need for development and dissemination of uniform, evidence-based protocols about routine antenatal care that were relevant to the NT context. As well, Hunt (2002) advised that antenatal visits should be longer and fewer, and provided in a much more flexible woman-centred manner. This is yet to be realised for every NT woman.
2.4 Western Australian contexts

*Increasing knowledge of child health to improve outcomes*

While there is no integrated Aboriginal child health policy in Western Australia (WA) premised on human development theories and set within the context of population health, policy development and implementation will continue to be fragmented and piecemeal according to the Western Australian Aboriginal Child Health Survey (WAACHS) (2004). Among many findings, this survey found that there is low intergenerational transfer of financial, human and social capital. Further, that there are no apparent social gradients in health outcomes; that is, not even the relatively “well off” Indigenous families have better child health outcomes than those economically disadvantaged (WAACHS 2004). The survey findings indicate the necessity to:

- reduce rates of early teenage pregnancy;
- reduce rates of childhood infectious disease;
- improve nutritional knowledge and access to affordable nutritious food;
- improve rates of contact of Aboriginal families and children with primary health care services;
- reduce rates of tobacco and alcohol use – particularly in pregnant women.

The 2000-2001 Report of the Perinatal and Infant Mortality Committee of WA identified that high rates of Aboriginal perinatal and infant mortality continue to be of concern and point to the need for “new initiatives in this area” (Department of Health 2005, p.i). These improvements it is noted will not arise from simply advancing technology and an integrated statewide maternity service is proposed.

*Birthing Choices*

The WA Government Department of Health provides information for all pregnant women, declaring that; “Having a baby is a normal part of life … Women should be able to choose the type of care they want during their pregnancy, where they deliver their babies, and how they are cared for after the birth”. However this is not the reality for all Aboriginal women in WA and no specific strategies are evident to remedy this currently.

3 Information and evidence relating to antenatal, intrapartum and postnatal care as experienced by Aboriginal (and other) women

3.1 Acknowledging Aboriginal health and cultural contexts

An understanding of Aboriginal health and Aboriginal cultural contexts and their co-relationships with each other is essential in any consideration of meeting the health needs of Aboriginal people. There is adequate literature to address this which will not be included in this review (for practical reasons) beyond an acknowledgment of aspects of significance. It is vital to acknowledge that Aboriginal health is determined by historical, social, economic and political contexts and therefore Aboriginal people cannot be held solely responsible for their health, social or economic status (Campbell 2000). Poor economic status is a central issue and influences access to quality education, appropriate health care and the many other services enjoyed by the majority of Australians (Campbell, 2000).
It is well known that Aboriginal death rates continue to exceed those of non-Aboriginal people in the NT, and life expectancies are approximately twenty years below that of non-Aboriginal people (Zhao, Guthridge, Magnus and Vos 2004). For Aboriginal women, type 2 diabetes, ischaemic heart disease, and otitis media are major contributors to the disease burden with nutritional disorders and intentional injuries also of major consequence (Zhao, Guthridge, Magnus and Vos 2004). This stated it is clearly not acceptable.

The most recent detail from the Australian Institute of Health and Welfare (2006, p.237) indicates that Aboriginal people suffer much more ill health than other Australians, die at much younger ages and are more likely to experience disability and reduced quality of life due to ill health; more-so they report lower incomes than other Australians, higher rates of unemployment, poorer education achievements and lower rates of home ownership. While the differences in health status between Aboriginal and non-Aboriginal people are very obvious, they can not be explained by socioeconomic status only (AIHW 2006). There are unfortunately greater levels of risk associated behaviours in Aboriginal people such as cigarette smoking, inhalant and alcohol misuse, along with the existence of social risk factors such as poor or no housing, violence and high mobility (AIHW 2006). Aboriginal people have a lessened sense of control over their own lives and experience highly challenging living and social conditions that contribute much to their poor health as well.

3.2 National Strategies for Improving Aboriginal Health and Health Care
Dwyer, Silburn and Wilson (2004) identified the critical consequences of primary health care for Aboriginal communities and the limited access they have in achieving optimal health and preventing chronic disease. Their recognition of the need for different health services because of differing health needs and complex but critical surrounding issues is important but remains an ongoing challenge in health service provision unfortunately. Dwyer et al (2004, p.xvi) acknowledge that the impact of effective primary health care on Aboriginal populations can be seen in evidence and interventions around the following:

- reduced prevalence and incidence of communicable diseases that are susceptible to immunisation programs;
- reduced complications of chronic disease through effective chronic disease management programs;
- improved maternal and child health outcomes through the implementation of culturally appropriate antenatal and early childhood programs; and
- reduction in social and environmental risks through effective local public health advocacy, such as changes to liquor licensing regulations.

However overall sustained change continues to be difficult as social and environmental crises around abuse, violence, alcohol and other substance misuse present highly confronting persistent problems for many Aboriginal women.

There are communities and organisations achieving promising outcomes though. Nganampa Health Council in South Australia (SA) has implemented a care record system and antenatal care program that has seen increased access to care and ultrasound screening and increases in mean birth weight – albeit not correlated (Dwyer et al 2004). Daruk Aboriginal Community Controlled Medical Service in New South Wales (NSW) has achieved earlier antenatal care attendance and increased visits by pregnant women through their comprehensive primary health care program incorporating inclusive antenatal care services (home visiting, transport, ultrasound...
screening and postnatal care) and with a good working relationship with the local hospital (Dwyer et al 2004). More detail about both follows.

**National Strategic Framework for Aboriginal and Torres Strait Islander Peoples’ Mental Health and Social and Emotional Well Being (2004–2009)**

The Social Health Reference Group for National Aboriginal and Torres Strait Islander Health Council and National Mental Health Working Group (2004, p.14) determined a number of Key Strategic Directions for mental health and social and emotional well being, in particular, the need to focus on children, young people, families and communities, to strengthen families to raise healthy, resilient infants, children and young people. This specific focus is made because positive mental health outcomes in adults are, to a large extent, determined by health influences and experiences in early childhood (Mrazek and Haggerty, 1994). In reality most services are aimed at adults. However, support to mothers during pregnancy and immediately following birth does contribute to positive learning outcomes and enables children to meet age-appropriate milestones and engage in healthy social and family relationships. Children who do not experience consistent and nurturing care have less positive life experiences and are more at risk of, developing mental health problems, having poor social competence, and failing to achieve school success (Mrazek and Haggerty, 1994) among other problems with developmental milestones.

### 3.3 Research around Aboriginal (and other) women’s pregnancy/birth experiences

In this section of the review, acknowledgment is made of the need for sensitivity, the value of cross-cultural communication, the importance of Jukurrpa, and the complexity of shame which all impact on Aboriginal women’s perinatal care and experiences. Summaries of several large comprehensive government policy and strategic planning documents are provided – however it is emphasised that these documents should be read in their own right as brief overviews do not do justice to the extent of the information contained within them. A number of studies/examples of Aboriginal and other women’s health services and their pregnancy experiences, outcomes and other achievements are included. It must be noted that the number of Aboriginal authors and researchers is extremely limited and the amount of research conducted in terms of Aboriginal women’s perinatal journeys is also limited, particularly regarding postpartum.

### 3.4 Acknowledging sensitivity

Understandably studies in and around Aboriginal reproductive health are highly sensitive in terms of cultural and traditional knowledge and women’s business, which must be respected. At the same time though it is so important for health professionals to gain more insightful understandings of these vital aspects of Aboriginal women’s lives, and for Aboriginal women themselves to be able to lead the gaining of knowledge about their lives and health. There is much potential for research and much that is unknown which means more likelihood of misunderstanding and misinformation around Aboriginal women’s pregnancy, birth and postpartum experiences until that can be rectified with collaborative, perceptive, deferential research. In addition little is known about evidence based midwifery practice in rural and remote settings which clearly impact on the health and wellbeing of Aboriginal women and their families (Hancock 2006).
Discussing pregnancy, birth and postpartum in relation to Aboriginal women obviously must be inclusive of cultural sensitivity and more-so cultural security. However culture is not a simplistic easily defined nor addressed concept and the lack of understanding that persists about Aboriginal culture and its fundamental importance for women and their families remains a challenge. Williamson and Harrison (2001, p. 22) insist there has been little consensus about the meanings of terms such as ‘cultural sensitivity’ and ‘culturally appropriate care’ and without clarity about their application to practice they are of limited help. Definitions of culture they argue, are too all-encompassing and accordingly have little utility and could facilitate stereotyping not security. In their research Williamson and Harrison (2001) found that Aboriginal people continue to experience discrimination from health professionals with less than positive interactions, in negation of their cultural mores and values. They therefore urged midwives to consider the need to:

- be flexible;
- let go of control;
- set aside personal values;
- accept difference when providing midwifery care; and
- acknowledge the impact of the context of practice (hospital, home or community for example) on their approach to midwifery care (Williamson and Harrison 2001).

### 3.5 Acknowledging cross cultural communication

In their book *Binaŋ Goonj Bridging Cultures in Aboriginal Health*, Eckermann, Dowd, Chong, Nixon, Gray and Johnson (2006) reiterate the impact of cross cultural communication and culture shock among many other aspects of processes that can bridge cultures in Aboriginal health. They indicate the importance of the following for health professionals:

- show a respectful ‘waiting attitude’;
- respect leads to trust;
- develop empathy;
- suspend judgment;
- tolerate ambiguity;
- display patience and perseverance;
- display empowerment – this cannot be given, but it can be facilitated, as it is inherent in self-determination;
- cultural safety offers solutions to power imbalances in health care;
- primary health care is *health for the people by the people* (Eckermann et al 2006).

### 3.6 Acknowledging shame

The concept of ‘shame’ figures strongly in literature relating to pregnancy and birthing. Shame is explained by Morgan and Morgan (1997) as resulting from being forced to act in disharmony with an individual’s cultural or social beliefs; accordingly it can be the most complicated and sensitive issue that arises during health care. Shame can present behaviours, attitudes and communication that health professionals can easily misconstrue, patronise, resent and/or ignore because it is difficult to convey a simplistic meaning of its deep and intrinsic consequences for a woman and her family and life.

In *Being Black*, Keen (1994) identifies a range of possibilities relating to shame, including, group conformity enforcement through shame; shame as a pervasive leveling...
mechanism; and fear of being shamed because of rape or domestic violence, or for acting or being different. Shame can be seen as a concept, an emotion, a punishment, retribution, a consequence or a strong personal feeling (Keen 1994). Shame has a “wide currency among Aborigines and is used in a number of contexts” which can even include joking to respond to a social faux pas for example (Morris cited in Keen 1994, p.57). Shame can also be “a sanction against attracting attention which may render one vulnerable to criticism or ridicule” (Morris cited in Keen 1994, p. 59). In terms of cultural strength it was for Aboriginal elders, “a matter of shame, rather than pride to have severed the bonds to one’s tradition” (Morris cited in Keen 1994, p.259).

An analysis of ‘shame’ by Simon (2005) relates it to emotions and ways of ‘knowing’; the way we know of the world shows itself in our emotions, and more-so in cultural knowledge learned from social experience. Culture influences emotions but does not determine them, rather Simon (2005) explains, emotions generate cultural interpretations that can affect behaviour and perceptions. Simon (2005, p.496) refers to shame as a “deference of the self, [that] seems to violate our basic sense of human equality”. That still does not make shame easily understood and Simon (2005) acknowledges its “strangeness” in our non-Aboriginal world; he warns of the need to guard against allowing cultural analyses of emotions such as shame being simply transformed into meanings which turn them into scripts for role and function. There is a personal dynamic between mind and cultural meaning – they are not automatic.

In terms of pregnancy and birth, Fahy (1999) insisted that Anglo-Saxon ideologies have medicalised birth and it could be argued that Aboriginal culture has never really had a dominant opportunity to influence the national context of pregnancy and birth in Australia. This in itself represents an overall placing of shame on the whole context of pregnancy and birth for Aboriginal women in their loss of control. There is also the sense of shame that should be borne by health professionals who continue to believe that they know best what Aboriginal women want and need. However this shame is not the shame felt by or known about or lived with or internalised within any individual Aboriginal woman; that is beyond the understanding of non-Aboriginal people, but its impact and consequences must be acknowledged across all possibilities of its meaning.

Aboriginal women in particular, have not written about shame as such, while others try to provide at best indirect and naïve explanations. Any even simplistic understanding of it remains problematic while it is a personal and complex part of Aboriginal life and core values.

### 3.7 Acknowledging Jukurrpa

Jukurrpa will not be closely examined in this review, not the least because of its complexity and difference in terms of interpretation by varying Aboriginal groups. Definitions of Jukurrpa do not easily conform to non-Aboriginal understanding as they don’t need to. However it needs to be acknowledged as it is of essence in cultural meanings. For example, the Warlpiri women refer to it as ‘Dreaming’ as they recognise most ‘white’ people have heard of this word (Vaarzon-Morel 1998). Their Jukurrpa is their creation period “when ancestral beings travelled the land and performed creative acts which gave substance and meaning to the world” (Vaarzon-Morel 1998, p.12). Ritual responsibilities are implicit within Jukurrpa including religious life which is different between men and women. Bell (1993, p. 47) explains that the Warrabri Jukurrpa “maps out the themes of ritual, dictates ceremonial and social structure and governs the
behavioural interactions of living persons” and for the women this relates to their tradition of “rights and responsibilities in land and of autonomy in decision-making” (Bell 1993, p. 51).

3.8 Acknowledging difference
Aboriginal women have different country origins, different languages, different traditional beliefs, and different lifestyles; but they can also have shared ideologies, plans, aspirations and needs. At another level within particular Aboriginal groups there can also be differences. Homer (2000) wrote of the differences within Aboriginal women of cultural groups where younger women may prefer contemporary health options while older women hold to the importance of traditional practices. Like Waldenström (1995) before her, Homer (2000) advises of the need to recognise social and economic contexts as well as culture when acknowledging Aboriginal women. It should be added that other factors are also consequential in Aboriginal women’s lives, in particular their spirituality, their partner, their education and employment/occupation if any, and where, how and with whom they choose to live among others.

While the prominent reports which follow are highly important for their recommendations and information, they could be seen to be conceptualising Aboriginal women as an homogenous group in terms of not just culture and tradition, and perinatal morbidity and mortality, but also skin, kin, location, demographics, health status and preferences for example. This negates their individuality at the personal level and can lead to inappropriate generalisations and assumptions about care options, knowledge and decision-making among others at family, community and national levels. Individual and groups differences and preferences must be remembered and addressed in health care.

3.9 Health of Aboriginal infants and related factors
The tenth biennial health report of the Australian Institute of Health and Welfare (2006) reveals the following about Aboriginal infants (AIHW 2006, pp.199, 221, 278);

- Births - In 2003, there were 8,958 babies born to Aboriginal or Torres Strait Islander mothers, representing 3.5% of all Australian births.
- Premature births - Babies of Indigenous mothers were also more likely to be pre-term (14.1%), compared with babies of non-Indigenous mothers (7.6%).
- Low birth weight - The proportion of live-born babies with low birthweight (less than 2,500 grams) born to Indigenous mothers in 2003 was 12.9%. This is more than double the percentage for babies of non-Indigenous mothers (6.0%).
- Perinatal mortality rate - For the period 1998–2002, the perinatal mortality rate for babies born to Indigenous mothers in Queensland, Western Australia, South Australia and the Northern Territory (21.4 deaths per 1,000 relevant births) was more than twice that for babies born to non-Indigenous mothers in these jurisdictions (9.6 per 1,000 births).
- Infant mortality - During the period 1999–2003, there were 469 deaths (15 deaths per 1,000 live births) among Indigenous infants in Queensland, Western Australia, South Australia and the Northern Territory (the only areas for which coverage of Indigenous people in deaths data is considered complete enough for statistical reporting). The rate of deaths for Indigenous infants was about 3 times that of non-Indigenous infants (4.5 per 1,000 live births), and was higher than the rate in all except two of the 29 other OECD countries—Mexico and Turkey. Large differences between the death rates for Indigenous and non-Indigenous babies were found for perinatal conditions, ‘symptoms, signs and ill-defined conditions’, respiratory diseases and injuries.
- Fertility rates - Fertility at younger ages continued to be much higher among Indigenous females. In 2004, the fertility rate among Indigenous females aged 15–19 years was 71 per
1,000 females and for those aged 20–24 years it was 128. The corresponding rates for all females of those ages were 16 and 53.

- Sexually transmitted infections - The most commonly notified sexually transmitted infection among young people is chlamydia, with 21,527 notifications in 2004. The highest rates of chlamydia, gonococcal and syphilis infections were in the 20–24 years age group. Rates of chlamydia, gonococcal and syphilis were much higher among young Indigenous Australians than among other young Australians.

- Cigarette smoking - Smoking is much more prevalent among Indigenous than non-Indigenous Australians. After adjusting for age differences, Indigenous people aged 18 years or over were more than twice as likely to be current smokers.

- Alcohol consumption - One in six Indigenous people (16%) aged 18 years or over had a level of alcohol consumption that is classified as risky/high-risk. The rate of risky/high-risk consumption was higher for Indigenous males than for females and was highest among those aged 35–44 years (19%).

- Substance use - In 2004–05, an estimated 28% of Indigenous people aged 18 years or over in non-remote areas had recently used an illicit substance and 50% had tried at least one illicit substance in their lifetime.

- Inhalants - There are no reliable national data on petrol sniffing, but case studies indicate that the practice continues to be a major problem in some Indigenous communities.

3.10 National directives

National Strategic Framework for Aboriginal and Torres Strait Islander Health - Child and Maternal Health 2003 - 2008

The over-arching goal of this Australian Government Department of Health and Ageing Implementation Plan is to ensure that Aboriginal people enjoy a healthy life equal to that of the general population, enriched by a strong living culture, dignity and justice. Among its aims are the need to decrease mortality rates in the first year of life and decrease infant morbidity by reducing relative deprivation and improving well being and quality of life. A further aim (among others across the spectrum of Aboriginal health and living) is to strengthen the service infrastructure essential to improving access by Aboriginal people to health services and responding to maternal and child health.

The Plan also identifies the need for initiation of specific child and maternal health pilot projects to identify and evaluate sustainable models of service delivery which increase community capacity and address gaps in service delivery. In addition the need for development of an Australian Government Aboriginal maternal and child health policy (incorporating nutrition and hearing health) that addresses the physical, emotional and social well-being of women, children (aged 0-5 years) and families is essential. The Ngua Gundi Mother Child Project in Woorabinda, Queensland is acknowledged for its efforts in collaborating with women in the community to provide quality health care for mothers and their babies. The project presents a midwifery model of care in culturally sensitive settings, with home visiting provided by the Aboriginal health worker and midwife. As well as this, a pregnancy network has been formed to support young parents and assist the development of parenting skills. Education and care are provided antenatally and postnatally, including immunisation, breast feeding and baby care. Assistance is also provided for family planning, treatment of sexually transmitted infections, response to domestic violence and substance misuse, with relationship counselling and support for a range of mental health issues.
Improving Health in Aboriginal and Torres Strait Islander Mothers, Babies and Young Children

Herceg conducted a comprehensive literature review in 2005 (See Appendix One for a summary table of findings) with the aim of compiling information on interventions which have been shown to improve health outcomes or intermediate health measures in Aboriginal mothers, babies and young children. Herceg (2005) found only limited high quality information on successful interventions in Aboriginal maternal and child health and most of the studies described in her review were Level III-3 (See Glossary for Levels of Evidence tables) comparative studies with historical control groups. Clearly there is a need for sound evidence and reliable information in this important area as there is still much that is not known with too many weaknesses in the literature unfortunately.

Herceg (2005) reiterated what is generally well known; Aboriginal pregnant women, babies and young children have poorer health outcomes than non-Aboriginal Australians. Their perinatal death rate is twice the rate for non-Aboriginal Australians, and the proportion of babies born with low birth weight and prematurity (14.1% compared to 7.6%) is also twice as high as that of non-Aboriginal Australians (Australian Bureau of Statistics and Australian Institute of Health and Welfare (AIHW) 2003). Aboriginal children also have higher rates of death and illness in almost all disease and injury categories (AIHW 2002) and death rates from sudden infant death syndrome are five times those of non-Aboriginal infants (AIHW 2002). The average age of Aboriginal mothers was 24.8 years compared to 29.7 years for non-Aboriginal mothers. These statistics remain essentially unchanged over the last twenty years.

While there is most certainly a raised level of interest (nationally and internationally) currently on maternal infant/child health and the implications of health and well-being on pregnancy and early childhood, the existing evidence does not necessarily translate into improved outcomes for Aboriginal women and their families, as Herceg (2005) acknowledged. The ‘Barker hypothesis’, or the association between low birth weight and adult chronic disease (Barker 1998) must be balanced with an increased focus on early childhood health and life (Herceg 2005). Recent recognition of the important effects of a child’s social environment on their early brain development with long-term consequences for emotional and intellectual development and mental health (Stanley 2003) and taking a life course approach to health promotion and prevention of disease (Panneth and Susser 1995) extends the possibilities for consideration in maternal and child health beyond Barker (1998). Even more recently Quinlivan (2005) reported on the possible effects of abnormally high fetal cortisol levels from maternal disease and social pathology such as starvation, substance misuse and physical violence; the effects of diminished income on a woman’s ability to eat appropriately during her pregnancy are consequential for her baby’s health and well-being regardless of any antenatal care.

Herceg (2005) identified a number of reports which indicated improved effects (antenatal care attendance, antenatal screening and treatment, immunisation rates) or outcomes (mean birth weight, reduction in preterm births) associated with antenatal care and/or mother and baby programs in Aboriginal communities. However all of these programs had multiple aspects and any possible success could not be attributed to any one aspect or combination of these aspects. Herceg (2005, p.2) specified a number of common and critical factors for effective services including:

- community-based and/or community controlled services;
- a specific service location intended for women and children;
- providing continuity of care and a broad spectrum of services;
• integration with other services (such as hospital liaison, shared care);
• outreach activities;
• home visiting;
• a welcoming and safe service environment;
• flexibility in service delivery and appointment times;
• a focus on communication, relationship building and development of trust;
• respect for Aboriginal people and their culture;
• respect for family involvement in health issues and child care;
• having an appropriately trained workforce;
• valuing Aboriginal staff and female staff;
• provision of transport;
• provision of childcare or playgroups.

Herceg (2005, p.3) emphasised that more attention was needed on specific areas of Aboriginal maternal and child health where the burden of disease is high and evidence of effective interventions is lacking. These include tobacco, alcohol and other substance use in pregnancy, mental health, social health, childhood injury and sudden infant death syndrome. An additional problem recognised by Herceg (2005) was the existence of interventions based on one-off intensive research programs that were not sustainable and limited evaluations of programs that were not outcome focused. As Herceg (2005) noted, often improved health outcomes are not about changes in health service provision but due to environmental health activities such as improved housing, water and sewerage and building of swimming pools.

Maternal and Child Health Care Services: Actions in the Primary Health Care Setting to Improve the Health of Aboriginal and Torres Strait Islander Women of Childbearing Age, Infants and Young Children

Eades (2004) reiterated what most other writers have done in confirming that many historical gains in maternal and child health have been achieved through improved housing and environmental health as well as improved access to tertiary health services. However much still needs to be done in terms of the residual differences in health status by providing better access to quality primary health care and improving Aboriginal people’s socioeconomic status.

In terms of antenatal care for Aboriginal women, of particular concern are (Eades 2004):
• time of presentation for first antenatal visit (a low rate of women present in the first trimester compared to non-Aboriginal women – late presentation is a known risk factor for poor birth outcomes in Aboriginal women);
• amount of antenatal care received overall (thought to be low – however there is a lack of consensus about optimal numbers of visits and type of antenatal care);
• anaemia (related to poor nutrition and lack of knowledge about nutrition in pregnancy more-so traditional knowledge of appropriate and inappropriate foods/fluids);
• poor nutritional status (as above – Aboriginal women are 40% more likely to have a baby with a neural tube defect than non-Aboriginal women – there is no knowledge of their possible use of periconceptual Folate supplements);
• detection of hypertension ;
• diabetes (or glucose intolerance);
• genito-urinary tract infections (increased risk of premature rupture of membranes, premature labour and preterm birth with a low birth weight baby);
• cigarette smoking (65% of Aboriginal women smoke during and following pregnancy – very few it seems are offered Quit Program counselling and support and no trials exist that have examined the effectiveness of this);
• alcohol consumption (related to the incidence of perinatal death and low birth weight – no studies have looked at culturally specific interventions for alcohol consumption by Aboriginal women at childbearing age) (Eades 2004).

Additionally, little is known about the overall level of use of health services by pregnant/postnatal Aboriginal women compared to non-Aboriginal women.

In terms of postnatal/ongoing care for Aboriginal women, of particular concern are (Eades 2004):
• health of mother and baby in the early postnatal days (there are no studies that detail early postnatal health for Aboriginal mothers and babies and their use or lack of, of primary health care services);
• common postnatal problems (usually diminish over 8 to 24 weeks) – tiredness and exhaustion, feeling depressed and unhappy for more than a few days, inability to sleep, backache, bowel problems, haemorrhoids, perineal pain, excessive or ongoing bleeding, sexual problems, and mastitis, for example (Brown and Lumley, 1998); but their incidence and consequences are unknown;
• persisting postnatal problems (may not diminish) – headaches, postnatal depression and sexual problems; but again their incidence and consequences are unknown;
• inappropriate cessation of breastfeeding (there is a lack of culturally appropriate information, support and guidance around breast feeding for Aboriginal women);
• little if anything is known about birth spacing and contraceptive use in Aboriginal women (it is known that short spaces between pregnancies can be associated with increased risk of adverse outcomes).

All of these could be responded to and managed within a primary health care context.

Among programs developed to address issues in childbearing Aboriginal women, the Northern Territory (NT) Strong Women, Strong Babies, Strong Culture program has aimed to increase birth weight of Aboriginal babies through improving antenatal care attendance from the first trimester, introducing nutritional guidance and improving maternal nutrition (Eades 2004). There have been mixed results from its beginning in 1993, with a noteworthy increase in the diagnosis and treatment of sexually transmitted infections. Nganampa Health Council as mentioned earlier has developed a care record system for antenatal women, to obtain and respond to targets for antenatal care provision based on population data they compile concurrently (Eades 2004). They have achieved a steady improvement in service benchmarks with a decrease in perinatal mortality rate and low birth weight babies although the cause and effect status of this is not substantiated. The Daruk Health Service also mentioned earlier has used home visits, transport to clinics, ultrasound screening, labour support and postnatal care to achieve an increase in antenatal care attendance and increased awareness of the importance of antenatal care (Eades 2004).

Five Year Framework for Action for Aboriginal Health and Families
The NT Department of Health and Community Services (DHCS no date) has developed a Five Year Framework for Action for Aboriginal Health and Families, to achieve health reform with specific objectives for pregnancy and the early years, which include the following;
• ensure all Aboriginal women receive sound and culturally secure antenatal, postnatal and neonatal care;
• ensure safe birthing options are accessible;
• improve the proportion of pregnant Aboriginal women attending their first antenatal visit at or before 13 weeks and before 20 weeks;
• improved number and proportion of live born Aboriginal babies weighing more than 2500 grams;
• increased average birth weight of live born Aboriginal babies;
• promote breastfeeding until at least 6 months;
• promoting caring nurturing families for healthier lives.

The evaluation of these objectives (purposeful but not policy directed) is critical for any success to be claimed for this Framework for Action.

3.11 South Australia

Muna Paiendi Maternal Child Health Program

Muna Paiendi Community Health Service in Adelaide’s Northern suburbs, commenced a Maternal and Child Health Program to respond better to the identified needs of young Aboriginal women in the community who might not otherwise access services (STATEing Women’s Health 2006). The team of multidisciplinary health professionals and workers led by a Community Midwife, provide a weekly antenatal clinic in partnership with the Lyell McEwin Health Service (the local public maternity service) as well as postnatal care and mothercare support at home along with playgroups, education programs including a return to work program, immunisations, speech pathology, social services support and occupational therapy (STATEing Women’s Health 2006). The aim is to work with the young women from conception through to family care after their baby to identify problems as soon as possible and intervene immediately in response, in particular to prevent any impact on infant/child learning and development (STATEing Women’s Health 2006).

The Alternative Birthing Project – Port Augusta and Whyalla in South Australia

Following on from consultations and recommendations from women, the Alternative Birthing Project (ABP) was initiated in the Northern and Far Western Region of South Australia, based at Port Augusta and Whyalla Hospitals (Boles, Stuart-Butler and Foale nd). A case load practice model is the basis of the project with Aboriginal Maternal and Infant Care workers leading and coordinating the care (working as cultural brokers, advocates, liaison and support persons) supported by a team of midwives and a General Practitioner and/or Obstetrician. Women can access this care regardless of their risk status with more or less risk determining the amount of obstetric involvement. Antenatal care is provided at home, a clinic or at Pika Wiya the Aboriginal Health Service in Port Augusta, with postnatal care continuing on for up to 8 weeks after discharge (Boles et al nd). Since the commencement of the program there has been a reduction in the caesarean section rate and the model has been successful in attracting and retaining staff for greater job satisfaction (Boles et al nd).

Anangu Pitjantjatjara Lands

In a review of obstetric and child health outcomes across 1984 through 1996 on the Anangu Pitjantjatjara Lands, Sloman, Shelley, Watson and Lumley (1999) found that many women wished to retain their traditional birthing practices and preferably in their own communities. The review was conducted to investigate the effects of the use of
standard protocols recently implemented and to compare community births with hospital births (Sloman et al 1999). All births (N = 705) between 1984 and 1996 to Aboriginal women from these communities (numbers of births on the lands were not specified) were examined to show increased average birth weights, decreased low birth weight and decreased perinatal mortality rates (all statistically significant) which was consistent with similar improvements in hospital births (Sloman et al 1999). The findings certainly confirmed improvements in health outcomes albeit without any specific attribution. As a preliminary analysis the results are interesting and raise a number of questions around possible causative factors, long term consequences and health planning in terms of Aboriginal women birthing on community land.

3.12 Victoria
Mildura Women's Business Service
The opinions and experiences of women utilising the Mildura Aboriginal Health Service’s Women’s Business Service (MWBS) (and their care-providers) were evaluated and compared with those of women accessing public maternity services in Victoria in 2000 (Campbell and Brown 2004). The MWBS is community controlled and primary health focused (established in May 2000) to provide antenatal and postnatal care including outreach care at home, support during labour and birth at hospital or at home, health education and counselling, for Aboriginal women through the services of a midwife and a Maternal Health Aboriginal Health Worker, as well as medical staff (Campbell and Brown 2003). The average age of women involved in the review was 25 years approximately and they were at least six months and up to eighteen months postnatal; they were younger, more likely to have smoked cigarettes, have a lower income and lower birth-weight baby than the Victorian sample (Campbell and Brown 2004). The majority of Aboriginal women rated their antenatal care as very good compared to public maternity clients who were less likely to do this, and the Aboriginal women felt happy with their care, never felt rushed, felt informed and never had to wait more than half an hour (Campbell and Brown 2004). The aspects of antenatal care that mattered most to the Aboriginal women were (Campbell and Brown 2004):

- sensitivity
- kindness
- reassurance
- respect
- care-providers on call and easy to contact
- gaining information and education
- availability of transport.

While the Aboriginal women found their MWBS care providers supportive in labour they felt the public maternity staff were less welcoming and less friendly (Campbell and Brown 2004). Feedback from staff at the MWBS confirms that there have been ongoing issues around a lack of understanding by public maternity service providers of the need for this service for Aboriginal women and of their desire for continuity. The MWBS women referred again to the importance of sensitivity, kindness, reassurance and respect during their labour/birth care, as well as having options during labour, knowing what was going on and having an active role in decision-making (Campbell and Brown 2004). Early postnatal experiences were not as highly positive as later postnatal experiences but were not negative; MWBS women did experience conflicting information from hospital staff but again found the at-home support of the MWBS staff beneficial (Campbell and Brown 2004). The philosophy of care of MWBS is based strongly on
health encompassing the emotional, cultural, social and physical needs of women which the review showed they valued highly (Campbell & Brown, 2004).

3.13 New South Wales

Urban Aboriginal women in Sydney
A retrospective descriptive audit (across January 1992 through December 1993) of an obstetric data base in a Sydney maternity unit of access to antenatal care by, and pregnancy outcomes in, Aboriginal women was conducted by de Costa and Child (1996). They found more Aboriginal women were having babies at 24 years of age or less, more were also multiparous, more had not received their first antenatal visit by 28 weeks, had significantly more pregnancy induced hypertension, urinary tract infection and need for methadone treatment (de Costa and Child 1996). There were significantly higher numbers of preterm births and babies weighing less than 2500 grams in the Aboriginal group (logical follow-on of one from the other). Despite the close proximity Aboriginal women had to the maternity unit's antenatal services they were not well utilised. De Costa and Child (1996) advised that increased effort was needed in cooperating with Aboriginal controlled services to address this problem as improving access to and participation in antenatal care for Aboriginal women in Sydney could lead to better outcomes for them and their babies.

Daruk Aboriginal Medical Service
A community based antenatal program commenced at Daruk Aboriginal Medical Service (Daruk) in 1990 to meet the needs of Aboriginal women across western Sydney to the Blue Mountains who had previously not accessed antenatal care on a regular basis. Since its inception, 36% of Daruk women attend for antenatal care in the first trimester compared to 21% of Aboriginal women who attend at Nepean Hospital and 25% at Blacktown Hospital (Daruk Aboriginal Medical Service and Western Sector Public Health Unit 1998). Women also receive antenatal education, transport support and postnatal care. The unit has taken six years to set up relationships based on trust and a non-judgmental approach to providing care for each woman within the context of her family and social circumstances. An evaluation of their program found that Daruk had been very effective at “creating a culture of antenatal care and developing a partnership with a mainstream service” (Nepean Hospital) and at overall improvement of antenatal care provision (Daruk Aboriginal Medical Service and Western Sector Public Health Unit 1998). Women gained an understanding of the purpose and benefits of antenatal care and this was enhanced by the flexibility and family centred care they encountered. Modest gains were able to be made in reducing risk taking behaviours but significant effects on improving Aboriginal morbidity and mortality were not able to be shown (Daruk Aboriginal Medical Service and Western Sector Public Health Unit 1998). The evaluation attributed this to the Daruk women’s socio-economic circumstances; it is to be noted though that the women birthed in mainstream hospital services which were not a continuum part of their antenatal care and outcomes for mother and baby are significantly influenced by the labour and birth aspect of their pregnancy experience.

3.14 Queensland

Townsville Aboriginal and Islander Health Service
A prospective cohort study of Aboriginal women attending Townsville Aboriginal and Islander Health Service for shared antenatal care was conducted between 2000 and 2003 with comparison made to a previous cohort of women attending between 1998 and 1999 (Panaretto, Lee, Mitchell, Larkins, Manessis, Buettner and Watson 2005). Of the
total births in Australia in 2005, 3% were to Aboriginal women and the greatest number of these was born in Queensland (Panaretto et al 2005). The purpose of the study was to evaluate the effectiveness of the community based shared care antenatal program on antenatal care and perinatal outcomes of Aboriginal women. The program offered testing for STIs, an integrated team approach to antenatal care provision (the Mums and Babies Program - MBP) with walk-in clinics and continuity of care, family friendly environment, transport and risk factor based brief interventions; in addition they focused care plans on the WHO (discussed earlier) advised protocol of screening, education, nutrition supplements and recalls to appointments.

Panaretto et al (2005) found that antenatal visits increased, with more women coming to antenatal care earlier in their pregnancies, and less women having inadequate antenatal care. However specifically what may have contributed to this in terms of the MBP is not identified. While the average birth weight improved for the women in the MBP (compared to women receiving care prior to the MBP) this was not significantly different (Panaretto et al 2005) and was probably influenced by the significant decrease in preterm births, in turn probably influenced by the increased low risk profile of Aboriginal women attending the MBP; so their risk profiles were different with the change of care. There were no changes in perinatal mortality however. The investigators acknowledged the limited information available to lead Aboriginal antenatal care planning, the persistence of tradition in antenatal care despite changes in evidence, and the absence of indicators for determining quality antenatal care. Panaretto et al (2005) aptly recognise Aboriginal women’s rights to access and receive antenatal care that is equivalent to that of non-Aboriginal women, as well as the need for culturally safe environments to provide this in along with focused effort on minimising risk related behaviours to reduce low birth weight and perinatal mortality rates.

Young Aboriginal women in Greater Cairns
Minniecon, Parker, and Cadet-James (2003) conducted a qualitative study over a twelve month period in the greater Cairns area, interviewing Aboriginal women (between the ages of 18 and 25 years) about their pregnancy and postnatal perceptions and experiences. Less than half accessed antenatal care because of ‘shame’ about who they might have to see or that they might be singled out, because of work commitments or because they simply did not think they needed it. Instead they used family support, books, and videos and learned from other experienced mothers and while they did not expect to receive any traditional care for their births, regardless, it was not offered (Minniecon, Parker, and Cadet-James 2003). One of the women provided a very insightful explanation of her feelings about not wanting to see the doctor she had known throughout her pregnancy, at the 6 week check after the birth of her baby; it was not about the good relationship they had developed over her antenatal care:

… but because I got to know him, see, all the way through, like we gammon* have a yarn and everything, I was saying, nah, I’m shame, cause I like know him. I’ll be like shame job every time I look at him after that. But poor thing, cause he was real deadly you know, and I didn’t go back, and how do you explain that to somebody? So he might think, oh they didn’t come back cause you know you was gammon or something, but it was the opposite (Minniecon, Parker, and Cadet-James 2003, p.16).

*gammon means to pretend

None of the women attended antenatal classes but felt prepared despite this citing ‘shame’ again about going, as well as family obligations and transport problems.
Recommendations from the research identified the need for more culturally sensitive maternity care and education provision.

Mt Isa women
In response to increased perinatal mortality rates, changes were made to models of service delivery at Mt Isa Hospital based on consultation with Aboriginal clients and health service providers. Following 8 intrauterine deaths (between 24 to 35 weeks gestation) across January and June 2002 possible contributing factors were identified (Nel and Pashen 2003);

• Inappropriate or inconsistent antenatal care;
• Lengthy waiting times;
• No continuity of care – no possibility of building a relationship of trust which was particularly desired by Aboriginal clients;
• No regular transport;
• Variations between and within doctors in outreach and hospital roles;
• No cross communication of results and case notes;
• Poor attendance at antenatal care and compliance with advice;
• Culturally inappropriate environments - waiting and examination rooms (and implications for shame);
• High staff turnover and intermittent absence of obstetricians.

A series of changes were implemented that saw worthy improvements with women able to attend a culturally appropriate antenatal clinic in their community in familiar surroundings, with Aboriginal staff, transport and home visits to remind them about appointments. Women were able to bring their extended family and children with them to clinic appointments for support, and to have them involved in their ongoing care including labour and birth (Nel and Pashen 2003).

The effect of ultrasound access on remote Queensland Aboriginal communities
A Basic Ultrasound for Aboriginal and Torres Strait Islander Health Workers (AHWs) Course was developed by James Cook University in Queensland in partnership with others to provide female AHWs with specific ultrasound skills to use in rural and remote Aboriginal communities (School of Public Health and Tropical Medicine 2001). This was a response to ongoing problems with Aboriginal women not having calendar based records of their menstrual cycles and therefore uncertain gestations and due dates for their pregnancies. The aim was to encourage early involvement in antenatal care and achieve more accurate estimations of pregnancy dating, determination of multiple pregnancies, and reliable ongoing monitoring of fetal growth and risk assessment around birth (School of Public Health and Tropical Medicine 2001). Women had frequently been non-compliant with attending ultrasound in regional cities as this disrupted their lives, their children were left behind and they had to travel long distances from home without any support. It is important to note that ultrasound provides measurements of fetal growth but not of actual gestation.

Despite medical misgivings about the program it was highly worthwhile for a number of reasons and showed immediate benefits (School of Public Health and Tropical Medicine 2001, p. 63);

• women simply had to go “down the hall” instead of travelling away from the community for ultrasounds with resultant less family disruption;
• some women were able to be scanned as early as 8 weeks pregnant because of improved antenatal care attendance;
• early and improved identification of abnormalities was possible, including
detection of multiple pregnancies;
• increased numbers of women’s partners became involved in the ultrasound
process;
• decreased emergency evacuations during labour due to increased knowledge of
gestations of pregnancies;
• reduced costs;
• empowerment of the AHWs.
The program was regarded as an important landmark in the need to reduce inequality in
maternity care for Aboriginal women.

Cherbourg Community Queensland
A comparison of outcomes was made between Aboriginal (living in the Cherbourg
Community) and non-Aboriginal women who received maternity care at the Kingaroy
Base Hospital in Queensland from 1990 through 1992 to ascertain possible differences
(Powell and Dugdale 1999). In terms of the antepartum findings, Aboriginal women were
significantly younger, attended antenatal clinic less often and started at a later stage in
their pregnancies (and were more likely to be anaemic at their first visit), showed a
higher rate of STIs and more of them admitted to consuming alcohol (Powell and
Dugdale 1999). However, non-Aboriginal women had a statistically significant higher
incidence of hypertension and pre-eclampsia, with no significant differences between the
two groups in terms of gestational diabetes or antepartum haemorrhage (Powell and
Dugdale 1999).

The intrapartum findings showed that Aboriginal women were more likely to receive a
transfusion and their babies’ birth weights were less than the non-Aboriginal women’s
babies (but multiparous Aboriginal women’s babies were generally 250 grams heavier
than primiparous Aboriginal women’s babies). There was a stated possible trend
towards ‘abnormal deliveries’ in the Aboriginal women, but this is very tenuous on
careful examination of their data. The postpartum findings indicated a higher incidence
of jaundice in non-Aboriginal babies and increased frequency of ‘problems’ (unspecified)
in non-Aboriginal mothers (Powell and Dugdale 1999). The persisting issues surrounding
Aboriginal birthing are acknowledged in this paper; concern for poor outcomes in
Aboriginal women and their babies, and the desire of some Aboriginal women to give
birth in their own community lands (Powell and Dugdale 1999). It is noteworthy that
Powell and Dugdale (1999) recognise that Aboriginality alone does not exert a significant
effect on poor perinatal outcome, but that lifestyle factors in some groups/communities
such as alcohol intake, poor nutrition, cigarette smoking, and STIs among others,
contribute to this. They acknowledge that Aboriginal health “is not uniformly bad”
(Powell and Dugdale1999, p. 17).

3.15 Northern Territory
Darwin Hospital experiences
A project to identify issues for Aboriginal women giving birth in Darwin found that their
hospitalisation experience took the Aboriginal mother and her baby away from their
‘special place’ and precluded the provision of ceremonies and symbolic rituals
associated with birth (Watson, Hodson and Johnson 2002; Watson, Hodson, Johnson,
Kemp and May 2002a, 2002b). Aboriginal women had very little, if any, knowledge of
what to expect regarding antenatal care and transfer into hospital from their community
for birth, as well as for coping with the separation process from family and home. They experienced feelings of social and cultural isolation. The hospital environment was seen to be alien, too cold in terms of air conditioning, too dark, and physically uncomfortable by the Aboriginal women. Hospital staff communication was perceived to be inappropriate and without recognition of the differences in linguistic convention used by the Aboriginal women; the use of medical jargon and technical terms was also problematic and excluding for Aboriginal women. The experience of ‘shame’ felt by Aboriginal women was not understood by health professionals and it was recognised that women may actually withhold information in their communications with health professionals in an effort to avoid feeling ‘shame’ (Watson, Hodson and Johnson 2002). Similarly Watson, Hodson and Johnson (2002) noted that this would apply to research as well with the use of direct questions liable to invoke feelings of shame and discomfort in responding.

Danila Dilba in Darwin
Danila Dilba Biluru Butji Binnilutlum (known as Danila Dilba) Health Service is an Aboriginal controlled health service located in Darwin established in 1991, with Gumileybirra Women’s Health Unit set up in 1994 (Hunt, Baraga, & Lumley, 2001). A Women’s Business Meeting held by Danila Dilba in 1998 showed strong support from women for birthing on country; this could mean either in a local clinic or in a spiritual location with a traditional midwife (Danila Dilba 1998). Women did not want to leave their families and communities and recommended that more Aboriginal people be trained to be employed to work with pregnant women along with traditional midwives in their communities; good antenatal care and education needed to be provided along with ongoing family support which also meant transport issues needed to be addressed (Danila Dilba 1998). They also wanted young women to be involved in birthing decisions and advised that cultural awareness training was necessary for all staff working in maternal/child care (Danila Dilba 1998).

An evaluation of Gumileybirra Women’s Health Unit was undertaken in 2000 to determine past and present issues and their address through the Unit, as well as ascertain the effectiveness of the Unit in meeting women’s needs and identify future planning requirements. Women valued the sense of ownership they felt about the Unit, their degree of comfort with using it, the female only staff, and their friendly, easy going, supportive and professional manner (Hunt, Baraga, & Lumley, 2001). Feedback was also provided about changes needed, including, improving the clinic environment and waiting times, increasing Aboriginal Health Workers, more use of interpreters, extending services, to include more programs for young women relating to social/emotional wellbeing and sexuality issues, and the need for a birthing place in Darwin (Hunt, Baraga, & Lumley, 2001).

Congress Alukura
The seminal paper by Carter, Hussen, Abbott, Little, Wighton, McCormack, Duncan and Nathan (1987) on *Borning* has provided ongoing impetus for much of the above change and development. Carter et al (1987, p.1) made a strong and impassioned plea for change in Aboriginal women’s maternity care; they wanted a dedicated Aboriginal birthing environment to be constructed so that sensitivity and consideration could provide some compensation for the shame, loss and grief they felt about their institutionalised pregnancy and birth experiences. They wanted as well what should be fundamental to all women’s maternity care, the right to have choice and control (Carter et al 1987, p.1);
We have lived by our strong Grandmother’s Law for a long time now. Our law has been violated since the white man came. Our babies die. Our women are shamed … a western hospital delivery, which may produce a healthy baby, at least in the interim, [is] at the cost of undermining their traditional practices and producing widespread shame and fear. Neither option affords Aboriginal women choice or control.

However, for as much as it was believed that the removal of tradition would make a significant difference to Aboriginal perinatal morbidity and mortality rates, nearly twenty years later they are not dramatically better in the way they supposedly could or should have been; institutionalisation and medicalisation can not make claims about improvements that have not happened. It can be reasonably argued that the negation of tradition in Aboriginal women’s pregnancy and birthing experiences may have indeed been a harmful move and that the majority of Aboriginal women in 2006 still do not have choice or control. The lack of understanding of the inclusive nature of birthing, its “holistic, purposeful and sacred character,” (Carter et al 1987, p. 8) has undermined pregnancy and birth for Aboriginal women, making it all too often a clinical event involving strangers. That is not to refute the justified management of complications and need for advice and preventive measures, but for many Aboriginal women the only option after sporadic or available antenatal care (that may or may not be evidence based), with or without continuity of care-giver, is to birth in a hospital often considerable distance from their family, home and community; what else would they do if they really had choices and how do we really know those choices would be less safe than the only option available?

In 2004 Carter, Lumley, Wilson and Bell published a review of Congress Alukura, the first since its inception in 1987, to ascertain its capacity to meet the needs of Aboriginal women across health and birthing. They found an increase in women attending their first antenatal visit in their first trimester of pregnancy and an improvement in average birth weight. The care provided was identified to be of a high standard although the service could be improved by increasing the number of Aboriginal staff (Carter et al 2004). Only sixteen women had given birth at Alukura however over the time of its existence (Carter et al 2004). Planning determinations made then placed expectations on the service for birthing that could not be sustained unfortunately. Current models of care could possibly provide a different perspective. Concurrent with this was the changing perception about pregnancy and birth held by young Aboriginal women for whom traditional law may not have been as consequential; however as stated earlier this changing perception may have been a product of the enforced change in maternity care (and promotion of hospitals as the only safe place to give birth) such that traditional law about birthing was not able to be heard let alone put into practice anyway. This was complicated by the fact that very few younger Aboriginal women were actually involved in the review. The need for a community development approach to health promotion was recognised as well as the need for greater exploration of younger Aboriginal women’s beliefs and experiences around pregnancy and birth.

Infertility in Aboriginal women across South Australia, Northern Territory and Western Australia (the Tri-State area)
Published information about infertility issues relating to Aboriginal women is limited. The Tri-State Project (TSP), through Menon and Coppola (1999) examined the data of Aboriginal women (aged 15 to 40 years) from four communities to provide a preliminary analysis of infertility in the area. They found 35 (28% of their sample) women had received infertility investigations, (19 for primary infertility and 16 for secondary infertility).
Likely causes of infertility were listed as Pelvic Inflammatory Disease (PID) (the main cause for all women), Polycystic Ovary Syndrome, Hypothyroidism and other unknown factors. Despite these findings case notes of the women indicated that only one male partner had been investigated (Menon and Coppola 1999); this is likely to be a product of cultural complexities around women’s business and beliefs about whose ‘responsibility’ fertility is. The women’s symptoms of lower abdominal pain often without urinary frequency and dysuria were still mostly managed and treated as urinary tract infections not PID, with an overall diagnosis of PID relatively uncommon (Menon and Coppola 1999). The total fertility rate was found to have decreased since 1992, evidenced by less births despite an increase in the number of women of reproductive age. Correspondingly there were increased rates of the STIs Gonorrhoea and Chlamydia likely to reduce population growth rates by 10 to 30% (Menon and Coppola 1999). They conclude that infertility may be a significant problem for Aboriginal people with possible distressing outcomes causing relationship breakdown, increased numbers of sexual partners, greater exposure to STIs and increased risk of HIV.

3.16 Western Australia

Ngaanyatjarra women

In her exploration of antenatal and birthing issues with a group of Ngaanyatjarra women Simmonds (2002) was able to determine important considerations for women’s experiences across their pregnancies. Simmonds (2002) importantly worked with three age groups of women for her research, older women (grandmothers), middle aged women and younger women, enabling her to access distinct generational perspectives:

- what may be eaten and drunk and how women should behave and interact can be of consequence during pregnancy and birth;
- generational differences and hence inclinations for choices and decisions in pregnancy and birth, exist across Aboriginal women in terms of cultural appropriation that mean health professionals should not make assumptions about women simply based on their Aboriginal status;
- antenatal and labour and birth care may be compromised by the involvement of inappropriate family members;
- some Aboriginal women prefer (for cultural and/or personal reasons) to birth (either traditionally or in western medical environments) without any family members present (male or female), or indeed anyone at all, which is not typical across all groups of Aboriginal women;
- health professionals need to give careful and particular care to their expressions, use and emphasis of language when working with Aboriginal women;
  - using subtle and ‘sideways’ communication approaches;
  - not using direct and explicit language in relation to pregnancy and women’s business;
  - not discussing pregnancy/women’s business matters in public, nor in front of certain people;
- the concept of ‘shame’ is complex and important needing greater understanding and clearer interpretation by health professionals in working with Aboriginal women and their families across pregnancy and birth;
  - this relates to communication, gender of health professionals and capacity to complain about health service experiences for example, among many other consequential aspects (Simmonds 2002, pp. 8-9);
‘Shame’ will be experienced if being criticised in front of someone, but also if being praised in front of a group. In fact, any situation that draws undesired focus toward an individual will culminate in that individual feeling ‘shame’. A person will thus avoid a situation that induces ‘shame’. For example, a woman may not attend a clinic appointment if she discovered that the practitioner was male. The approach of Indigenous Australians that puts the community rather than the individual first, can affect their ability to make demands of, or complaints to, the agencies responsible for health and other infrastructure. The potential to feel ‘shame’ means a person is thus less likely to be the one to draw attention to something.

- patience, tolerance and respect are significant assets of professional practice if applied effectively when working with Aboriginal women and their families;
- knowing the midwife/doctor within the community can make a difference to antenatal care involvement and hence pregnancy outcome, so the achievement of an ongoing relationship of knowing and trusting the health care professional is important to Aboriginal women;
- a ‘two way’ approach to maternity care that used the advantages of the medical model, “while incorporating their time-honoured cultural knowledge and skills” was seen as crucial by the Ngaanyatjarra women (Simmonds 2002, p.132) and this could result in mutual sharing of information and reciprocal learning.

**East Kimberley women**

In her description of three generations’ of birth stories in the East Kimberley, Bridge (1999) emphasises that “it is not enough to simply acknowledge the uniqueness of each other’s culture”; this is simplistic and reductionistic. Bridge (1999) describes the complexity and impact of cultural values and beliefs (such as shame for example) on Aboriginal women and insists that while not easy to understand, incorporation of culture into health practice and service delivery is a responsibility of all health professionals if genuine change is going to be achieved.

Stewart (1999) also shared pregnancy and birth stories of women from the East Kimberley in her book - *Ngalangangpum Jarrakpu Purrum Mother and Child*. Women asserted that in order to “ensure a safe and healthy pregnancy and birth … safeguarding both the physical and spiritual health of the mother” was essential (Stewart 1999, p.3). Modern and traditional practices could go together but adherence to traditional women’s Law with its ceremonies and rituals was critical for assuring healthy mothers and babies (Stewart 1999). The Aboriginal spiritual dimension of health was seen to be poorly regarded (and probably poorly understood) by many health professionals and health services; “to be truly well involves living in a state of harmony with the land and the spirit beings. The reason so many people get sick can be traced back to the loss of culture and connection” Stewart 1999, p.4). So for pregnant women their experience is not simply one of a changed physical state – being strong and healthy encompasses far deeper dimensions and a holistic belief about life. Certain bush tucker rules for the wellbeing of mother and baby and successful breastfeeding, as well as the use of bush medicine and remedies for healing all continue to be seen as necessary and in association with modern medicine.

### 3.17 Remote location issues

Remoteness from services and from social advantage means a decline in health for Australians (Kildea 2001). Remote communities suffer from lack of appropriate models of care for pregnant women, insufficient numbers of midwives, high staff turnover, and a
struggle to attract ongoing funds as money is increasingly moved into acute services (Kildea 2001). Federal government funds are directed towards supporting medical officers but not so midwives claiming this is a state responsibility. Women are required therefore to transfer to larger regional centres to give birth. According to Kildea (2001) women need choices for, access to maternity care close to home and culturally appropriate care to remediate the loss and grief experienced in leaving home for weeks to await their baby’s birth in another location (Kildea 2001). Kildea (2001) proposes that their lack of control and fear may contribute to problems in labour and birth. Some women are choosing to ‘miss’ travelling away from the community, not participate in antenatal care (to avoid being identified as pregnant) or simply return to their communities before the baby is born to give birth there anyway. However recent studies have confirmed that community based maternity services have been shown to offer safe and viable alternatives to routine transfer of women into regional hospitals and the absence of caesarean facilities did not result in adverse outcomes (Leeman and Leeman 2002). The lack of culturally appropriate models of care, interpreter services, support in labour, and respect for labour and birth choices may actually contribute to hospitals being ‘risky’ for Aboriginal women and it is time to reconsider the situation of Aboriginal women in terms of pregnancy and birth towards stronger primary health care models.

Traditional birth attendants
Sibley, Sipe and Brown (2006) are conducting a systematic review of the effects of traditional birth attendant (TBA) training on TBA and maternal behaviour in terms of mediating positive pregnancy outcomes and on maternal, perinatal and newborn morbidity and mortality. They acknowledge that the evidence surrounding TBAs is limited and conflicting and their impact on perinatal outcomes is uncertain, hence their review.

3.18 Research on relevant non-Aboriginal women’s experiences
The experiences of South African women
Most women in rural South Africa do not attend antenatal care until late in their pregnancies despite the fact that there is widely available free antenatal care for them (Myer and Harrison 2003). More-so they do not return for further antenatal care after their first visit potentially increasing the risk of perinatal problems. Myer and Harrison (2003) interviewed women to ascertain their perceptions of health and health care during pregnancy, and determine what factors may influence the use of antenatal care by women. They found that most women do not consider that there are any serious health risks during pregnancy and hence they see more than one antenatal visit as unnecessary with little to be gained. Instead they see labour and birth as a time of great risk and elect to give birth in a medical centre. In order to get the required ‘antenatal attendance card’ to be able to give birth in these facilities, they have to attend antenatal care; so it is a visit of necessity not of choice or desire and once only. There are still access issues for some women, as well as poor quality care with high client turnovers (Myer and Harrison 2003) but the greater need is obviously for increased health education around pregnancy care and wellbeing.

Effectiveness of ultrasound in South African communities
A prospective trial conducted through a low socio-economic South African community-based basic ultrasound service for midwife led maternity care showed significantly reduced referrals to a regional center for fetal surveillance and birth (Geerts, Theron, Grove, Theron, and Odendaal 2004). While the use of ultrasound did not effect
outcomes per se, there were reduced numbers of referrals for fetal surveillance, perceived preterm labors (before 37 weeks gestation), ruptured membranes, and postmature (after 42 weeks gestation) births, with less women needing to leave the community to give birth accordingly (Geerts et al 2004). Geerts et al (2004) acknowledged the fact that routine obstetric ultrasound has not been found (through systematic reviews) to be cost effective nor to improve pregnancy outcomes. The only changes in perinatal outcome arise from ultrasound services providing a high detection rate of congenital anomalies which result in termination of pregnancy (Geerts et al 2004). Their research was based on the premise that dating scans alone (prior to 24 weeks gestation) could make a difference beyond high cost obstetric ultrasound. The study was conducted in a society where “women are often the only breadwinners for their extended family, [and] the socioeconomic benefit of avoiding these referrals (transport costs and loss of income) by offering an immediate ultrasound service in the community cannot be underestimated” (Geerts et al 2004, p.30). While the use of this form of ultrasound increased the number of women who had scans by nearly double, it did reduce the number of unscheduled scans they had. Clearly the advantages for the women and their families are high and important, socially, economically and emotionally.

The experiences of Lebanese women
The responses and satisfaction of Lebanese women (in their own country) to/with medical management of their pregnancies and births was described by Kabakian-Khasholian, Campbell, Shediac-Rizkallah and Ghorayeb (2000). Women placed their trust in doctors and rarely questioned their practice despite finding much of the technical aspects of their care intimidating and uncomfortable. They would indicate pleasure with good communication and interaction with their care provider however. Overall though, Kabakian-Khasholian et al (2000) found that the degree of women’s passivity and dissatisfaction regarding their care varied according to their social class and the amount of psychosocial support received during pregnancy and birth. Complaints were voiced by women about lack of information regarding procedures during labour and birth, male health professionals, lack of consent seeking in terms of procedures particularly such as episiotomy, discomfort with partners’ presence, wish for continuity of care and others. These women traditionally birthed at home within a highly supportive environment without technicalities and procedures but were not able to challenge care processes in hospital environments and accepted their suffering as inevitable (Kabakian-Khasholian et al 2000). The ease with which health systems negate the emotional aspects of women by medicalising pregnancy and birth mean women’s capacities to participate in decision making and take an active role is very limited, it at all possible, (Kabakian-Khasholian et al 2000) and for women of cultural backgrounds this is even more compromising.

Informed choice options antenatally in metropolitan Victoria
Postpartum women at a major metropolitan teaching hospital in Victoria were asked to identify aspects of significance relating to antenatal screening (Searle 1997). Overall women felt that they did not receive sufficient information about routine screening tests; they expressed the need to have had prior information to have been able to ask appropriate questions and make an informed choice about tests and be able to refuse if they wished to. Women were ‘compliant’ with screening tests based on trust in health professionals and a belief that tests were ‘just routine’, not knowing about results (false positive and false negative rates) and incidence of detection of abnormalities for example (Searle 1997). Searle (1997) acknowledges that where there is a lack of information in ‘opt-out’ systems there is a correlation with high use of screening; environments which do not have clear policies regarding antenatal screening and
maintain routine practices promote a context in which women are denied the right to opt out. Women must have sufficient informed choice options, equity in access to information and provision of reliable details about antenatal screening, including rationales, limitations and effectiveness (Searle 1997).

The first antenatal visit in the United Kingdom

A United Kingdom (UK) study (McCourt 2006) investigated patterns of communication between midwives and pregnant women at their first antenatal visit, and their consequences for information, choice and control as now advocated in UK government policy. Midwives’ communication interaction patterns varied according to the model of care they practised in (conventional or case load) and the setting, with risk screening and health education information dominant in the conventional model where formal and hierarchical styles of communication were used, despite the government policy (McCourt 2006). Women attending case load antenatal visits received more conversational and less hierarchical styles of communication and were offered more information, choice and control in a midwifery focus on being ‘with woman’ (McCourt 2006). However the personal characteristics of the woman and her own confidence and knowledge also exerted an effect on communication; “relaxed and confident women, who asked appropriate questions tended to put the midwife at ease too, and reduce the appearance of social distance” (McCourt 2006, p.1316). This seemingly simple but very potent finding raises crucial considerations for Aboriginal women who are very unlikely to attend their first antenatal visit relaxed and confident; whether they come back for another visit or not is clearly going to be highly influenced by their experience at this first visit which hinges strongly on communication from the care-provider. Case load midwives actually practised within a partnership model promoting woman centred care, while the midwives in conventional care assumed a professional/client approach in a ritualised prescribed and predictable type of performance as the expert while the woman was the audience (McCourt 2006). So while there is much rhetoric about informed choice, a focus on women and consumer rights, the reality is that it is not necessarily translated into practice in conventional models of practice. McCourt (2006, p.1317) advises that “greater attention to the issues of power and hierarchy, with consequent structural changes, are needed in order to achieve genuine health service reform”.

European women’s needs from antenatal care

Luyben and Fleming (2005) used a grounded theory methodology to interview women in Scotland, Switzerland and the Netherlands to identify what the women considered to be the important aspects of antenatal care so that a woman-constructed conceptual model of antenatal care could be developed. Analysis of the women’s reports revealed three categories of need; ‘responsibility’, ‘establishing a sharing trust relationship’, and the need for ‘support to enable women to take responsibility’ (Luyben and Fleming 2005). Responsibility involved two sub-categories; ‘feeling confident’, and ‘feeling autonomous’. Cultural differences between the women centred on the sub-category of ‘feeling autonomous’. Women indicated that “responsibility for themselves, their babies and the experiences [sic] of becoming mothers was the primary reason [they] sought antenatal care” (Luyben and Fleming 2005). They gained confidence through information and knowledge and from a trusting relationship with their care provider who ideally was interested in them, encouraged them and minimised their anxieties and worries by sharing them and being ‘with them’ (Luyben and Fleming 2005).
3.19 Considerations for effective care provision

Continuity of care

Continuity as a term has become used variously unfortunately which detracts from attaining a clear understanding of its meaning and intent. Recognising this, Hodnett (2000, p.2) has identified that it can mean:

(1) a stated commitment to a shared philosophy of care,
(2) a strict adherence to a common protocol for care during pregnancy and/or childbirth,
(3) a system whereby those who are discharged from hospital are routinely referred to community services, or
(4) the actual provision of care by the same caregiver or small group of caregivers throughout pregnancy, during labour and birth, and in the postnatal period.

Continuity of care should refer to the provision of maternity care (across pregnancy, labour, birth and postpartum) by the same group of health professionals, normally midwives, hence the term continuity of midwifery care. This group may comprise from 3 to 10 midwives, depending on how they have organised their practice. There is no expectation that women will have the same midwife throughout their maternity care, but they will have the same philosophy and practice of care, namely midwifery care, with the aim of reducing conflicting advice experienced by so many women (Green, Curtis, Price and Renfrew 1998).

Two common examples of continuity of care are, Team Midwifery and Midwifery Group Practice. In Team Midwifery the largest groups of midwives are normally found, typically up to ten midwives in a team, who work together in a hospital setting usually, to enable women to access continuous midwifery care from pregnancy to postpartum. The larger number of midwives means that women may not meet all of them and may not know the midwife they have with them in labour. This pattern of care suits larger institutions where there is less flexibility for more individualised midwifery care, as midwives usually work hospital rosters across the various departments of the maternity unit. However there is more burnout and dissatisfaction for midwives because of the lack of autonomy and inability to form a working relationship with women during their pregnancy (Green, Curtis, Price and Renfrew 1998). Some women don’t mind this arrangement but many don’t like it preferring to know ‘their’ midwife and develop a trusting relationship with them.

In Midwifery Group Practice, midwives work closely together in groups of 3 to 6. They typically choose to work in groups based on shared beliefs and collegiality rather than simply institutional arrangements. They organize their own workload requirements according to the women they have booked into their care and not necessarily to suit hospital roster requirements. Women are able to get to know the midwives across their pregnancies and will therefore know the midwife who is with them during their labour. The midwives share the on-call time to be available for women when they come into labour. There is greater autonomy for the midwives and higher job satisfaction and women enjoy the continuity of care that is offered with a smaller group of care providers.

Continuity of carer

In continuity of carer the woman has the same care provider throughout their pregnancy, labour, birth and postpartum. This is typically experienced through either Case Load Midwifery Practice, Independent Midwifery Practice or Private Obstetric Practice. In the Northern Territory this may be also achieved through the Department of Health and Community Services’ Home Birth Service. The woman forms an ongoing relationship
based on trust and mutual respect with her care provider. This affords the woman the opportunity to share experiences that may otherwise not be divulged, exercise greater control depending on the care giver and generally achieve their choice of care and birth in the environment they feel most comfortable, according to the options their care provider makes available to them. The care provider obviously has considerable autonomy in their practice and high job satisfaction but can be constrained by being on-call constantly without relief unless they arrange backup which would ideally need to be amenable to the woman (Green, Curtis, Price and Renfrew 1998). Women who specifically want only one care provider that they can get to know well and exercise good control with, enjoy the consistency and rapport.

**Systematic Reviews**

Hodnett (2000) conducted a systematic review of the possible effects of continuity of care by a team of midwives on pregnancy, birth and postpartum as compared to multiple caregivers (inclusive of shared care arrangements) in an institution where they may only work in one particular location of maternity care. Hodnett (2000, p. 3) used good quality trials and was able to confirm that women who received continuity of care from a team of midwives were less likely to:

- experience clinic waiting times longer than 15 minutes,
- be admitted to hospital antenatally,
- fail to attend prenatal classes,
- be unable to discuss worries in pregnancy,
- not feel well-prepared for labour,
- not have intrapartum analgesia or anaesthesia,
- not feel in control during labour,
- fail to enjoy labour,
- perceive labour staff as unsupportive,
- feel unable to discuss postpartum problems,
- feel unprepared for child care, and
- have babies who required neonatal resuscitation.

These women were also less likely to have an episiotomy, but more likely to have either a vaginal or perineal tear. Hodnett (2000) also noted the trend of fewer spontaneous abortions in the group of women receiving continuity of care. What was not able to be ascertained from the review was whether the effects were specifically due to midwifery care (as distinct from shared care) or to continuity. In support of a previous systematic review on support from caregivers during labour and birth, Hodnett (2000) advised that the effects on labour and birth were important to note and it needed to be determined whether a familiar person provides more support during labour, or is considered as more supportive to women in labour and hence they need less analgesia. Hodnett (2000) also acknowledged the significant cost reductions in continuity of care by midwives.

In recognition of the increasing dehumanisation of women’s birth experiences and increasing tendency for them to be left alone during labour, Hodnett, Gates, Hofmeyr, and Sakala (2003) conducted a systematic review of the possible effects, on women during labour and birth, of continuous, one-to-one support compared with usual care. They also considered whether the effects of continuous support could be influenced by: routine practices and policies in the birth environment that could affect a woman’s autonomy, freedom of movement, and ability to cope with labour; whether it makes a
difference if the caregiver is a member of the institution’s staff; and whether it matters if the continuous support begins early or later in labour. The review found that women who had continuous labour and birth support were more likely to have a spontaneous vaginal birth, and less likely to have analgesia or indicate dissatisfaction with their birth experiences. Overall continuous support during labour and birth showed greater benefits when the provider of that support was not a member of the institution’s staff, when the support was provided from early in labour and in settings where epidural analgesia was not routinely supplied. Accordingly, Hodnett et al (2003) advised that all women should have support throughout labour and birth.

**Choices for young pregnant women**

In the Queensland Government’s 2001 Report (Healy 2001) - *Choices and pathways for young women who are pregnant and parenting: Supporting healthy relationships, education and training*, young women identified the practices that they felt would provide better support during their pregnancies especially if they were experiencing domestic violence, an all too common problem for Aboriginal women;

- women’s only spaces for privacy and safety;
- spaces for young women only for their own integrity;
- promoting choices between mainstream and culturally specific services;
- wanting their privacy and security protected from other family and/or community members;
- encourage collaboration between mainstream and culturally specific services with particular efforts at recognising and responding to cultural issues, especially for young women;
- provide plenty of information (and access to that information) to enable young women to engage in all aspects of decision-making;
- educate health professionals to be non-judgmental and supportive.

These are quite simple yet important changes that could make such a difference to the pregnancy experiences of young women who all too often do not attend antenatal care and are viewed as poor in compliance even though they may simply be indicating their disapproval with the health system.

**4 Information and evidence about evaluation, quality assessment and indicators in terms of antenatal, intrapartum and postpartum**

In this section the existing work already undertaken by organisations around development of indicators is presented, as well as the issues and controversy that continue to surround outcomes and evidence and their possible links. There are a number of organisations that have developed indicators (and while they may be referred to in this review they should each be viewed in their own right for thorough understanding and possible application of them) to ‘measure’ care, assess quality, evaluate performance, determine professional practice, and examine outcomes across local, national and international contexts ; the resulting indicators are therefore a hybrid collectively and caution must be taken before adopting any one of them outright as completely appropriate in any given situation. Women’s lives and their pregnancy
experiences are quite simply not homogenous. However, the World Health Organisation (WHO) have very recently provided a set of global indicators and supporting guidelines which are certainly of important value and consequence and present the most up to date and sound foundation for any indicator development anywhere.

Making choices about indicators is complicated by the lack of sound evidence around Aboriginal maternal/infant health. Most of the published evidence is based on populations of non-Aboriginal women and careful consideration must be made for applying it most certainly, but for simultaneously recognising and responding to local and regional health issues that rise above evidence conclusions; for example endemic sexually transmitted infections and gestational diabetes require responsive antenatal screening. There is as well limited consensus across a number of aspects of Aboriginal women’s experiences and outcomes, and plausible correlations that may or may not be inferred about them, including smoking, birth weight, numbers of antenatal visits, gestation at first antenatal visit, location and others as discussed further below. Suffice to say caution must again be exercised in trying to make causal claims about aspects of care and outcomes.

4.1 Issues around indicators and evaluation

Numbers of antenatal visits

Typically evaluation of antenatal care focuses on easily quantified data such as number of and gestation at antenatal visits, and the characteristics of those who do and don’t access them (AbouZahr and Wardlaw 2003). Access itself is complex and confounding, comprising physical availability of services, costs involved with using them, distance and time taken to travel to them, influence of social and/or cultural factors on involvement with them, and their quality or lack of (AbouZahr and Wardlaw 2003). Geographical and many other differences mean comparison across regions and/or countries becomes unreliable, let alone the fact that access does not equate to use. Further, data on use of services does not indicate their quality and composition.

It is known that a good number of women do have some antenatal care (about 70% of pregnant women world wide have at least one antenatal visit with a skilled care provider, about 98% in developed countries and about 68% in developing countries). Many of them have at least 4 visits, however there are differences between urban and rural women with urban women likely to have twice the number of antenatal visits (AbouZahr and Wardlaw 2003). Differences across age are not significantly different but parity can have an influence with less involvement in antenatal care with increasing parity, while wealth increases the likelihood of use of antenatal care (AbouZahr and Wardlaw 2003). There also seems to be a recurring link between antenatal care and birth supported by a professional care provider with women having 4 or more antenatal visits more likely to have professional support than women with less visits (AbouZahr and Wardlaw 2003). However it is fair to say that making universal claims about any group of women and antenatal care is not likely to be reliable or informative.

There are not any life-threatening complications that antenatal care can prevent as most of these need interventions during birth or soon after in the early postpartum period (AbouZahr and Wardlaw 2003). What antenatal care does provide is the opportunity to improve maternal health and thereby perinatal health and consequently perinatal survival (AbouZahr and Wardlaw 2003).
Birth weight and gestation at birth
Numerous papers and studies have given their focus to birth weight and gestation at birth as measures of the effectiveness of or lack of, Aboriginal women’s antenatal care. There is a persistent opinion amongst many researchers, policy makers, health professionals and others that Aboriginal babies have to weigh the same as non-Aboriginal babies at birth. Yet the verification of this in anthropometric research is lacking. It is not known if term gestation Aboriginal babies have always been the same average weight and that weight may happen to be somewhat less than that of non-Aboriginal babies. This is not simplistic reductionism of what many see as a critical health problem for Aboriginal mothers and their babies, it is a possibility that deserves further consideration.

The Australian Institute of Health and Welfare (2004) provided a summary of birth weight as an issue for Aboriginal women indicating that it is influenced by socioeconomic disadvantage, maternal size and age, the number of babies the woman has had, maternal nutrition, smoking and similar health risk associated behaviours, medical conditions during pregnancy, and gestation of the pregnancy. The AIHW (2004) notes that across “1998-2000, babies of Indigenous mothers were about twice as likely to be of low birthweight as babies born to non-Indigenous mothers. Since 1991, there appears to have been little change in both the proportion of low birthweight babies born to Indigenous mothers and these babies’ mean birthweight”. This suggests that ongoing patterns of care since that time have not made a significant impact on changes to low birth weight in Aboriginal babies. In terms of the Aboriginal women, the AIHW (2004) also noted that on average they had their babies at a younger age and greater support and care for them both antenatally and postnatally should be the aim, to have a positive effect on them and their babies. The AIHW urges more research into birth weight instead of accepting it is a definitive indicator referring to the work of Coory (2000 cited in AIHW 2004, np) who examined 10 years of perinatal data on live births in Queensland to find that “even though the recorded birthweights of babies of both Torres Strait Islander and non-Indigenous mothers were similar, babies born to Torres Strait Islander mothers experienced higher rates of neonatal mortality than babies born to non-Indigenous mothers [suggesting] that this result may be related to the high prevalence of diabetes among Torres Strait Islander mothers”.

Birth weight alone is a numerical measure and it must be considered within the context of a variety factors that may have influenced it. The National Strategic Framework for Aboriginal and Torres Strait Islander Health - Child and Maternal Health – Policy Development Plan identified earlier acknowledges the need for Aboriginal babies to have a ‘healthy’ birth weight, which varies the emphasis from requiring their birth weight to parallel that of non-Aboriginal babies. Aboriginal birth weight must also be considered in terms of parity of the woman, the geographical and demographic context of the woman, her culture, skin group, and her family history, for example; the insistence that birth weight must have some kind of ideal generic consistency does not give any recognition to the consequences of these factors. It must be acknowledged that Aboriginal groups have lived, and many continue to live, in different ways and existences across Australia (their environments alone dictate this), and this must be considered in terms of the possible anthropomorphic effects on the women’s babies and their subsequent birth weights.

Sayers’ (1999) PhD research on Birth antecedents and outcomes for Aboriginal babies born at the Royal Darwin Hospital 1987 – 1990, determined that maternal Aboriginality
could be deemed the proxy for other unspecified perinatal factors and differences in birth weight served to identify Aboriginal mothers as disadvantaged. Further there were not universal findings to support an adverse association between birth weight and outcome in Aboriginal women. Incidentally Sayers (1999, p. 167) also found that there was “no relationship between antenatal care involvement and birth outcomes”. Sayers (1999) recommended that there should be greater emphasis, on pregnant women ceasing smoking tobacco and of gaining a better understanding of Aboriginal birth weight and related risk factors. Sayers (1999) and Wallace and Oats (2002) advised that cost effectiveness of antenatal care must be considered in the light of persisting routines that are not necessarily culturally appropriate nor making significant differences. They insisted as well that Aboriginal women must be consulted with to ascertain what their expectations are for antenatal care.

A population based descriptive study of perinatal mortality rates in Aboriginal and non-Aboriginal babies in Queensland found that Aboriginal babies have a higher risk of death because of their prematurity and small size (Johnston and Coory 2005). The study authors recommend that priority be given to culturally appropriate primary health care strategies (as access to health care was deemed to be adequate in this study) that are focused on preventing low birth weight and prematurity; for example interventions aimed at reducing maternal smoking, alcohol consumption, genito-urinary tract infections, poor nutrition and domestic violence (Johnston and Coory 2005). Empowerment of Aboriginal women with increased ownership for and awareness of their health was seen to be essential for change to take place (Johnston and Coory 2005).

Mackerras (2000) combined Sayers and Powers’ (1997) and Coory’s (1997) studies on low birth weight in NT Aboriginal babies to analyse their results more efficiently as their methods were different. Mackerras (2000) concluded (as they did) that programs to improve birth weights of Aboriginal babies needed to address weight for gestational age as well as prematurity with a focus on the overall population not just high risk pregnancies; small for gestational age babies are not necessarily premature nor are they necessarily low birth weight. Mackerras (2001) used the NT Midwives’ Data Collection to evaluate effects of the Strong Women Strong Babies Strong Culture (SWSBSC) Program (in its pilot phase) on birth weight changes. This work responded to the findings of Rae (cited in Mackerras 2001) who identified the risk factors for Aboriginal women having small for gestational age babies as low maternal pregnancy weight, low pregnancy weight gain, commencement of antenatal care after 20 weeks gestation, parity and young maternal age. An increase in birth weight of 92 to 170 grams was noted in the pilot communities concurrent with the introduction of the program, but whether this can be attributed to the program itself is not determinable. Mackerras (2001) also found that changes in maternal weight were associated (but not correlated or explainable) with changes in birth weight over time.

A number of researchers have grappled with the difficulties in deciding between premature birth and intrauterine growth restriction in Aboriginal babies due to the confounding effects of problems in determining the gestational age of these babies. Iams and Mercer (2003) focused on extremely low birth weight infants to test the belief that the most reliable predictors of neonatal outcome if extreme prematurity is anticipated, are birth weight and gestational age. They found that fetal femur length and gestational age were more effective predictors than biparietal diameter and estimated birth weight. Caesarean births increased the likelihood of survival of these babies but not for those below 800 grams or less than 26 weeks gestation for whom there was increased
morbidity, and at 24 weeks gestation the risk for serious morbidity doubled (Iams and Mercer 2003). Antenatal ultrasound did not actually identify those babies who would suffer serious morbidity or not.

Estimates of gestational age were identified as problematic by Smith, Smith, McKinnon and Gracey (2000) in their evaluation of effects of the SWSBSC Program and hence their results that program effects may not have been significant could be deemed modest. Sayers and Powers (1997) were also challenged in their study which examined the risk factors for Aboriginal low birth weight (LBW), intrauterine growth restriction (IUGR) and preterm birth in the Darwin Health region across January 1987 through March 1990. They did find that the statistically significant determinants for birth weight were gestation and sex of the infant, and maternal body mass index, height, cigarette smoking and chronic respiratory conditions. Smoking and malnutrition were the leading factors for LBW and IUGR, while teenage pregnancy contributed to IUGR and pregnancy induced hypertension contributed to prematurity (this is not peculiar to Aboriginal women though).

Stillbirth rates
In a systemic review of the international prevalence of stillbirths, Say, Donner, Gülmezoglu, Taljaard and Piaggio (2006) acknowledged that stillbirth rate is an important indicator for access to and quality of provision of antenatal and intrapartum care. They determined that in developed parts of the world stillbirth rates at community level were typically less than 1% while in less developed parts of the world rates could be higher than 3%. Say et al (2006) also advised that population based studies showed lower prevalence than facility based studies which could be due to the effect of referral bias. Because of the diversity of stillbirth rates they advise that regardless of the sophistication of the setting in terms of high standards of maternal/infant care, approximately 5 in 1000 babies will be stillborn and efforts should continue to be made to identify avoidable cases and respond effectively.

4.2 Existing indicators
Antenatal care indicator research in the United Kingdom
Vause and Maresh (1999) conducted a pilot study across 9 maternity units in the UK to assess possible indicators of quality antenatal care. Their intentions were to develop indicators that:

- would be applicable over a wide range of maternity settings irrespective of the pattern of care or obstetric risk;
- would be practical, relatively easy to measure and easily understood; and,
- would enable the aspect of care measured to be amenable to improvement (Vause and Maresh 1999, p. 197).

They started with their own list of 11 indicators derived from experience and existing evidence of which 9 were eventually piloted:

1. rate of detection of breech presentation (this should preferably be detected antenatally);
2. use of external cephalic version (this should be offered at 36 weeks gestation or later);
3. administration of steroids (pre-term birth cannot always be anticipated);
4. induction for post term pregnancy (post-term birth cannot be anticipated – it is a prospective event confirmed postpartum);
proportion of inductions in which prostaglandin is used (the link of this with antenatal care is tenuous and likely to be idiosyncratic); mid stream urine screening for asymptomatic bacteriuria (the evidence surrounding this is mixed); haemoglobinopathy screening (related to women of ethnic minority background);
Rhesus antibody screening (an important aspect of antenatal care), and;
administration of anti-D to Rhesus negative women after potential sensitising events (a proven intervention) (Vause and Maresh 1999, pp. 204-205).

These indicators clearly relate to the socio-economic conditions of their sample populations, as they acknowledge; perinatal mortality rates are influenced by these conditions and the case mix of the relevant hospital (Vause and Maresh 1999). The provision of ‘good’ (however that may be defined) quality care should be premised on a seamless connection between community and hospital or there will be limitations in care. Vause and Maresh (1999, p.200) advise that auditing outcomes of antenatal care is “fraught with problems” and a more desirable means may be via auditing the process of care to identify areas where improvement may be necessary. The reality of their list of indicators is that they are not all direct antenatal outcomes but rather indirect outcomes that may be mediated through intrapartum care; further they do not specify which aspects of antenatal care actually contribute to their determination; for example presumably effective abdominal palpation skills are necessary to detect malpresentations such as breech or if they were assuming this would be ultrasound detected that would seriously undermine their claim that these indicators were applicable across community and hospital settings.

\textit{Australian College of Midwives Midwifery Indicators}

The Australian College of Midwives (2003) has produced National Midwifery Guidelines for Consultation and Referral (NMGCR) for use by midwives in lead maternity carer roles, private practice and home birth practice for example. These guidelines provide indicators for antenatal, intrapartum and postpartum decision-making with women (and with referral criteria) and enable maternity services to meet national policy priorities aimed at improving the quality and safety of health care. Currently the NMGCR are undergoing a review for release of a revised edition to accommodate for new evidence.

\textit{World Health Organisation - Reproductive Health Indicators}

The WHO (2006) has developed global indicators and guidelines for their generation, interpretation and analysis. Indicators are defined (WHO 2006, p.4) as “markers of health status, service provision or resource availability, designed to enable the monitoring of service performance or programme goals”. The WHO (2006) refers to monitoring as a process of comparison that could be made across groups, populations or geographical areas, for example, to highlight differences or to identify changes over time (as a measure of progress) between what is actually happening and goals for what is aimed for. In discussing the development of indicators and the essential considerations for them, the WHO (2006) acknowledges the necessity for recognising that reducing and eliminating poverty must be considered within the overall framework of reducing inequity and enhancing equity. They are major impacts on reproductive health; reproductive health affects the lives of women and men from conception to birth, through adolescence to old age, and includes the attainment and maintenance of good health as well as the prevention and treatment of ill-health (WHO 2006, p.4).

It is important to note that the WHO (2006) emphasises it is essential to be aware of any indicator’s inherent limitations so that it is used appropriately. It is critical that indicators
are acknowledged to be indicative or suggestive of problems or issues needing action, but not inferring of them (that is they do not convey cause and effect). Indicators may in some cases be measurements that can summarise, represent or reflect certain aspects of the health of people in a defined population or group (WHO 2006). In other cases, they may simply provide indirect or substitute measurements for information that is lacking (WHO 2006).

There are a number of factors that can influence both the reliability of indicators and the health service’s capacity to demonstrate progress achievements through them that must be acknowledged if indicators are to have any consequence in health monitoring (WHO 2006, p.6):

- low precision of the sample group;
- changes in reporting bias over time;
- changes in procedures for data collection;
- revisions in definitions and values related to health;
- changes in the socioeconomic characteristics of the population;
- long-term stability of collective levels of health statistics;
- lack of data to control for confounding factors; and,
- changes in the organisation and provision of health care.

The WHO (2006, p.1) has compiled a shortlist of indicators for global monitoring of reproductive health based on sound evidence and thorough systematic review, as follows:

*World Health Organisation (2006) Shortlist Global Indicators*

1. Total fertility rate
2. Contraceptive prevalence
3. Maternal mortality ratio
4. Antenatal care coverage
5. Births attended by skilled health personnel
6. Availability of basic essential obstetric care
7. Availability of comprehensive essential obstetric care
8. Perinatal mortality rate
9. Prevalence of low birth weight
10. Prevalence of positive syphilis serology in pregnant women
11. Prevalence of anaemia in women
12. Percentage of obstetric and gynaecological admissions owing to abortion
13. Reported prevalence of women with genital mutilation
14. Prevalence of infertility in women
15. Reported incidence of urethritis in men
16. Prevalence of HIV infection in pregnant women
17. Knowledge of HIV-related preventive practices.

Each of the above indicators that are of relevance to the projects of this review is detailed in the Glossary.

*Antenatal care coverage*

Considering the antenatal care (ANC) coverage indicator, the WHO stipulates that this should provide information regarding the proportion of women who actually use antenatal care services. It is known that women who access antenatal care are also more likely to access skilled health personnel for their labour and birth, and reciprocally
that this may lead to better use of emergency obstetric services (WHO 2006). However the WHO (2006, p. 22) advises against using ANC visits “as a proxy measure to assess progress towards reducing maternal mortality…[because even though] epidemiological studies tend to show an association between improved maternal health outcome and ANC, most fail to control for selection biases that would positively influence the outcome and this potential link remains uncertain”. There is a stronger association between women’s use of ANC and perinatal survival so that ANC coverage as an indicator has an important role in monitoring programs that aim to improve newborn health and survival (WHO 2006).

**Prevalence of low birth weight**

Considering birth weight (as has already been discussed earlier) the WHO (2006) identifies the importance of pregnancy itself as the determinant of the baby’s weight at birth, however the contribution of other influences is acknowledged. Low birth weight (LBW) can be associated with generational maternal nutrition, health risk activities (smoking and so on), infections, and the environment (including diverse aspects such as socioeconomic status and altitude) for example, as well as the equipment and process used to actually weigh the baby. LBW can place the infant at risk of adverse health outcomes either at birth or later in life, hence it is referred to as a predictor of infant survival, and the lower the weight the higher the risk of mortality (WHO 2006). However the relationship between birth weight and perinatal mortality and morbidity is not one of direct cause and effect given the reality of varying influences. It is also important to emphasise that LBW should not be regarded as a substitute determinant for intrauterine growth restriction nor should it be confused with preterm birth. ‘Normal’ birth weights (however they might be defined) will be influenced by maternal dimensions, gravida, parity and age for example, as well as the geo-eco-physical conditions the mother lives in. Birth weights should be considered in terms of the average and standard deviation within the population range if they are to have reliable interpretation (WHO 2006).

### 4.3 Criteria for determining indicators

*World Health Organisation Selection Criteria for Determining Indicators*

The WHO (2006) has specified criteria for decision making about indicators. They are sensible and reasonable and provide a sound basis for evaluation.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>Scientifically robust</td>
<td>An indicator must be a valid, specific, sensitive and reliable reflection of that which it purports to measure.</td>
</tr>
<tr>
<td>Valid</td>
<td>An indicator must actually measure the issue or factor it is supposed to measure.</td>
</tr>
<tr>
<td>Reliable</td>
<td>An indicator must give the same value if its measurement were repeated in the same way on the same population and at almost the same time.</td>
</tr>
<tr>
<td>Sensitive</td>
<td>An indicator must be able to reveal important changes in the factor of interest.</td>
</tr>
<tr>
<td>Specific</td>
<td>An indicator must reflect only changes in the issue or factor under consideration.</td>
</tr>
</tbody>
</table>
Useful
At national level, an indicator must be able to act as a “marker of progress” towards improved reproductive health status, either as a direct or proxy measure of impact or as a measure of progress towards specified process goals. Since computation of national-level indicators usually requires aggregation of data collected at a local level, the data should also be useful locally, i.e. follow-on action should be immediately apparent.

Representative
An indicator must adequately encompass all the issues or population groups it is expected to cover. For national-level indicators the group of interest is the population as a whole, including minority groups and adolescents.

Understandable
An indicator must be simple to define and its value must be easy to interpret in terms of reproductive health status.

Accessible
The data required should be available or relatively easy to acquire by feasible data collection methods that have been validated in field trials.

Ethical
An indicator must be seen to comply with basic human rights and must require only data that are consistent with the morals, beliefs or values of the local population.

5 Conclusion
The routine and tradition of antenatal care has only recently been rigorously examined for the first time. The accepted pattern of now known to be excessive numbers of visits many women have been required to make during their pregnancies can be safely reduced. The focus of this care must be centred on each woman as an individual to ensure her needs are addressed through quality care that is health oriented with early intervention based on appropriate evidence based screening and effective education. If every woman received a minimum of 4 quality antenatal visits with this clear focus the scope for effective care for every mother and baby would be significantly enhanced; however this is not the case for many Aboriginal women. Conversely too many women continue to receive too many antenatal visits that do not necessarily make any significant difference to their or their babies’ outcomes.

Aboriginal women have been displaced from being the experts of their birthing experiences through tradition, culture and experience, to being passive recipients of medicalised and institutionalised pregnancy care. The belief has been that they need to be technologically assessed and give birth in regional centres with obstetric facilities to ensure that they have ‘good outcomes’. Yet for the disruption to their lives, families and communities, the separation from their country and culture into the care of strangers unlikely to be Aboriginal, let alone of their skin or kin group, not necessarily likely to be female nor aware of their spiritual needs, their perinatal rates have not significantly improved over considerable time. Aboriginal women have continued to be required to be
compromised, dislocated, disadvantaged and de-humanised in their pregnancy and birthing experiences to suit the expectations of a ‘westernised’ health system that deems them incapable of making their own choices and decisions (if there are any to make) and knows what is best for them. So many Aboriginal women are viewed as non-compliant when they don’t accept and conform to this process. Their ‘irresponsibility’ is seen as negligence, but not as a critically considered response to a system that is foreign to them and their preferences.

The women who strove for major change through Congress Alukura in the NT showed that Aboriginal women were neither mute nor unthinking. However sustaining that change has not been easy or straightforward unfortunately. Some Aboriginal health centres across Australia have more recently begun to question routinised processes of care and the possibility that this may not meet the needs or liking of Aboriginal women. They have found that physical and humanistic features matter greatly to Aboriginal women; sensitivity, cultural security, family friendly environments, transport, trust and respect for women’s business and the intricacies of shame, are very important.

The issues that surround outcomes of Aboriginal women and their babies can not be resolved by quality antenatal care alone. Labour, birth and postnatal care also make contributions; the greater effects on outcomes can come from the labour and birth process, which may be the most alienating aspect of their care for Aboriginal women. Where attempts have been made at continuity there has been improved satisfaction by Aboriginal women and some outcomes seem to have been improved similarly. There is much more that needs to be known about continuity though before strong claims can be made. However above all of that are the communities that Aboriginal women and their families live in, rural and remote, and some urban, but too many lacking in basic resources and facilities that most Australians take for granted, which contribute to poor health, poor literacy, family violence, risk associated behaviours and stress, among others. A rethinking of the nature and quality of the antenatal encounter for Aboriginal women is necessary. While large numbers of Aboriginal women, smoke cigarettes during their pregnancies, others also consume alcohol, many live in social and physical conditions that most Australians would not accept, and face daily challenges economically and emotionally, there is a clear need to focus on the health and wellbeing of each individual Aboriginal woman through health services that are amenable to her control, choice, needs and preferences, not just the requirement for her to have antenatal care (and ongoing care). This may bring changes to the health of the babies of these mothers.

Example of more research that is needed include:

- Understanding Aboriginal women’s experiences across the entire spectrum of preconception through postnatal care;
- Developing indicators that can measure valid and relevant aspects of Aboriginal women’s maternity care not just the process;
- Determining exactly what Aboriginal women want from their pregnancy experience and maternity care and care providers;
- Examining the effects of continuity of care and carer on Aboriginal women and their pregnancy outcomes;
- Studying the consequences of cultural autonomy, cultural security and empowerment in terms of Aboriginal women’s pregnancy experiences and beyond in assumption of their parenting role and caring for their babies;
Evaluating the effects of care-providers on Aboriginal women’s pregnancy and postnatal experiences.

Deciding on indicators relating to quality preconception, pregnancy through to postnatal care for Aboriginal women requires consideration of multiple factors and influences that will not necessarily be uniform across all Aboriginal women. The recently released WHO Reproductive Health Indicators (2006) do provide an important foundation for common ground for Aboriginal women’s reproductive health beyond local and regional differences and should be used to present a shared framework of data and information. This is much needed as overall information about Aboriginal women’s pregnancy, birth and postpartum experiences and outcomes is sketchy; national statistics are available, however they do not illustrate the intricacies nor fully inform regarding the significant issues that continue to surround maternity care/services for Aboriginal women. In addition to the WHO indicators this review has identified that the following (among others) do matter in terms of Aboriginal women’s experiences and possible outcomes across preconception, pregnancy and postpartum. The following indicators are grouped according to the aims of antenatal care, in terms of the Aboriginal woman as the central focus and in terms of the health service and its capacity to meet Aboriginal women’s needs:

- **Identify perinatal risk factors early:**
  - Frequencies of antenatal visits by gestation and nature of visits;
  - Prevalence of other STIs (WHO addresses Syphilis) as relevant in pregnant women;
  - Availability of adequate nutrition during pregnancy;
  - Prevalence of maternal tobacco smoking during pregnancy;
  - Prevalence of maternal alcohol consumption during pregnancy;
  - Prevalence of maternal inhalant use during pregnancy;

- **Educate health care providers and consumers:**
  - Reported ongoing professional development of health care providers;
  - Prevalence of preconception education;
  - Prevalence of antenatal education;
  - Prevalence of postnatal education;
  - Prevalence of breast feeding;
  - Prevalence of formula feeding;
  - Prevalence of mixed feeding method – breast and formula;

- **Intervene to improve outcomes:**
  - Prevalence of continuity of care and/or carer;
  - Prevalence of smoking cessation support (for example QUIT) and effectiveness;
  - Prevalence of births in local communities;
  - Prevalence of appropriate antenatal support;
  - Prevalence of appropriate intrapartum support;
  - Prevalence of appropriate postnatal support;
  - Prevalence of maternal-infant support beyond 6 weeks postpartum.

- **Enable pregnancy and birth to be a positive life experience.**
  - Reported satisfaction of women with antenatal care;
  - Reported satisfaction of women with intrapartum care;
  - Reported satisfaction of women with postnatal care;
  - Reported satisfaction with provision of culturally sensitive care;

- **Health service responsiveness:**
  - Prevalence of a primary health care focus for service provision;
- Prevalence of female care providers for preconception/pregnancy/postpartum care;
- Prevalence of male care providers for preconception/pregnancy/postpartum care;
- Percentage of antenatal care provided by varying care providers (Midwives, Doctors, Aboriginal Health Workers, others);
- Average waiting times;
- Prevalence of flexible and accessible service provision arrangements.

These indicators are examples of the variations that can be applied according to the context of Aboriginal women’s preconception, pregnancy, labour, birth and postpartum experiences be they regional or remote. They will also vary depending on how women are considered and where women are placed in the health services’ priorities and commitment to genuinely improving chronic disease and promoting the health and wellbeing of women and their children.

Beyond these, the ultimate consideration to influence indicator development may still be the following:

*The question should not be,*

“why do women not accept the service that we offer?”

*but, “why do we not offer a service that women will accept?” (WHO 2005).*
Glossary of terms
These terms have been grouped alphabetically but within the groups, individual terms may be arranged chronologically and not necessarily in alpha order.

Birth weight
- **Birth weight** The first weight of the infant obtained after birth. For live births, birth weight should preferably be measured within the first hour of life before significant postnatal weight loss has occurred, with measurement accuracy of at least 10 g, and a correct reading technique.

- **Prevalence of low birth weight** The percentage of live born babies who weigh less than 2500 grams (up to and including 2499 grams).
  
  **Numerator** Number of liveborn babies who weigh less than 2500 g x 100

  **Denominator** Total number of live births

- **Very low birth weight** Less than 1500 grams (up to and including 1499 grams).

- **Extremely low birth weight** Less than 1000 grams (up to and including 999 grams).

Contraception
- **At risk of pregnancy** Women who are sexually active, not infecund, not pregnant and not amenorrhoeic.

- **Contraceptive methods** Female and male sterilisation, intrauterine contraceptive devices (IUCDs), hormonal methods (oral pills, injectables, and hormone-releasing implants, skin patches and vaginal rings), condoms and vaginal barrier methods (diaphragm, cervical cap and spermicidal foams, jellies, creams and sponges). Traditional methods include rhythm, withdrawal, abstinence and lactational amenorrhoea.

- **Contraceptive prevalence** The proportion of women of reproductive age who are using (or whose partner is using) a contraceptive method at a given point in time. This is calculated as follows:

  **Numerator**: Number of women of reproductive age at risk of pregnancy who are using (or whose partner is using) a contraceptive method at a given point in time

  **Denominator**: Number of women of reproductive age at risk of pregnancy at the same point in time.
Equity

- **Equity**  Principle of being fair to all persons, with reference to a defined and recognized set of values

Fertility

- **Age-specific fertility rate**  The number of women in each age group and the number of births to women in that age group.

The age-specific fertility rate (ASFR) is derived as follows:

  - **Numerator**  Births in year to women aged X
  - **Denominator**  No. of women aged X at mid-year

ASFRs are often expressed per 1000 women. Seven ASFRs are normally calculated, one for each five-year age group (15–19, 20–24, 25–29, 30–34, 35–39, 40–44 and 45–49 years). Single-year rates can also be computed.

- **Total fertility rate**  The number of births a woman would have by the end of her reproductive life if she experienced the currently prevailing age-specific fertility rates from age 15 to 49 years.

Assuming that ASFRs have been computed for each five-year age group and are expressed per 1000 women, the total fertility rate per woman can be computed as follows:

\[
TFR \text{ (per woman)} = \frac{\text{Numerator}}{\text{Denominator}}
\]

  - **Numerator**  Sum of the ASFRs x 5
  - **Denominator**  1000

- **Women of reproductive age**  All women aged 15–49 years.

Health system

- **Health system**  The people, institutions, and resources that operate as a whole to provide health care and improve the health of the population it serves.

Infertility

- **Prevalence of infertility in women**  The percentage of women of reproductive age (15–49 years) at risk of becoming pregnant (not pregnant, sexually active, not using contraception and not lactating) who report trying for a pregnancy for two years or more

\[
\text{Numerator} = \text{Number of women of reproductive age (15–49 years) at risk of becoming pregnant (as defined above) who report trying unsuccessfully for a pregnancy for two years or more x100}
\]
**Denominator** Total number of women of reproductive age at risk of becoming pregnant (as defined above)

**Labour and birth**
- **Births attended by skilled health personnel** The proportion of births attended by skilled health personnel. This is calculated as:
  - **Numerator**: Births attended by skilled health personnel during a specified period
  - **Denominator**: Total number of live births during the specified period

**Levels of evidence tables**

<table>
<thead>
<tr>
<th></th>
<th>Evidence obtained from a systematic review of all relevant randomised controlled trials.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Evidence obtained from at least one properly designed randomised controlled trial.</td>
</tr>
<tr>
<td>II</td>
<td>Evidence obtained from well-designed pseudo randomised controlled trials (alternate allocation or some other method).</td>
</tr>
<tr>
<td>III-1</td>
<td>Evidence obtained from comparative studies (including systematic reviews of such studies) with concurrent controls and allocation not randomised (cohort studies), case control studies, or interrupted time series with a control group.</td>
</tr>
<tr>
<td>III-2</td>
<td>Evidence obtained from comparative studies with historical control, two or more single arm studies, or interrupted time series without parallel control group.</td>
</tr>
<tr>
<td>III-3</td>
<td>Evidence obtained from case series, either post-test or pre-test and post-test.</td>
</tr>
</tbody>
</table>

Source - National Health and Medical Research Council of Australia 1999 *A guide to the development, implementation and evaluation of clinical practice guidelines*, NHMRC, Canberra.

**Maternal mortality**
- **Live birth** The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born.
- **Direct obstetric death** Maternal death resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from
interventions, omissions or incorrect treatment, or from a chain of events resulting from any of the above

- **Indirect obstetric death**  
  Maternal death resulting from previously existing disease or disease that developed during pregnancy and that was not due to direct obstetric causes, but that was aggravated by physiological effects of pregnancy.

- **Late maternal death**  
  The death of a woman from direct or indirect causes more than 42 days but less than one year after termination of pregnancy.

- **Maternal death**  
  The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

- **Maternal mortality ratio**  
  The number of maternal deaths per 100,000 live births.  
  This is calculated as follows:

  **Numerator**: All maternal deaths occurring in a period (usually a year)

  **Denominator**: Total number of live births occurring in the same period

- **Pregnancy-related death**  
  The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of cause of death.

**Pregnancy**

- **Antenatal care coverage**  
  The proportion of women attended, at least once during their pregnancy, by skilled health personnel for reasons relating to pregnancy

  **Numerator**: Number of pregnant women attended, at least once during their pregnancy, by skilled personnel for reasons related to pregnancy during a fixed period

  **Denominator**: Total number of live births during the same period

- **Live birth**  
  The birth of a fetus after 22 weeks' gestation or weighing 500 g or more that shows signs of life—breathing, cord pulsation or with audible heart beat. This cut-off point refers to when the perinatal period commences.

- **Prevalence of anaemia**  
  The percentage of women of reproductive age screened for haemoglobin levels who have levels below 110 g/l (pregnant women)

  **Numerator**: Number of women of reproductive age screened for haemoglobin levels who have levels below 110 g/l (pregnant women) during a specified period x 100
**Denominator**  Total number of women of reproductive age screened for haemoglobin levels during the specified period

- **Skilled health attendant** (sometimes referred to as skilled attendant) An accredited health professional—such as a midwife, doctor or nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. This definition excludes traditional birth attendants whether trained or not, from the category of skilled health workers.

**Perinatal mortality**

- **Perinatal period** This commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500 g), and ends at seven completed days after birth.

- **Perinatal mortality rate** The number of deaths of fetuses weighing at least 500 g (or, when birth weight is unavailable, after 22 completed weeks of gestation or with a crown–heel length of 25 cm or more), plus the number of early neonatal deaths, per 1000 total births. This is also known as the number of perinatal deaths per 1000 births. This is calculated as:

  \[
  \text{Numerator}: \quad \text{Number of perinatal deaths (fetal deaths and early neonatal deaths)} \times 1000
  \]

  \[
  \text{Denominator}: \quad \text{Total number of births}
  \]

**Public health**

- **Public health** The science and art of promoting health, preventing disease, and prolonging life through the organized efforts of society.

**Screening**

- **Screening** The presumptive identification of an unrecognised disease or defect by means of tests, examinations or other procedures that can be applied rapidly. Screening tests differentiate apparently well persons who may have a disease from those who probably have not. A screening test is not intended to be diagnostic but should be sufficiently **sensitive** and **specific** to reduce the proportion of false results, positive or negative, to acceptable levels. Persons with positive or suspicious findings must be referred to the appropriate healthcare provider for diagnosis and necessary treatment.

**Sexually transmitted infections**

- **Prevalence of HIV infection in pregnant women** The percentage of blood samples taken from women aged 15–24 years that test positive for HIV during routine sentinel surveillance at selected antenatal clinics.
**Numerator**  Number of HIV-positive blood samples taken from pregnant women aged 15–24 years* at selected antenatal clinics (sentinel surveillance sites) x 100

**Denominator**  Total number of blood samples taken from pregnant women aged 15–24 years from selected antenatal clinics that were tested for HIV

*In the immediate post-pubertal age group (i.e. the age group just beginning sexual activity virtually all prevalent infections could be used as proxy for incident (new) infections.

**Prevalence of positive syphilis serology in pregnant women**  The percentage of pregnant women aged 15–24 years attending antenatal clinics with a positive serology for syphilis.

**Numerator**  Number of pregnant women aged 15–24 years attending antenatal clinics, whose blood has been screened for syphilis, with a positive serology for syphilis during a specified period x 100

**Denominator**  Total number of pregnant women aged 15–24 years attending antenatal clinics, whose blood has been screened for syphilis during the specified period

*NB this is a representative measure only*

**Systematic review**

- **Systematic reviews**  A rigorous method of identifying, appraising, and synthesizing original research using strategies that limit bias and random error.
## Appendix One  Herceg’s (2005) Table of Findings

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>TYPE OF STUDY</th>
<th>INTERVENTION/SERVICES PROVIDED</th>
<th>IMPACTS AND OUTCOMES</th>
<th>REFERENCES</th>
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<tbody>
<tr>
<td>NT</td>
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</table>
| Congress Alukura Alice Springs | Comparative study with historical control group (Level III-3) Outcomes based on all of Alice Springs births, not just Alukura clients. | • Antenatal and postnatal care  
• Gynaecological services  
• Visit specialist O&G  
• Home visiting  
• Transport  
• Specialist/hospital liaison  
• Limited mobile bush service  
• Adult and youth health education | • A large proportion of Aboriginal mothers used Alukura for antenatal care (in 1994, 98% of urban women and 18% of rural)  
• Increase of 100g in mean birthweight of babies born to urban Aboriginal mothers (1986-1995)  
• Satisfaction and perception of benefit from both clients and providers | Ah Chee et al, 2001  
Carter et al, 2004 |
| NSW     |               |                               |                      |            |
| Daruk Antenatal Program Western Sydney, NSW | Comparative study with historical control group (Level III-3) Comparison with hospital births where mother did not attend Daruk (Level III-2). Quantitative and qualitative evaluation. | • Antenatal and postnatal care  
• Outreach services (Emu Plains jail)  
• Hospital liaison and cultural awareness training  
• Transport  
• Home visiting | • Improved antenatal attendance  
• Improved antenatal care  
• Satisfaction and perception of benefit from both clients and providers | Daruk Aboriginal Medical Service and Western Sector Public Health Unit, 1998 Jan, 2004 |
| Djuligalban Program, Durri Aboriginal Corporation Medical Service Kempsey, NSW | Comparative study with historical control group (Level III-3) | • Primary health care and support  
• Antenatal classes and education  
• Antenatal care  
• Birth support  
• Postnatal home visits  
• Immunisation clinic  
• Staff training | • Increased breastfeeding rates at discharge and at six weeks from 30% in 1993-4 to 44% in 1995-6  
• Increased immunisation rates  
• Increased utilisation of early childhood and immunisation services | Aspery et al, 1998 |
| QLD     |               |                               |                      |            |
| Mt. Isa shared antenatal care Mt. Isa, QLD | Comparative study with historical control group (Level III-3) Outcome data based on small numbers | • Formalisation of shared antenatal care between Mt. Isa Hospital and Yapatjarra Medical Centre  
• Antenatal care at clinic  
• Shared medical records  
• Transport  
• Family involvement  
• Antenatal outreach visits to remote communities | • Increased service utilisation  
• Improved antenatal attendance  
• Decreased perinatal mortality (from 8 deaths in six months to 2 in the subsequent six months) | Nel and Pashen, 2003 |
<table>
<thead>
<tr>
<th>State</th>
<th>Organisation/Program</th>
<th>Study Design</th>
<th>Interventions</th>
<th>Outcomes</th>
<th>References</th>
</tr>
</thead>
</table>
| SA        | Ngaanyatjarra Health Service                                                        | Single group retrospective analysis of medical records 1984-1996 (Level III-3) | • Antenatal care record and management system  
• Introduction of standard protocols for antenatal care, birthing and child health care | • Increase in mean birthweight (103g between 1984-90 and 1991-6)  
• Reduction in low birth weight (14% to 8%)  
• Reduced perinatal mortality (45/1000 to 9/1000)  
• Improved immunisation coverage and timeliness | Office for Aboriginal and Torres Strait Islander Health, 2001  
Sloman et al, 1999 |
| WA        | Ngunytju Tjitji Pirni Corporation and TVW Telethon Institute for Child Health Research | Comparative study with historical control group (Level III-3)                | • Antenatal and postnatal care  
• Health promotion  
• Outreach services  
• Home visiting  
• Hospital visits  
• Community networking  
• Playgroup  
• Aboriginal Health Worker training and development | • Improved immunisation rates  
• Increased hospital admission rates but reduced length of stay  
• Perception of benefit by staff and clients | Ngunytju Tjitji Pirni  
Aboriginal Corporation and TVW Telethon Institute for Child Health Research, 1998 |
| QLD       | Townsville Aboriginal and Islander Health Service (TAIHS) Mums and Babies Program  | Comparative study with historical control group (Level III-3)                | • Dedicated clinic  
• Dedicated workers  
• Antenatal care  
• Postnatal care  
• Immunisation and child health monitoring  
• Childcare/playgroup on site  
• Transport | • Increased service usage  
• Improved antenatal attendance and care  
• Reduction in preterm births (17% in 1998-99 to 9% in 2000-3; 14% in the contemporary control group)  
• Increase in mean birthweight by 200g (3043g in 1998-99 to 3239g in 2000-3) but not different to the contemporary control group (3188g) | Panaretto et al, 2005  
Townsville Aboriginal and Islander Health Service, 2002  
Atkinson, 2001 |
| NT        | Strong Women Strong Babies Strong Culture                                            | Comparative study with historical control group (Level III-3)                | • Community-based maternal education and support by respected community women (Strong Women Workers).  
• Support and advice from these women included nutrition, safe practices such as reducing smoking | • Improved antenatal attendance  
• Improved antenatal care In the original intervention groups (program commenced in 1993):  
• Significant increase | Mackerras, 1998  
Mackerras, 2000  
d’Espaignet, 2003 |
and alcohol use, encouraging early antenatal care and reinforcing the need to seek medical care and take prescribed medications.

- Concurrent health service changes in pilot communities included improved access and improved testing and treatment for sexually transmissible infections.

- Significant reduction in low birthweight (from 15% to 11%)
- Changes in pilot communities were around double those described in the secular trend in surrounding regions of the NT, and were sustained up until 2000-2001. In later intervention groups (program commenced in 1996 and 1997):
  - Non-significant increase in mean birthweight (42g)
  - Non-significant reduction in low birthweight (from 17% to 13%)
  - Control communities did not demonstrate changes over the corresponding period

<table>
<thead>
<tr>
<th>WA</th>
<th>Comparative study with historical control group (Level III-3)</th>
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<tr>
<td></td>
<td>• Community-based maternal education &amp; support by respected community women (Strong Women Workers)</td>
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<tr>
<td></td>
<td>• Frequent individual nutritional assessment of infants and children with counselling of mothers and carers</td>
</tr>
<tr>
<td></td>
<td>• No change in birthweight</td>
</tr>
<tr>
<td></td>
<td>• No change in preterm births</td>
</tr>
<tr>
<td></td>
<td>• Increased weight gain after 6 months of age in full-term infants</td>
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</table>

Smith et al, 2000
Appendix Two  NICE 2003 Summary of recommendations for antenatal care

Woman-centred care and informed decision making

- **Antenatal education**
  Pregnant women should be offered opportunities to attend antenatal classes and have written information about antenatal care.
  Pregnant women should be offered evidence-based information and support to enable them to make informed decisions regarding their care. Information should include details of where they will be seen and who will undertake their care. Addressing women’s choices should be recognised as being integral to the decision-making process.
  At the first contact, pregnant women should be offered information about the pregnancy care services and options available, lifestyle considerations, including dietary information, and screening tests.
  Pregnant women should be informed about the purpose of any screening test before it is performed. The right of a woman to accept or decline a test should be made clear.
  At each antenatal appointment, midwives and doctors should offer consistent information and clear explanations and should provide pregnant women with an opportunity to discuss issues and ask questions.
  Communication and information should be provided in a form that is accessible to pregnant women who have additional needs, such as those with physical, cognitive or sensory disabilities and those who do not speak or read English.

Provision and organisation of care

- **Who provides care?**
  Midwife- and GP-led models of care should be offered for women with an uncomplicated pregnancy. Routine involvement of obstetricians in the care of women with an uncomplicated pregnancy at scheduled times does not appear to improve perinatal outcomes compared with involving obstetricians when complications arise.

- **Continuity of care**
  Antenatal care should be provided by a small group of carers with whom the woman feels comfortable. There should be continuity of care throughout the antenatal period. A system of clear referral paths should be established so that pregnant women who require additional care are managed and treated by the appropriate specialist teams when problems are identified.

- **Where should antenatal appointments take place?**
  Antenatal care should be readily and easily accessible to all women and should be sensitive to the needs of individual women and the local community. The environment in which antenatal appointments take place should enable women to discuss sensitive issues such as domestic violence, sexual abuse, psychiatric illness and illicit drug use.

- **Documentation of care**
  Structured maternity records should be used for antenatal care. Maternity services should have a system in place whereby women carry their own case notes. A standardised, national maternity record with an agreed minimum data set should be
developed and used. This will help carers to provide the recommended evidence-based care to pregnant women.

- **Frequency of antenatal appointments**
  A schedule of antenatal appointments should be determined by the function of the appointments.
  Early in pregnancy, all women should receive appropriate written information about the likely number, timing and content of antenatal appointments associated with different options of care and be given an opportunity to discuss this schedule with their midwife or doctor.
  Each antenatal appointment should be structured and have focused content. Longer appointments are needed early in pregnancy to allow comprehensive assessment and discussion. Wherever possible, appointments should incorporate routine tests and investigations to minimise inconvenience to women.

- **Gestational age assessment: LMP and ultrasound**
  Pregnant women should be offered an early ultrasound scan to determine gestational age (in lieu of last menstrual period (LMP) for all cases) and to detect multiple pregnancies. This will ensure consistency of gestational age assessments, improve the performance of mid-trimester serum screening for Down’s syndrome and reduce the need for induction of labour after 41 weeks.
  Ideally, scans should be performed between 10 and 13 weeks and use crown–rump length measurement to determine gestational age. Pregnant women who present at or beyond 14 weeks of gestation should be offered an ultrasound scan to estimate gestational age using head circumference or biparietal diameter.

- **What should happen at antenatal appointments?**
  The assessment of women who may or may not need additional clinical care during pregnancy is based on identifying those in whom there are any maternal or fetal conditions associated with an excess of maternal or perinatal death or morbidity. This approach may not identify many of the women who go on to require extra care and will also categorise many women who go on to have normal uneventful births as ‘high risk’.
  The needs of each pregnant woman should be assessed at the first appointment and reassessed at each appointment throughout pregnancy because new problems can arise at any time.
  Additional appointments should be determined by the needs of the pregnant woman, as assessed by her and her care givers, and the environment in which appointments take place should enable women to discuss sensitive issues. Reducing the number of routine appointments will enable more time per appointment for care, information giving and support for pregnant women.

**Lifestyle considerations**

- **Working during pregnancy**
  Pregnant women should be informed of their maternity rights and benefits.
  The majority of women can be reassured that it is safe to continue working during pregnancy.
  A woman’s occupation during pregnancy should be ascertained to identify those at increased risk through occupational exposure.
Nutritional supplements
Pregnant women (and those intending to become pregnant) should be informed that dietary supplementation with folic acid, before conception and up to 12 weeks of gestation, reduces the risk of having a baby with neural tube defects (anencephaly, spina bifida). The recommended dose is 400 micrograms per day. Iron supplementation should not be offered routinely to all pregnant women. It does not benefit the mother’s or the fetus’s health and may have unpleasant maternal side effects.

Pregnant women should be informed that vitamin A supplementation (intake greater than 700 micrograms) might be teratogenic and therefore it should be avoided. Pregnant women should be informed that as liver and liver products may also contain high levels of vitamin A, consumption of these products should also be avoided.

There is insufficient evidence to evaluate the effectiveness of vitamin D in pregnancy. In the absence of evidence of benefit, vitamin D supplementation should not be offered routinely to all pregnant women.

Food-acquired infections
Pregnant women should be offered information on how to reduce the risk of listeriosis by:
• drinking only pasteurised or UHT milk
• not eating ripened soft cheese such as Camembert, Brie and blue-veined cheese (there is no risk with hard cheeses, such as Cheddar, or cottage cheese and processed cheese)
• not eating pâté (of any sort, including vegetable)
• not eating uncooked or undercooked ready-prepared meals.

Pregnant women should be offered information on how to reduce the risk of salmonella infection by:
• avoiding raw or partially cooked eggs or food that may contain them (such as mayonnaise)
• avoiding raw or partially cooked meat, especially poultry.

Prescribed medicines
Few medicines have been established as safe to use in pregnancy. Prescription medicines should be used as little as possible during pregnancy and should be limited to circumstances where the benefit outweighs the risk.

Over-the-counter medicines
Pregnant women should be informed that few over-the-counter (OTC) medicines have been established as being safe to take in pregnancy. OTC medicines should be used as little as possible during pregnancy.

Exercise in pregnancy
Pregnant women should be informed that beginning or continuing a moderate course of exercise during pregnancy is not associated with adverse outcomes. Pregnant women should be informed of the potential dangers of certain activities during pregnancy, for example, contact sports, high-impact sports and vigorous racquet sports that may involve the risk of abdominal trauma, falls or excessive joint stress, and scuba diving, which may result in fetal birth defects and fetal decompression disease.
- **Sexual intercourse in pregnancy**
Pregnant woman should be informed that sexual intercourse in pregnancy is not known to be associated with any adverse outcomes.

- **Air travel during pregnancy**
Pregnant women should be informed that long-haul air travel is associated with an increased risk of venous thrombosis, although whether or not there is additional risk during pregnancy is unclear.

- **Car travel during pregnancy**
Pregnant women should be informed about the correct use of seatbelts (that is, three-point seatbelts “above and below the bump, not over it”).

**Screening for haematological conditions**

- **Anaemia**
Pregnant women should be offered screening for anaemia. Screening should take place early in pregnancy (at the first appointment) and at 28 weeks when other blood screening tests are being performed. This allows enough time for treatment if anaemia is detected.

  Haemoglobin levels outside the normal range for pregnancy should be investigated and iron supplementation considered if indicated.

- **Blood grouping and red cell alloantibodies**

  Women should be offered testing for blood group and RhD status in early pregnancy. It is recommended that routine antenatal anti-D prophylaxis is offered to all non-sensitised pregnant women who are RhD negative.

  Women should be screened for atypical red cell alloantibodies in early pregnancy and again at 28 weeks regardless of their RhD status.

  Pregnant women with clinically significant atypical red cell alloantibodies should be offered referral to a specialist centre for further investigation and advice on subsequent antenatal management.

  If a pregnant woman is RhD-negative, consideration should be given to offering partner testing to determine whether the administration of anti-D prophylaxis is necessary.

**Screening for fetal anomalies**

- **Screening for structural anomalies**
Pregnant women should be offered an ultrasound scan to screen for structural anomalies, ideally between 18 and 20 weeks of gestation, by an appropriately trained sonographer and with equipment of an appropriate standard.

- **Screening for Down’s syndrome**
Pregnant women should be offered screening for Down’s syndrome with a test that provides the current standard of a detection rate above 60% and a false positive rate of less than 5%. The following tests meet this standard:
  - From 11 to 14 weeks:
    - nuchal translucency (NT)
    - the combined test (NT, hCG and PAPP-A)
  - From 14 to 20 weeks:
    - the triple test (hCG, AFP and uE3)
    - the quadruple test (hCG, AFP, uE3, inhibin A)
  - From 11 to 14 weeks AND 14 to 20 weeks:
• the integrated test (NT, PAPP-A + hCG, AFP, uE3, inhibin A)
• the serum integrated test (PAPP-A + hCG, AFP, uE3, inhibin A). [B]

By April 2007, pregnant women should be offered screening for Down’s syndrome with a test which provides a detection rate above 75% and a false positive rate of less than 3%. These performance measures should be age standardised and based on a cutoff of 1/250 at term. The following tests currently meet this standard:
• From 11 to 14 weeks:
  • the combined test (NT, hCG and PAPP-A)
• From 14 to 20 weeks:
  • the quadruple test (hCG, AFP, uE3, inhibin A)
  • From 11 to 14 weeks AND 14 to 20 weeks:
  • the integrated test (NT, PAPP-A + hCG, AFP, uE3, inhibin A)
  • the serum integrated test (PAPP-A + hCG, AFP, uE3, inhibin A).
Pregnant women should be given information about the detection rates and false positive rates of any Down’s syndrome screening test being offered and about further diagnostic tests that may be offered. The woman’s right to accept or decline the test should be made clear.

Screening for infections

- **Asymptomatic bacteriuria**
Pregnant women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture early in pregnancy. Identification and treatment of asymptomatic bacteriuria reduces the risk of preterm birth.

- **Asymptomatic bacterial vaginosis**
Pregnant women should not be offered routine screening for bacterial vaginosis because the evidence suggests that the identification and treatment of asymptomatic bacterial vaginosis does not lower the risk for preterm birth and other adverse reproductive outcomes.

- **Chlamydia trachomatis**
Pregnant women should not be offered routine screening for asymptomatic Chlamydia because there is insufficient evidence on its effectiveness and cost effectiveness.

- **Cytomegalovirus**
The available evidence does not support routine cytomegalovirus screening in pregnant women and it should not be offered.

- **Hepatitis B virus**
Serological screening for hepatitis B virus should be offered to pregnant women so that effective postnatal intervention can be offered to infected women to decrease the risk of mother-to-child transmission.

- **Hepatitis C virus**
Pregnant women should not be offered routine screening for hepatitis C virus because there is insufficient evidence on its effectiveness and cost effectiveness.

- **HIV**
Pregnant women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions can reduce mother-to-child transmission of HIV infection.
A system of clear referral paths should be established in each unit or department so that pregnant women who are diagnosed with an HIV infection are managed and treated by the appropriate specialist teams.

- **Rubella**
  Rubella susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.

- **Streptococcus Group B**
  Pregnant women should not be offered routine antenatal screening for group B streptococcus (GBS) because evidence of its clinical effectiveness and cost effectiveness remains uncertain.

- **Syphilis**
  Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and fetus.

- **Toxoplasmosis**
  Routine antenatal serological screening for toxoplasmosis should not be offered because the harms of screening may outweigh the potential benefits. Pregnant women should be informed of primary prevention measures to avoid toxoplasmosis infection such as:
  - washing hands before handling food
  - thoroughly washing all fruit and vegetables, including ready-prepared salads, before eating
  - thoroughly cooking raw meats and ready-prepared chilled meals
  - wearing gloves and thoroughly washing hands after handling soil and gardening
  - avoiding cat faeces in cat litter or in soil.

**Screening for clinical conditions**

- **Gestational diabetes mellitus**
  The evidence does not support routine screening for gestational diabetes mellitus (GDM) and therefore it should not be offered.

- **Pre-eclampsia**
  At first contact a woman’s level of risk for pre-eclampsia should be evaluated so that a plan for her subsequent schedule of antenatal appointments can be formulated. The likelihood of developing pre-eclampsia during a pregnancy is increased in women who:
  - are nulliparous
  - are age 40 or older
  - have a family history of pre-eclampsia (e.g., pre-eclampsia in a mother or sister)
  - have a prior history of pre-eclampsia
  - have a body mass index (BMI) at or above 35 at first contact
  - have a multiple pregnancy or pre-existing vascular disease (for example, hypertension or diabetes).

  Standardised equipment, techniques and conditions for blood-pressure measurement should be used by all personnel whenever blood pressure is measured in the antenatal period so that valid comparisons can be made. Pregnant women should be informed of the symptoms of advanced pre-eclampsia because these may be associated with poorer pregnancy outcomes for the mother or
baby. Symptoms include headache, problems with vision, such as blurring or flashing before the eyes, bad pain just below the ribs, vomiting and sudden swelling of face, hands or feet.

- **Preterm birth**
  Routine vaginal examination to assess the cervix is not an effective method of predicting preterm birth and should not be offered. Although cervical shortening identified by transvaginal ultrasound examination and increased levels of fetal fibronectin are associated with an increased risk for preterm birth, the evidence does not indicate that this information improves outcomes; therefore, neither routine antenatal cervical assessment by transvaginal ultrasound nor the measurement of fetal fibronectin should be used to predict preterm birth in healthy pregnant women.

- **Placenta praevia**
  Because most low-lying placentas detected at a 20-week anomaly scan will resolve by the time the baby is born, only a woman whose placenta extends over the internal cervical os should be offered another transabdominal scan at 36 weeks. If the transabdominal scan is unclear, a transvaginal scan should be offered.

**Fetal growth and wellbeing**

- **Abdominal palpation for fetal presentation**
  Fetal presentation should be assessed by abdominal palpation at 36 weeks or later, when presentation is likely to influence the plans for the birth. Routine assessment of presentation by abdominal palpation should not be offered before 36 weeks because it is not always accurate and may be uncomfortable. Suspected fetal malpresentation should be confirmed by an ultrasound assessment.

- **Measurement of symphysis–fundal distance**
  Pregnant women should be offered estimation of fetal size at each antenatal appointment to detect small- or large-for-gestational-age infants. Symphysis–fundal height should be measured and plotted at each antenatal appointment.

- **Routine monitoring of fetal movements**
  Routine formal fetal-movement counting should not be offered.

- **Auscultation of fetal heart**
  Auscultation of the fetal heart may confirm that the fetus is alive but is unlikely to have any predictive value and routine listening is therefore not recommended. However, when requested by the mother, auscultation of the fetal heart may provide reassurance.

- **Cardiotocography**
  The evidence does not support the routine use of antenatal electronic fetal heart rate monitoring (cardiotocography) for fetal assessment in women with an uncomplicated pregnancy and therefore it should not be offered.

- **Ultrasound assessment in the third trimester**
  The evidence does not support the routine use of ultrasound scanning after 24 weeks of gestation and therefore it should not be offered.
- **Umbilical and uterine artery Doppler ultrasound**
The use of umbilical artery Doppler ultrasound for the prediction of fetal growth restriction should not be offered routinely.
The use of uterine artery Doppler ultrasound for the prediction of pre-eclampsia should not be offered routinely.

**Management of specific clinical conditions**
- **Pregnancy after 41 weeks**
Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping.
Women with uncomplicated pregnancies should be offered induction of labour beyond 41 weeks.
From 42 weeks, women who decline induction of labour should be offered increased antenatal monitoring consisting of at least twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth.

- **Breech presentation at term**
All women who have an uncomplicated singleton breech pregnancy at 36 weeks of gestation should be offered external cephalic version (ECV). Exceptions include women in labour and women with a uterine scar or abnormality, fetal compromise, ruptured membranes, vaginal bleeding and medical conditions.
Where it is not possible to schedule an appointment for ECV at 37 weeks of gestation, it should be scheduled at 36 weeks.
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